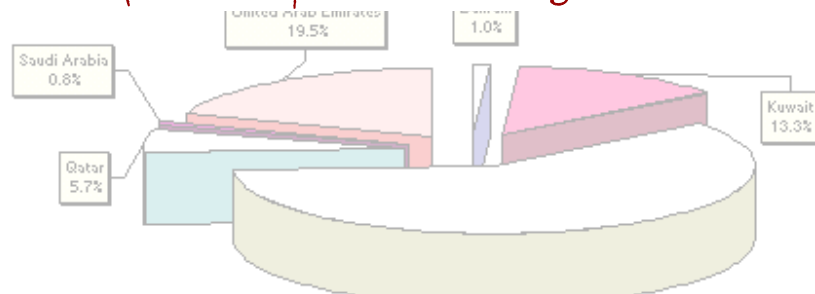
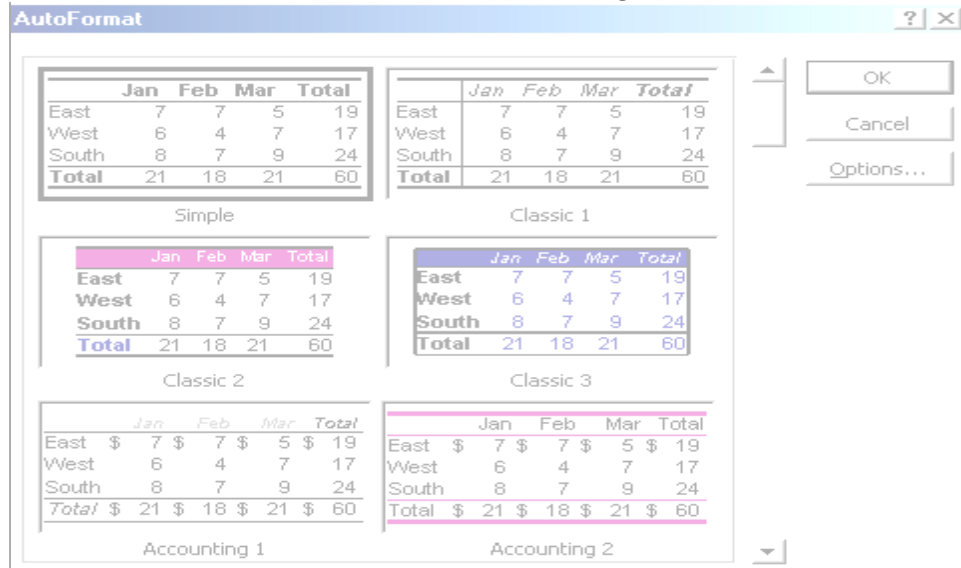

EXCEL FOR BEGINNERS

Take the first Step to Becoming an Excel Expert



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Excel for Beginners

Volume 1 in the series **Excel for Professionals**

Volume 1: Excel For Beginners

Volume 2: Charting in Excel

Volume 3: Excel-- Beyond The Basics

Volume 4: Managing & Tabulating Data in Excel

Volume 5: Statistical Analysis with Excel

Volume 6: Financial Analysis using Excel

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Publisher: VJ Books Inc, Canada

Author: Vijay Gupta

To Dr Amit Dar at the World Bank.

A source of inspiration and support.

ABOUT THE AUTHOR

Vijay Gupta has taught statistic, econometrics, and finance to institutions in the US and abroad, specializing in teaching technical material to professionals.

He has organized and held training workshops in the Middle East, Africa, India, and the US. The clients include government agencies, financial regulatory bodies, non-profit and private sector companies.

A Georgetown University graduate with a Masters degree in economics, he has a vision of making the tools of econometrics and statistics easily accessible to professionals and graduate students. His books on SPSS and Regression Analysis have received rave reviews for making statistics and SPSS so easy and “non-mathematical.” The books are in use by over 150,000 users in more than 140 nations.

He is a member of the American Statistics Association and the Society for Risk Analysis.

In addition, he has assisted the World Bank and other organizations with econometric analysis, survey design, design of international investments, cost-benefit, and sensitivity analysis, development of risk management strategies, database development, information system design and implementation, and training and troubleshooting in several areas.

Vijay has worked on capital markets, labor policy design, oil research, trade, currency markets, and other topics.

VISION

Vijay has a vision for software tools for Office Productivity and Statistics. The current book is one of the first tools in stage one of his vision. We now list the stages in his vision.

Stage one: Books to <i>Teach</i> Existing Software

He is currently working on books on word-processing, and report production using Microsoft Word, and a booklet on Professional Presentations.

The writing of the books is the first stage envisaged by Vijay for improving efficiency and productivity across the world. This directly leads to the second stage of his vision for productivity improvement in offices worldwide.

Stage two: <i>Improving</i> on Existing Software

The next stage is the construction of software that will radically improve the usability of current Office software.

Vijay's first software is undergoing testing prior to its release in Jan 2003. The software — titled “Word Usability Enhancer” — will revolutionize the way users interact with Microsoft Word, providing users with a more intuitive interface, readily accessible tutorials, and numerous timesaving and annoyance-removing macros and utilities.

He plans to create a similar tool for Microsoft Excel, and, depending on resource constraints and demand, for PowerPoint, Star Office, etc.

Stage 3: <i>Construction</i> of the first “feedback-designed” Office and Statistics software

Vijay’s **eventual goal** is the construction of productivity software that will provide stiff competition to Microsoft Office. His hope is that the success of the software tools and the books will convince financiers to provide enough capital so that a successful software development and marketing endeavor can take a chunk of the **multi-billion dollar** Office Suite market.

Prior to the construction of the Office software, Vijay plans to construct the “Definitive” statistics software. Years of working on and teaching the current statistical software has made Vijay a master at picking out the weaknesses, limitations, annoyances, and, sometimes, pure inaccessibility of existing software. This **1.5 billion dollar** market needs a new visionary tool, one that is appealing and inviting to users, and not forbidding, as are several of the current software. Mr. Gupta wants to create integrated software that will encompass the features of SPSS, STATA, LIMDEP, EViews, STATISTICA, MINITAB, etc.

Other

He has plans for writing books on the “learning process.” The books will teach how to understand one’s approach to problem solving and learning and provide methods for learning new techniques for self-learning.

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Mapping of menu options with sections of the book and in the series of books

You may be looking for a section that pertains to a particular menu option in Excel. I now briefly lay out where to find (in the series) a discussion of a specific menu option of Excel.

Table 1: Mapping of the options in the “FILE” menu

<i>Menu Option</i>	<i>Section that discusses the option</i>
--------------------	--

<i>Menu Option</i>	<i>Section that discusses the option</i>
OPEN SAVE SAVE AS	chapter 2
SAVE AS WEB PAGE	<i>Volume 3: Excel– Beyond The Basics</i>
SAVE WORKSPACE	2.3
SEARCH	11.8
PAGE SETUP	10.3
PRINT AREA	10.3
PRINT PREVIEW	10.1
PRINT	chapter 10
PROPERTIES	13.1

Table 2: Mapping of the options in the “EDIT” menu

<i>Menu Option</i>	<i>Section that discusses the option</i>
UNDO	11.5
REDO	11.4
CUT COPY PASTE	Various
OFFICE CLIPBOARD	11.6
PASTE SPECIAL	<i>Volume 3: Excel– Beyond The Basics</i>
FILL	<i>Volume 4: Managing & Tabulating Data in Excel</i>
CLEAR	4.1
DELETE SHEET	4.1
MOVE OR COPY SHEET	3.9

<i>Menu Option</i>	<i>Section that discusses the option</i>
FIND	11.7
REPLACE	11.7
GO TO	<i>Volume 3: Excel– Beyond The Basics</i>
LINKS	<i>Volume 3: Excel– Beyond The Basics</i>
OBJECT	<i>Volume 3: Excel– Beyond The Basics</i>

Table 3: Mapping of the options in the “VIEW“ menu

<i>Menu Option</i>	<i>Section that discusses the option</i>
NORMAL	10.2
PAGE BREAK PREVIEW	10.2
TASK PANE	11.8
TOOLBARS	<i>Volume 3: Excel– Beyond The Basics</i>
FORMULA BAR	Leave it on (checked)
STATUS BAR	Leave it on (checked)
HEADER AND FOOTER	10.3
COMMENTS	<i>Volume 3: Excel– Beyond The Basics</i>
FULL SCREEN	3.11
ZOOM	3.11

Table 4: Mapping of the options in the “INSERT“ menu

<i>Menu Option</i>	<i>Section that discusses the option</i>
CELLS	5.8
ROWS	4.2
COLUMNS	4.1

<i>Menu Option</i>	<i>Section that discusses the option</i>
WORKSHEETS	chapter 3
CHARTS	<i>Volume 2: Charting in Excel</i>
PAGE BREAK	10.2
FUNCTION	chapter 15
FUNCTION/FINANCIAL	<i>Volume 6: Financial Analysis using Excel</i>
FUNCTION/STATISTICAL	<i>Volume 5: Statistical Analysis with Excel</i>
FUNCTION/LOGICAL	<i>Volume 3: Excel– Beyond The Basics</i>
FUNCTION/TEXT	<i>Volume 3: Excel– Beyond The Basics</i>
FUNCTION/INFORMATION	<i>Volume 3: Excel– Beyond The Basics</i>
FUNCTION/LOOKUP	<i>Volume 3: Excel– Beyond The Basics</i>
FUNCTION/MATH & TRIG	<i>Volume 3: Excel– Beyond The Basics</i> <i>Volume 5: Statistical Analysis with Excel</i>
FUNCTION/ENGINEERING	section 30.2-section 30.3
FUNCTION/DATABASE	<i>Volume 3: Excel– Beyond The Basics</i>
FUNCTION/DATE & TIME	<i>Volume 3: Excel– Beyond The Basics</i>
NAME	16.8
COMMENT	<i>Volume 3: Excel– Beyond The Basics</i>
PICTURE	<i>Volume 2: Charting in Excel</i>
DIAGRAM	<i>Volume 2: Charting in Excel</i>
OBJECT	<i>Volume 3: Excel– Beyond The Basics</i>
HYPERLINK	<i>Volume 3: Excel– Beyond The Basics</i>

Table 5: Mapping of the options inside the “FORMAT” menu

<i>Menu Option</i>	<i>Section that discusses the option</i>
--------------------	--

<i>Menu Option</i>	<i>Section that discusses the option</i>
CELLS	chapter 5-chapter 6
ROW	4.2
COLUMN	4.1
SHEET	chapter 3
AUTOFORMAT	11.2
CONDITIONAL FORMATTING	<i>Volume 3: Excel– Beyond The Basics</i>
STYLE	6.9

Table 6: Mapping of the options inside the “TOOLS” menu

<i>Menu Option</i>	<i>Section that discusses the option</i>
SPELLING	13.12-13.13
ERROR CHECKING	<i>Volume 3: Excel– Beyond The Basics</i>
SPEECH	<i>Volume 4: Managing & Tabulating Data in Excel</i>
SHARE WORKBOOK	<i>Volume 3: Excel– Beyond The Basics</i>
TRACK CHANGES	<i>Volume 3: Excel– Beyond The Basics</i>
PROTECTION	<i>Volume 3: Excel– Beyond The Basics</i>
ONLINE COLLABORATION	<i>Volume 3: Excel– Beyond The Basics</i>
GOAL SEEK	<i>Volume 6: Financial Analysis using Excel</i> <i>Volume 5: Statistical Analysis with Excel</i>
SCENARIOS	<i>Volume 6: Financial Analysis using Excel</i> <i>Volume 5: Statistical Analysis with Excel</i>
AUDITING	<i>Volume 3: Excel– Beyond The Basics</i>
TOOLS ON THE WEB	The option will take you to a Microsoft site that provides access to resources for Excel
MACROS	In upcoming book on “Macros for Microsoft Office”

<i>Menu Option</i>	<i>Section that discusses the option</i>
ADD-INS	<i>Volume 5: Statistical Analysis with Excel</i> <i>Volume 6: Financial Analysis using Excel</i>
AUTOCORRECT	13.12
CUSTOMIZE	<i>Volume 3: Excel– Beyond The Basics</i>
OPTIONS	13.1

Table 7: Mapping of the options inside the “DATA” menu

<i>Menu Option</i>	<i>Section that discusses the option</i>
SORT	<i>Volume 4: Managing & Tabulating Data in Excel</i>
FILTER	<i>Volume 4: Managing & Tabulating Data in Excel</i>
FORM	<i>Volume 4: Managing & Tabulating Data in Excel</i>
SUBTOTALS	<i>Volume 4: Managing & Tabulating Data in Excel</i>
VALIDATION	<i>Volume 4: Managing & Tabulating Data in Excel</i>
TABLE	16.12
CONSOLIDATION	<i>Volume 4: Managing & Tabulating Data in Excel</i>
GROUP AND OUTLINE	4.3
PIVOT REPORT	<i>Volume 4: Managing & Tabulating Data in Excel</i> <i>Volume 5: Statistical Analysis with Excel</i>
EXTERNAL DATA	<i>Volume 4: Managing & Tabulating Data in Excel</i>

Table 8: Mapping of the options inside the “WINDOW” menu

<i>Menu Option</i>	<i>Section that discusses the option</i>
HIDE	<i>Volume 3: Excel– Beyond The Basics</i>
SPLIT	4.4
FREEZE PANES	4.4

Table 9: Mapping of the options inside the “HELP“ menu

<i>Menu Option</i>	<i>Section that discusses the option</i>
OFFICE ASSISTANT	14.2
HELP	14.3
WHAT'S THIS	14.4

INTRODUCTION

Are there not enough Excel books in the market? I have asked myself this question and concluded that there are books “inside me,” based on what I have realized from observation by friends, students, and colleagues that I have a “vision and knack for explaining technical material in plain English.”

Read the book practicing the lessons on the sample files provided in the zipped file you downloaded. I hope the book is useful and assists you in increasing your productivity in Excel usage. You may be pleasantly surprised at some of the features shown here. They will enable you to save time.

The “Make me a Guru” series teach technical material in simple English. A lot of thinking went into the sequencing of chapters and sections. The book is broken down into logical “functional” components. Chapters are organized into sections and sub-sections. This creates a smooth flowing structure, enabling “total immersion” learning. The current book is broken down into a multi-level hierarchy:

- Chapters, each teaching a specific skill/tool.
- Several sections within each chapter. Each section shows aspect of the skill/tool taught in the chapter. Each section is numbered—for example, “Section 1.2” is the numbering for the second section in chapter 1.
- A few sub-sections (and maybe one further segmentation) within each section. Each sub-section lists a specific function, task, or proviso related to the “master” section. The sub-sections are numbered—for example, “1.2.a” for the first sub-section in the second section of chapter 1.

Unlike other publishers, I do not consider you dummies or idiots. Each and everyone had the God given potential to achieve mastery in any field. All one needs is a guide to show you the way to master a field. I hope to play this role. I am confident that you will consider your self an Excel “Guru” (in terms of the typical use of Excel in your profession) and so will others.

Once you learn the way to master a windows application, this new approach will enable you to pick up new skills” on the fly.” Do not argue for your limitations. You have none.

I hope you have a great experience in learning with this book. I would love feedback. Please use the feedback form on our website vjbooks.net. In addition, look for updates and sign up for an infrequent newsletter at the site.

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BASICS

The fundamental operations in Excel are taught in chapter 1 to chapter 2. I first show how to open files from different formats, hide & unhide files, and the “object” model of Excel. Once you internalize the concept of objects and of “objects within objects,” Excel and any other spreadsheet, presentation, or graphics software will become very easy to self-learn “intuitively.” The object model is even more important for working on charts. In fact, the second book in this series (*Volume 2: Charting in Excel*) teaches high-quality chart formatting using just the object model.

I next show the various techniques and tips for working on the objects in an Excel file — worksheets, columns, rows, cells, and ranges. First, I show the different ways of selecting single and multiple objects that are adjacent or non-adjacent on a worksheet or in a file. You will also learn how to delete, insert, and hide and unhide objects. After that, I show how to format the various attributes of these objects.

For columns and rows, I show the steps for changing height/width, autofit,

insert a new object, etc. I teach all aspects of cell and range formatting—fonts, background color, patterns, alignment, orientation, etc. You will learn an exciting new tool called “Conditional Formatting.” This tool formats cells based on logical criterion.

The chapter on timesaving tricks and utilities will enable the saving of a lot of time and reduce the tediousness of repetitious actions.

I also show the tricks for setting the printing options such that the printout is closer to what you desire.

ADVANCED FEATURES

The advanced operations in Excel are taught in *Volume 3: Excel– Beyond The Basics* and *Volume 4: Managing & Tabulating Data in Excel*.

FUNCTIONS

I teach the writing of formulas and associated topics in *Volume 3: Excel– Beyond The Basics*. I show, in a step-by-step exposition, the proper way for writing cell references in a formula. The book describe tricks for copying/cutting and pasting in several examples. In addition, I discuss special pasting options.

Finally, different types of functions are classified under logical categories and discussed within the optimal category. The categories include financial, Statistical, Text, Information, Logical, and “Smart” Logical.

FINANCE

In three chapters on financial functions, I list the functions used for

estimating loan repayments (for example, like a car loan or house mortgage), discount cash flow analysis (used often for estimating the returns and present values of multi-period investment projects), and parameters associated with securities market instruments like bonds and T-bills.

If your interest is Investment Banking or Feasibility Studies (Project Finance), you should learn Scenarios, the Solver utility, and Goal Seek. With Scenarios, you can perform basic risk analysis.

MANAGING & TABULATING DATA

Excel has extremely powerful data entry, data management, and tabulation tools. The combination of tools provide almost database like power to Excel. Unfortunately, the poor quality of the menu layout and the help preclude the possibility of the user self-learning these features. These features are taught in *Volume 4: Managing & Tabulating Data in Excel*

STATISTICS PROCEDURES

Three chapters teach statistics functions including the use of Excel functions for building Confidence Intervals and conducting Hypothesis Testing for several types of distributions. The design of hypothesis tests and the intermediate step of demarcating critical regions are taught lucidly.

CHARTING

Please refer to book two in this series. The book title is *Charting in Excel*.

Sample data

All the sample data files are included in the zipped file.

Most of the tutorials use publicly available data from the International labor Organization (ILO). I used a simple data set with only a few columns and observations. All the sample data files are included in the zipped file.

The samples for functions use several small data sets that are more suited to illustrating the power and usefulness of the functions.

CHAPTER 1

THE EXCEL OBJECT MODEL

In this introductory chapter, I briefly introduce the following topics:

- STRUCTURE OF A FILE: THE “OBJECT” MODEL
- CHOOSING A SET OF CELLS/ROWS /COLUMNS/SHEETS
- SELECTING SINGLE OBJECTS — ONE SHEET, ROW, COLUMN, OR CELL
- SELECTING MULTIPLE OBJECTS

1.1

STRUCTURE OF A FILE: THE “OBJECT” MODEL

The first thing to learn about Excel is the structure of a file.

Workbook or file Object

An Excel file (also called a “workbook”) is a container with many components. Typically, there are several data sheets (also called “worksheet” or “sheet”) in a workbook. The user can add and delete these worksheets. Each worksheet has a unique name. A workbook has to have at least one worksheet.

Each Worksheet Object contains rows, columns, cells, ranges

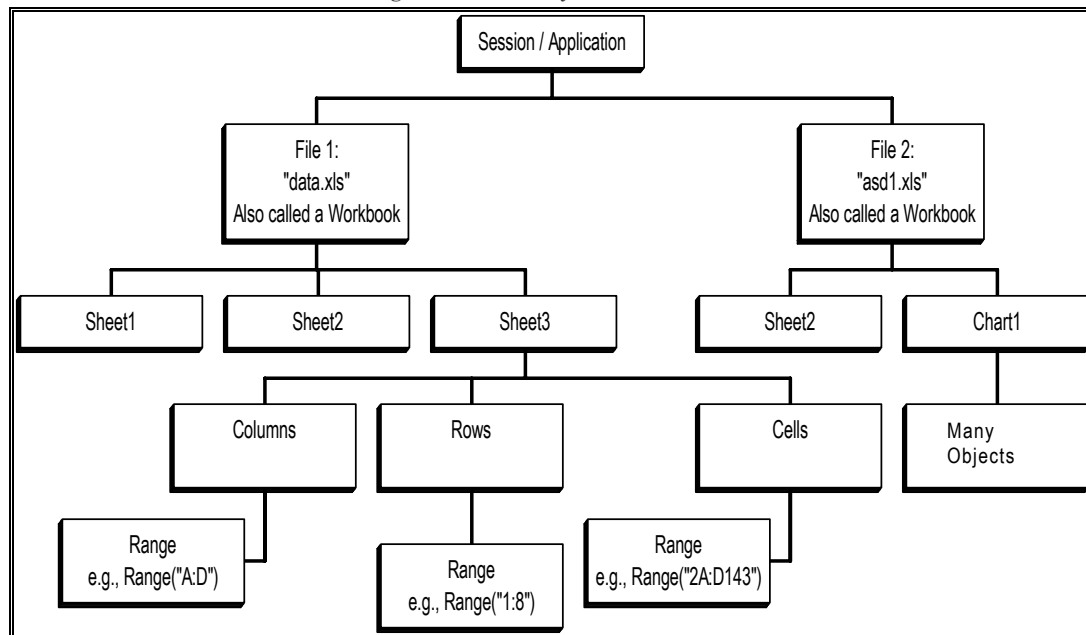
Each worksheet contains a collection of rows (horizontal) and columns (vertical) that combine to produce the grid-like structure of a worksheet.

Rows & Columns

The rows are referenced as numbers. Therefore, there is a row “1,” a row “10002,” etc.

Letters references the columns. The first column is referenced as “A,” the 26th as “Z,” the 27th as “AA,” the 28th as “AB” and so on.

Figure 1: The Objects in Excel



Cells

Within a worksheet, there are numerous cells referenced by a column

name (like “A” or “BC”) and a row number (like “1” or “323”). Therefore, each cell has a unique set of column–row identifiers. A cell that is in the 323rd row and in column “A” is identified and represented as “A323.”

Range

A group of cells (or even one cell) is called a range. A range is written as “First Cell: Last Cell.” Examples: “A323:A323” is a range that starts and ends with cell “A323”; “D4:AB41” is a range that starts at the cell “D4” and ends at the cell “AB41.”

A range could also be a group (or one) of rows or columns. For example, “A:D” is a range that includes cells in all rows of the columns A to D. “2:4” is a range that includes cells in all columns of rows 2 to 4.

A range can consist of a group of adjacent cells (or a “block of cells) like A2 to C6. The range is written as Range(“A2:B6”).

In simple English: the range starts at cell A2, ends at cell B6, and contains all the cells in between these two cells. This range is shown in the next figure.

Figure 2: The highlighted range is “selected.” Any procedures you conduct now (for example, font formatting) will apply to all the cells in this selected range

	A	B	C	D
1	Series Name	Country Name	1995	2000
2	Age 0 - 19 and over 64 years	Algeria	15,218,000	16,284,000
3	Age 0 - 19 and over 64 years	Bahrain	234,000	254,000
4	Age 0 - 19 and over 64 years	Egypt, Arab Rep.	32,543,000	34,420,000
5	Age 0 - 19 and over 64 years	Iran, Islamic Rep.	40,309,000	44,610,000
6	Age 0 - 19 and over 64 years	Iraq	11,348,000	12,779,000
7	Age 0 - 19 and over 64 years	Israel	2,641,000	2,814,000
8	Age 0 - 19 and over 64 years	Jordan	3,078,000	3,561,000

One range as a union of several ranges

A range can consist of multiple blocks of cells. For example, Range(“A2:C6,A9:D10”) contains two sub-ranges. The selected range is a union of two subset ranges. The subset ranges are not adjacent or contiguous. The next figure illustrates this.

Figure 3: The selected range is a union of two subset ranges. The subset ranges are not adjacent or contiguous.

	A	B	C	D	E
1	Series Name	Country Name	1995	2000	2010
2	Age 0 - 19 and over 64 years	Algeria	15,218,000	16,284,000	17,846,000
3	Age 0 - 19 and over 64 years	Bahrain	234,000	254,000	261,000
4	Age 0 - 19 and over 64 years	Egypt, Arab Rep.	32,543,000	34,420,000	35,543,000
5	Age 0 - 19 and over 64 years	Iran, Islamic Rep.	40,309,000	44,610,000	51,449,000
6	Age 0 - 19 and over 64 years	Iraq	11,348,000	12,779,000	15,959,000
7	Age 0 - 19 and over 64 years	Israel	2,641,000	2,814,000	3,018,000
8	Age 0 - 19 and over 64 years	Jordan	3,078,000	3,561,000	4,613,000
9	Age 0 - 19 and over 64 years	Kuwait	857,000	909,000	916,000
10	Age 0 - 19 and over 64 years	Lebanon	1,484,000	1,583,000	1,595,000

Each item in Excel is an object. In brief, the largest object is the file/workbook itself; it contains one or more worksheets each of which contain many row objects and column objects. A chosen cell is a cell

object. A chosen range is a range object.

Understanding this structure will make it easy to learn Excel. For each object, at each level, you need to learn how to work with the properties and methods of that object. The lower the level of the object, the more complex and numerous are the options available with respect to that object. In a worksheet, all the data, text, or formulas are written on cells. Consequently, cells have the maximum number of properties and methods.

The last page in this chapter contains a table that tabulates the methods and properties of the major objects.

Figure 4: The figure is reproduced from the sample file “Files1.xls.” The rectangles (in clockwise order starting with the one on the bottom), identify: “Sheet Tabs” which are used to select one or more sheets, the “Row Titles” which are used to select one or more rows, and the “Column Titles” which are used to select one or more columns

	A	B	C	D
1	Series Name	Country Name	1995	2000
2	Age 0 - 19 and over 64 years	Algeria	15,218,000	16,284,000
3	Age 0 - 19 and over 64 years	Bahrain	234,000	254,000
4	Age 0 - 19 and over 64 years	Egypt, Arab Rep.	32,543,000	34,420,000
5	Age 0 - 19 and over 64 years	Iran, Islamic Rep.	40,309,000	44,610,000
6	Age 0 - 19 and over 64 years	Iraq	11,348,000	12,779,000
7	Age 0 - 19 and over 64 years	Israel	2,641,000	2,814,000
8	Age 0 - 19 and over 64 years	Jordan	3,078,000	3,561,000
9	Age 0 - 19 and over 64 years	Kuwait	857,000	909,000
10	Age 0 - 19 and over 64 years	Lebanon	1,484,000	1,583,000
11	Age 0 - 19 and over 64 years	Libya	3,162,000	3,717,000
12	Age 0 - 19 and over 64 years	Morocco	13,761,000	14,097,000
13	Age 0 - 19 and over 64 years	Oman	1,309,000	1,635,000
14	Age 0 - 19 and over 64 years	Qatar	192,000	214,000
15	Age 0 - 19 and over 64 years	Saudi Arabia	9,977,000	11,636,000
16	Age 0 - 19 and over 64 years	Syrian Arab Republic	8,407,000	9,058,000
17	Age 0 - 19 and over 64 years	Tunisia	4,489,000	4,681,000
18	Age 0 - 19 and over 64 years	United Arab Emirates	865,000	957,000
19	Age 0 - 19 and over 64 years	Yemen, Rep.	8,133,000	11,834,000
United Arab Emirates / Yemen, Rep. SAMPLE DATA FOR Ch 9				

A row and column number can identify each cell. Therefore, the cell that is in the position “row 7” and “column C” has the position “C7.” A better way of expressing the location of this cell is ‘Range(“C7:C7”)’. In simple English: “a range starting at cell position C7 and ending at cell position C7.” So, each cell can be written as a range of one cell.

Cell References

Cell references is key to understanding and mastering Excel — all formulas, charts, copy and paste operations and other features reference the data in Excel by referencing the cell and not the data itself.

Therefore, a formula will reference the cell 'Range("C7:C7")' but not the data inside C7.

When you change the data in C7, then any formula that references the cell C7 will automatically recalculate itself based on the new value for C7. On the other hand, a formula that references cell C7 will automatically change the reference to cell J9 if you cut cell C7 and paste it into cell J9!

You will learn much more about cell referencing in formulae and charts later in this book.

1.2

SCROLL BARS

Scroll bars enable easy navigation across:

- The sheets in a workbook (file)
- The rows and columns in a worksheet

1.2.A

SCROLLING ACROSS SHEETS

The arrow buttons at the bottom left of the screen will scroll through the sheets.

Figure 5: Arrows for moving across sheets



The four buttons will scroll the sheets to the first sheet, the previous sheet, the next sheet, and the last sheet, respectively.

1.2.B

SCROLLING ACROSS ROWS

On the right of the window, you will see a “Vertical Scroll Bar.” Use this to scroll up or down the worksheet. The position of rows that are visible on screen will increment as you move down the scroll bar.

Figure 6: Vertical Scroll Bar



1.2.C

SCROLLING ACROSS COLUMNS

You will see a “Horizontal Scroll Bar” at the bottom of the worksheet. Use this to scroll left or right the worksheet. The position of columns that are visible on screen will increment as you move right on the scroll bar. The

scroll bar is shown in the figure below.

Figure 7: Horizontal Scroll Bar



Next:

The first issue is— How does one “select” an object?

It is only after selecting an object that you can work on the object.

1.3

CHOOSING A SET OF CELLS/ROWS /COLUMNS/SHEETS

Select a workbook by opening an existing file (using FILE/OPEN) or starting a new file using (FILE/NEW). When several workbooks are open, select a particular one by going to WINDOW/WORKBOOK NAME.

Note that only one workbook can be selected at one time.

1.3.A

SELECTING SINGLE OBJECTS — ONE SHEET, ROW, COLUMN, OR CELL

Select:

- A worksheet by clicking on the worksheet “tab” at the bottom of the screen. A chart that is its own sheet is also selected the same way as a worksheet.

- A single cell by clicking on it with the mouse.
 - A single row by clicking on its row title. For example, click on the number 2 row title and see how the entire row is selected.
 - A single column by clicking on its title. For example, click on the letter “B” column title and see how the entire row is selected.
-

1.3.B

SELECTING MULTIPLE OBJECTS

Adjacent sheets

Click on the first sheet tab in the intended selection and — keeping the mouse pressed — then press the SHIFT key down, and while it is pressed down click on the tab of the last sheet you desire to select.

Non-adjacent sheets

Click on the first sheet tab in the intended selection and — keeping the mouse pressed — then press the CONTROL key, and while CONTROL is pressed down, click on the tab of the next sheet you wish to select. Continue clicking on the sheet tabs until all the sheets desired are selected. This is a very useful tool. If you want to type “Results of Analysis” on cell “A1” of every sheet, you first select all the sheets and then type the text into cell “A1” of only one sheet. The text is automatically replicated on all the selected sheets!

Multiple adjacent (that is, next to each other) cells, rows or columns, either:

- Click on the first cell/row/column in the intended selection and — keeping the mouse pressed — drag the mouse over the other cells/rows/columns. When you have reached the

last cell/row/column in your intended selection, leave the mouse.

Or,

- Click on the first cell/row/column, then press the SHIFT key down, and while it is pressed down, click on the last cell/row/column.

Non-adjacent rows, columns, or cells

Click on the first cell/row/column, press the CONTROL key, and while it is pressed, click on the other cells/rows/columns you want to select.

1.4

THE “GURU” APPROACH

Play around with the objects in Excel. Choose different objects and then try to figure out what can be done to the objects. This will provide a strong and deep understanding of the structure of the Object model and, more importantly, the two aspects of each object – the “Methods” that can be applied to it, and the “Properties” of the object.

Do not worry if some of the terms used here are unfamiliar. We will return to this approach throughout the book.

1.4.A

METHODS

Definition: In simple terms, a “Method” is an action you can perform on

an object. The object is usually changed dramatically as a result – a new object is inserted, an existing one is removed, etc.

More...

In the next few chapters, you will see the use of the methods:

- Insert
- Delete
- Clear
- Copy
- Hide
- etc

You can obtain a sense of the methods for each object, by selecting the object, and then clicking on the right-mouse. Excel will inform you some options like “Insert,” “Delete.” In addition, most of the menu options under the menus INSERT & EDIT provide access to changing the properties of objects.

Definition:

Most objects have many properties. All the visible attributes of formatting are actually properties. Therefore, for example, many attributes are properties, like:

-
- Font
 - Font color
 - Alignment
 - Background color for a cell
 - Row height
 - Column width
 - Sheet name
 - etc

You can obtain a sense of the methods for each object by selecting the object, and then clicking on the right-mouse. Excel will inform you some options relevant to the object selected.

In addition, most of the menu options under the menu **FORMAT** provide access to changing the properties of objects.

1.4.C

THE “SWIM-OR-UNDO” APPROACH (WITH UNDO AS A LIFE-VEST)

Lose the fear of Excel menu options! Select an object or a group of objects. (Selection techniques are taught in chapters 4- 7). Then go through the following list of trials:

- Right-click on the mouse and see the options which open. Try them out, one by one. If you make an error, just use EDIT / UNDO.
- Go to the menu FORMAT, and try out the options. Again, use UNDO to go back one step.
- Go to the menus EDIT AND INSERT and try the different options. If you make an error, just use EDIT / UNDO.

1.4.D

LIST OF OBJECTS AND THEIR METHODS AND PROPERTIES

The usefulness of such a list will be apparent after you learn about working on the objects. The list is displayed in the table below – you may want to place your learning from chapters 4 to 10 into the Object Model structure. Furthermore, if you are aiming to program using VBA, then the Object structure is essential for effective and parsimonious coding.

At this stage, beginner-level Excel-users may not understand most of the terms in this table. This table is also reproduced at the end of chapter 10. However, this table will work as a great organizing paradigm for intermediate-level users and possible also assist beginner-level users by internalizing this Object-Method=Property paradigm.

Table 10: This table is also reproduced at the end of chapter 10

<i>Object</i>	<i>Sheet</i>	<i>Row</i>	<i>Column</i>	<i>Cell</i>	<i>Range</i>
<i>If method or property is valid for the object type</i>					
Name (& rename)	✓	×	×	×	C
Hide	✓	✓	✓	×	×
Unhide	✓	✓	✓	×	×
Delete	✓	✓	✓	✓	✓
Insert new object	✓ *	✓	✓	✓	✓
Data type specification	×	×	×	✓	U
Alignment of text/data	×	×	×	✓	U
Merge objects	×	×	×	✓	U
Text orientation	×	×	×	✓	U
Font	×	×	×	✓	U
Background pattern	×	×	×	✓	U
Borders	×	×	×	✓	U
Comments	×	×	×	✓	×

Legend/Key for table

*: Increases the size of the workbook

C: a range can be referenced by a user-defined name. However, this name is a reference to the range, not the range itself. The range itself is just a description of begin cell and end cell.

U: These methods are applicable on ranges because a range is just a collection of cells. The methods are applied to the cells with the chosen range.

CHAPTER 2

SAVING (OPENING) IN (FROM) DIFFERENT FILE FORMATS

In this chapter, I briefly discuss the following topics:

- SAVING/OPENING TO/FROM FILE FORMATS LIKE LOTUS 1–2–3 VERSIONS 1.0 TO 4.0, QUATTRO AND DBASE VERSIONS I TO IV, TEXT.
- STATISTICAL APPLICATION FILES: SPSS, SAS, STATA, ETC
- DATABASE APPLICATIONS: ACCESS, ORACLE, MS SQL SERVER, FOXPRO, PARADOX, OTHER
- WORKSPACE— “I HAVE TO WORK ON SEVERAL FILES TOGETHER EACH DAY...CAN'T I OPEN THEM ALL AT ONE TIME?”
- USING THE WORKSPACE— OPENING SEVERAL FILES TOGETHER
- NEW IN EXCEL XP: DOCUMENT RECOVERY AND SAFE MODE

2.1

SPREADSHEET, DATABASE, TEXT & STATISTICAL SOFTWARE

Excel XP, 2000, and 97 can open files from various file formats, including:

- Current and older versions of Excel workbooks

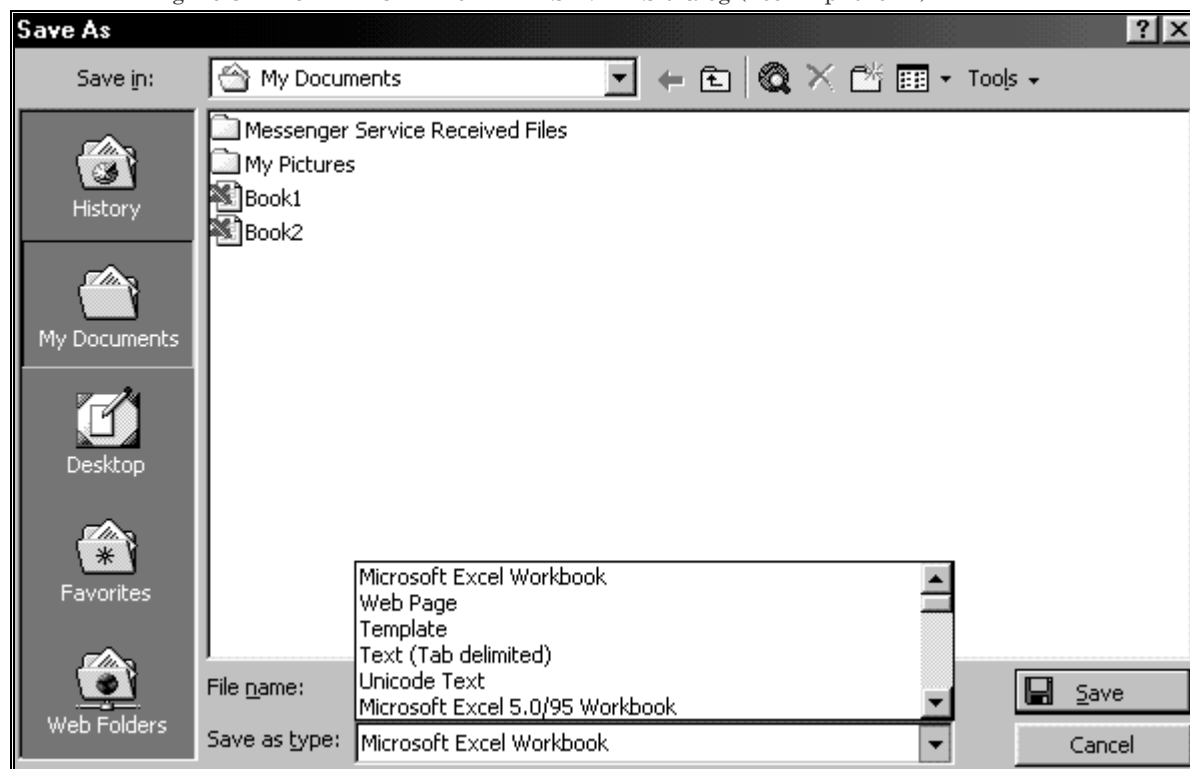
- Older versions of Excel workbooks
- Other spreadsheet applications like Lotus 1–2–3, Quattropro, and Microsoft Works. This includes older versions of these file formats.
- Text files (delimited and fixed column width —see *Volume 4: Managing & Tabulating Data in Excel*).
- Web pages
- Database applications like Access, Paradox, dBase, etc. This includes older versions of these file formats. The use of ODBC connectivity (direct linking to a database with automatic updating) is taught in *Volume 4: Managing & Tabulating Data in Excel*.
- Special data or reference storing formats like “.dif” and “.slk.”

Excel cannot read directly from statistical software like SAS, SPSS, and STATA. These statistical applications provide an option to output data files in Excel format.

Using the mouse, select the menu path FILE/OPEN or FILE/SAVE AS and click on the arrow next to the box “Open as type” or “Save as type” as shown in the next figure.

You will see several options for the file type from which Excel will read in data (and to which Excel will save data). Several of the formats are historical versions of Excel.

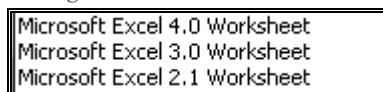
Figure 8: The FILE/OPEN or FILE/SAVE AS dialog (user-input form)



Excel worksheet versions 2.0 to 4.0.

If the option includes the text “Excel worksheet” then only the active worksheet is saved. This is useful if you want to read Excel files into software like SPSS, SAS and other applications that do not read Excel workbooks but do read Excel worksheets.

Figure 9: Old Excel formats



2.1.A

LOTUS 1-2-3 VERSIONS 1.0 TO 4.0, QUATTROPRO AND DBASE VERSIONS I TO IV

You can save as a Lotus 1-2-3 workbook (versions WK4 to WK1) and as different versions of Quattropro. Older spreadsheet formats save only the active worksheet.

Figure 10: Lotus 1-2-3 formats

WK4 (1-2-3)
WK3,FM3 (1-2-3)
WK3 (1-2-3)
WK1,FM1 (1-2-3)
WK1,ALL (1-2-3)
WK1 (1-2-3)

dBase II-IV are excellent “transport” formats. Almost all data applications read these formats.

The applications that read dBase include SAS, SPSS, STATA, Access, and many other data warehousing and data mining software.

Figure 11: Quattropro and the popular dBase formats

WKS (1-2-3)
WQ1 (Quattro Pro/DOS)
DBF 4 (dBASE IV)
DBF 3 (dBASE III)
DBF 2 (dBASE II)

2.1.B

TEXT

Different text formats include cross platform support— in Windows, saving an Excel file as a text file will allow the file to be read in DOS or the Mac). The process of reading data from such files is taught in *Volume 4: Managing & Tabulating Data in Excel*

Figure 12: Some special data formats (you can ignore these)



DIF (Data Interchange Format)
SYLK (Symbolic Link)

Figure 13: Text formats



Formatted Text (Space delimited)
Text (Macintosh)
Text (MS-DOS)
CSV (Macintosh)
CSV (MS-DOS)

2.1.C

MANY FORMATS SAVE ONLY ONE WORKSHEET

Older spreadsheet formats, database and text formats will save only the active worksheet. Excel will inform you of this (as shown in the next figure) and give you the option of canceling the save task.

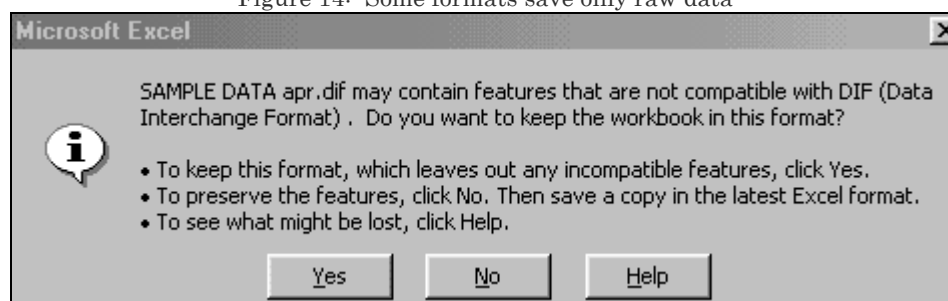
2.1.D

MANY FORMATS CANNOT STORE INFORMATION ON CELL FORMATTING, COMMENTS, ETC

Excel will inform you if the file-format you are saving will save all attributes of the worksheet/workbook.

In most cases, the attributes that cannot be saved are cosmetic formatting features and embedded objects like charts, drawing tools, etc.

Figure 14: Some formats save only raw data



2.1.E

STATISTICAL APPLICATION FILES: SPSS, SAS, STATA, ETC

Most of these applications will read and write some formats that Excel can read/write. These formats include Excel 4 worksheet and dBase III.

2.1.F

DATABASE APPLICATIONS: ACCESS, ORACLE, MS SQL SERVER, FOXPRO, PARADOX, OTHER

Most of these applications will read and write some formats that Excel can read/write. These formats include Excel 4 worksheet and dBase III.

2.2

SPECIAL FORMATS: ADOBE PDF, HTML, WEB ARCHIVE, XML

This topic is taught in *Volume 3: Excel– Beyond The Basics*.

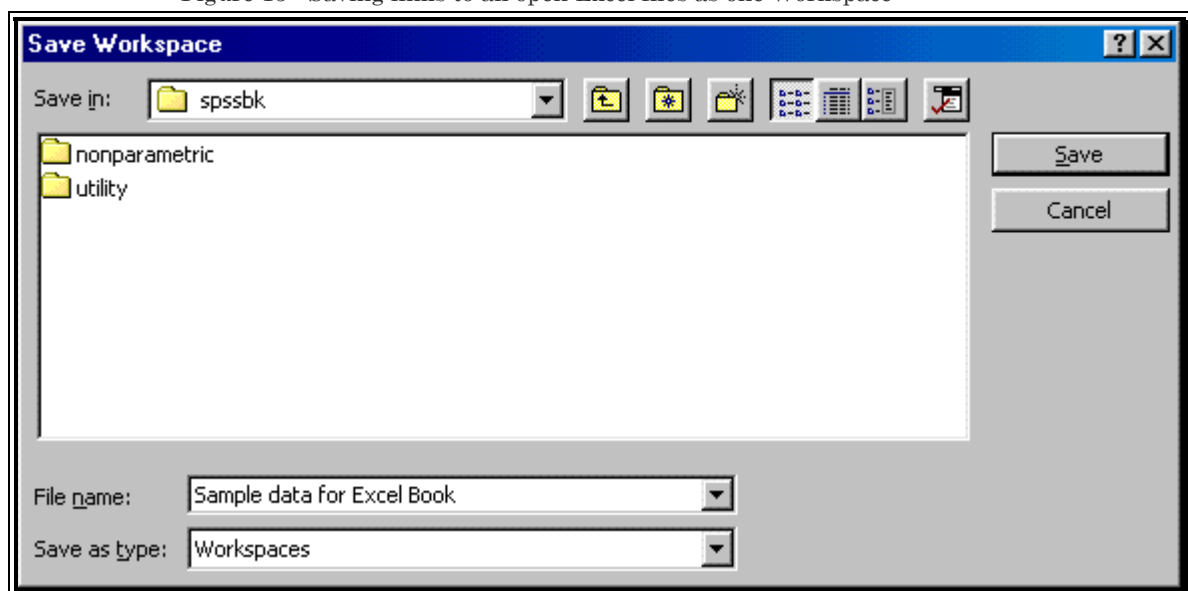
WORKSPACE– “I HAVE TO WORK ON SEVERAL FILES TOGETHER EACH DAY...CAN'T I OPEN THEM ALL AT ONE TIME?”

Assume you are working on a project in which you use 12 files. Further, these files are saved in different drives/directories or paths. (So, some are in “C:\data\,” some in “M:\projects\ttvgr\vijay\,” and so on.) Assume further that you have to open all files simultaneously before doing any work. This can be achieved by, either (a) writing all the file names along with their path (location), or (b), using the “Workspace” feature.

Creating a workspace

Assume the 12 files you need for one work session are open (and no other files are open). Select the option FILE/SAVE WORKSPACE. Write a name for this group of files you have been working on (see Figure 15). Click on the button “Save.”

Figure 15: Saving links to all open Excel files as one Workspace

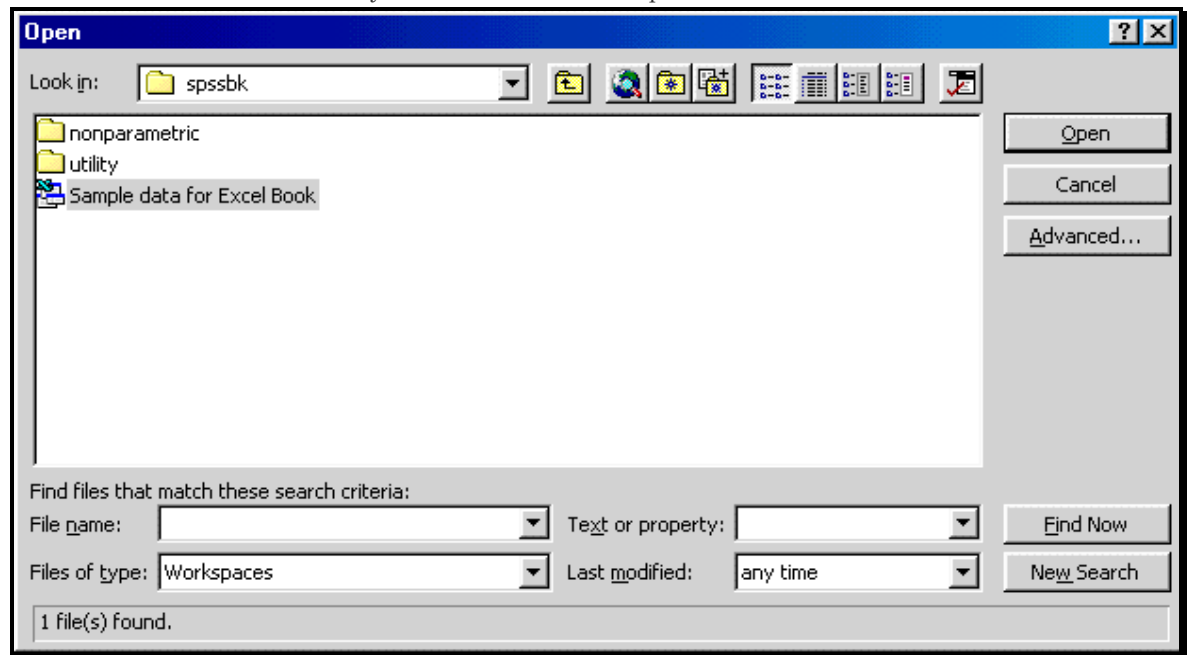


Using the workspace— Opening several files together

When you want to work on the group of files again— open Excel, pick the menu option FILE/OPEN and open the workspace file as shown in Figure 16.

The 12 Excel files you were working on earlier open!

Figure 16: When you open the Workspace, Excel opens all the Excel files that were open when you last saved the Workspace



NEW IN THE XP VERSION OF EXCEL: DOCUMENT RECOVERY AND SAFE MODE

The document recovery feature is excellent in the XP version of Excel. If the application freezes/crashes, the PC crashes, or you lose connection to a power source, the chances of losing the work you did on the file since the last save is low. Excel keeps a tab on your changes and creates a recovery

backup continuously. On re-launching Excel, the recovery files are displayed in the task pane, as well as the last saved files, along with the times and dates of these files last save (by you or by Excel's document recovery tool). You can choose which version(s) to save.

A related feature is the ability to open an application in "Safe Mode," and resolve the problems with the application using this mode.

CHAPTER 3

WORKSHEETS

This chapter teaches the following topics:

- INSERTING A NEW WORKSHEET
- USING THE MOUSE TO FORMAT SHEETS
- SELECTING MULTIPLE SHEETS (TO WORK ON THEM TOGETHER)
- SELECTING ALL SHEETS
- SELECTING A RANGE OF ADJACENT SHEETS
- SELECTING NON-ADJACENT SHEETS
- UNGROUPING SHEETS
- MOVING/COPYING WORKSHEETS AND CHARTS FROM ONE FILE TO ANOTHER
- CHOOSING THE FILE TO WHICH THE WORKSHEETS/CHARTS NEED TO BE COPIED/MOVED.
- COPYING INSTEAD OF MOVING
- HIDING AND UNHIDING SHEETS
- HIDING THE SHEETS YOU DON'T WANT TO SEE/SHOW BUT
 - AT THE SAME TIME— DO NOT WANT TO DELETE
- UNHIDING SHEETS YOU HID BEFORE (OR THE PERSON WHO SENT YOU THE FILE DID)
- PROTECTING SHEETS AGAINST UNAUTHORIZED CHANGES/VIEWING BY OTHERS

— ZOOM

3.1

RENAMING SHEETS

Excel provides a default name to the worksheets that are present in any new Excel file or any new worksheets you may insert. (More on inserting a new worksheet follows.)

In a new workbook/file, the sheets are named “Sheet1,” “Sheet2,”, “SheetN.” You may want to change the names to some text that provides a better indication of the content of a worksheet.

Renaming a worksheet is simple. Click anywhere on the worksheet, and then follow the menu path **FORMAT/SHEET/RENAME**.

Figure 17: Format Sheets menu

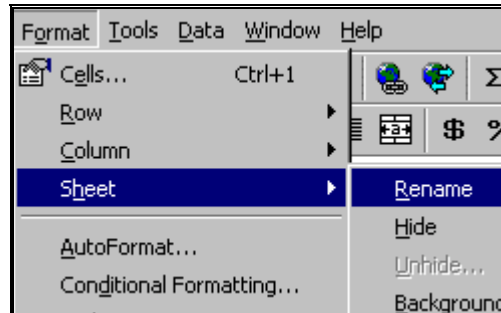
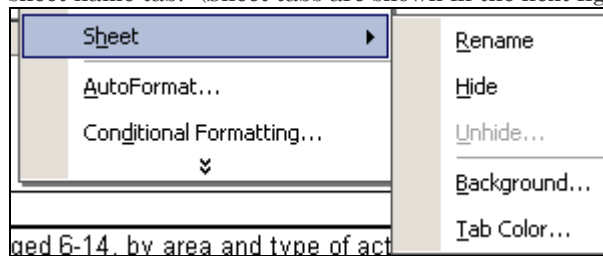


Figure 18: In Excel XP, the Format Sheets menu includes an option for selecting the color of the sheet name tab. (Sheet tabs are shown in the next figure.)



The sheet name tab will be highlighted as shown in the figure below. In this highlighted area, delete the old name of the sheet and write the new name for the sheet

Figure 19: Renaming a sheet

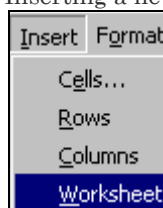


3.2

INSERTING A NEW WORKSHEET

Using the mouse, select the menu path INSERT/WORKSHEET.

Figure 20: Inserting a new worksheet



Inserting more than one worksheet

First insert one worksheet. Then, press the F4 key on the keyboard (“Redo”). Keep on pressing on F4 until you have the desired number of new worksheets.

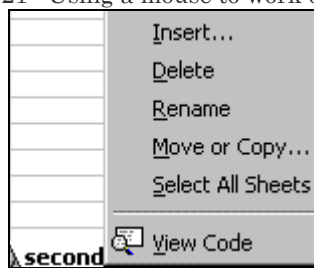
3.3

USING THE MOUSE TO FORMAT SHEETS

Click on the sheet tab. Click on the right mouse. This will open the shortcut menu for working with sheets.

The next figure reproduces the menu. Using this menu, you can access most features of relevance to working on sheets.

Figure 21: Using a mouse to work on sheets



3.4

SELECTING MULTIPLE SHEETS (TO WORK ON THEM TOGETHER)

You may want to select all sheets so that you can work on one sheet but have the work replicated on all the selected sheets thereby saving a lot of time and effort. Some procedures conducted on a group of sheets are:

- Deleting the sheets.
- Moving and copying the sheets.
- Hiding the sheets.

Editing procedures like copying and pasting on one sheet are also replicated across all sheets.

Example:

Type the text “Name” into cell J1 of the first sheet. This text automatically replicated on cell J1 of all selected sheets.

Applying uniform formatting to analogous rows, columns, cells and ranges in each sheet.

After selecting all the sheets, if you format a row/column/cell/range in any one sheet, the same action is replicated automatically for the same row/column/cell/range in the other sheets.

Advantages with symmetrical worksheets

Assume that several worksheets have a symmetrical data arrangement. The sheets have analogous data in each equivalent cell. For example, assume that the sheet “Algeria” and the sheet “Tunisia” both contain the data for “Ages 15-19 in Labor Force” in cell E2. Select both sheets.

Activate the sheet “Algeria” and write a formula into the cell G2 of sheet “Algeria.” The formula is automatically replicated on the sheet “Tunisia.”

Any copy-and-paste, deletion, typing, formatting, etc applied to a cell/row/column or any range on the sheet “Algeria” is automatically replicates on the same range in sheet “Tunisia.”

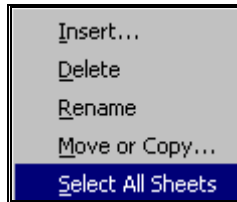
I recommend creating symmetrical worksheets if each worksheet is another case/observation/sampling of the same data series. (In this example, each sheet is another case -- where a country defines a case.)

3.5

SELECTING ALL SHEETS

Click on the tab of any sheet. Right-click on the mouse and, in the pop menu that opens, choose the option “Select All Sheets.”

Figure 22: Selecting all sheets



3.6

SELECTING A RANGE OF ADJACENT SHEETS

Click on the first and last sheets in the sequence while pressing the SHIFT key.

Figure 23: Selecting adjacent sheets



3.7

SELECTING NON-ADJACENT SHEETS

Click on each sheets name tab while pressing the CONTROL button. Once a sheet is selected, its name tab takes on a lighter background color.

Figure 24: Several sheets are selected. Now any action you perform on any one of them will also be applied by Excel to all the other sheets in the selection



Once a sheet is selected, its name tab takes on a lighter background color.

Figure 25: All sheets are selected. Now any action you perform on any one of them will also be applied by Excel to all the other sheets



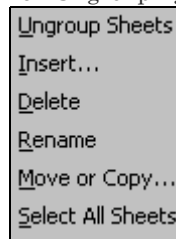
3.8

UNGROUPING SHEETS

Click on any one of the grouped (or selected) sheets. Right-click on the mouse and, in the pop menu that opens (shown in the next figure) choose the option “Ungroup Sheets.”

Once a sheet is selected, its name tab takes on a lighter background color.

Figure 26: Ungrouping sheets



A simpler way to ungroup is to click on the name tab of any sheet. Try it.

3.9

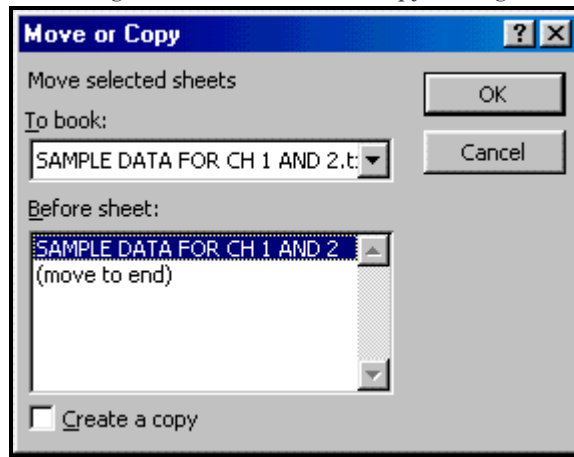
MOVING/COPYING WORKSHEETS AND CHARTS FROM ONE FILE TO ANOTHER

Open the file to which you want the sheets copied/moved.

Open the file that has the sheets that you want to copy/move. (That is, the “Original” file.)

In this “Original” file, select the worksheets you want to move/copy.

Figure 27: The “Move or Copy” dialog



Select a worksheet by clicking on the worksheet name tab. Select several adjacent worksheets by clicking on the name tabs of the first and last sheets in the sequence while pressing the SHIFT key. Select several non-adjacent sheets by clicking on each sheet’s name tab while pressing the CONTROL button.

Go to the menu option EDIT/MOVE OR COPY SHEET. The dialog (user-input form) that opens is shown in the next figure.

3.9.A

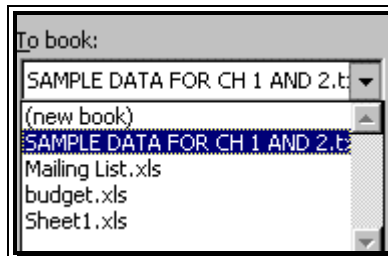
CHOOSING THE FILE TO WHICH THE SHEETS NEED TO BE COPIED/MOVED

Click on the “downward arrow” in the area “to book.” Excel shows a list that contains the names of all open Excel files and an option “(new book)”

to begin a new file. (For a pictorial reproduction of this, see Figure 28.) Choose the file where you want the sheets moved/copied.

(Alternatively, choose the option “(new book)” if you want to move/copy the sheets to a new file.)

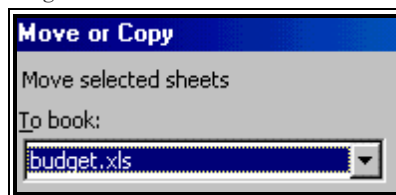
Figure 28: Select the file to which the selected sheets have to be moved/copied



I chose the file “budget.xls.” The next figure illustrates this.

Select a file from the options shown in your computer.

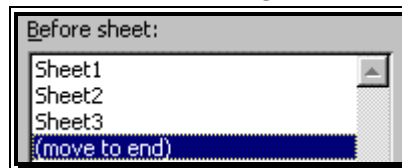
Figure 29: After a file is chosen...



In the area “Before sheet,” choose the location of the moved/copied sheets in the recipient file/book. I have chosen the location: “(move to end)” as shown in Figure 30. The sheet will be placed after the last sheet in the file “budget.xls.”

If you choose the option “Sheet2” then the sheet will be located between “Sheet1” and “Sheet2.”

Figure 30: Selecting the location in the “target” file of the moved/copied sheets



3.9.B

COPYING INSTEAD OF MOVING

Place a “check mark” in the box to the left of the option “Create a copy” as shown in Figure 31. This ensures that the sheets remain in the original/host file and a copy is moved to the recipient file.

Figure 31: Copying sheets



The check mark is placed by clicking into the box if the box is empty. The check mark may be removed by clicking into the box if the check-mark is currently “on.”

Execute the dialog by clicking on the button OK. The selected sheet(s) are copied to the end of file “budget.xls.”

Tip

If a moved/copied sheet contains references to cells in other sheets then you should move/copy the referenced sheets along with the referencing sheets.

3.10

HIDING AND UNHIDING SHEETS

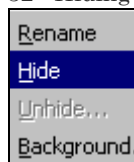
Excel permits you to hide from view the sheets which you do not want to be “viewable.” Once hidden, the sheet's “name tab” is not shown on the screen. You may want to hide sheets for several reasons: to avoid confusion when you have made several versions of the datasheet, to avoid erroneously working on a “finished” worksheet, to hide the background sheets from a client who only wants to see the “final” sheet.

3.10.A

HIDING THE SHEETS YOU DON'T WANT TO SEE/SHOW BUT — AT THE SAME TIME— DO NOT WANT TO DELETE

Select the sheets you want to hide. Select the option **FORMAT/ SHEET/ HIDE**.

Figure 32: Hiding a Sheet



Reasons why you may want to hide sheets:

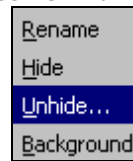
The sheets may have intermediate work or alternate sheets to the ones you want to show to the user. Alternatively, you may want to focus your work on a few sheets and temporarily hide all other sheets.

3.10.B

UNHIDING SHEETS YOU HID BEFORE (OR THE PERSON WHO SENT YOU THE FILE DID)

Follow the menu path **FORMAT/SHEET/UNHIDE**.

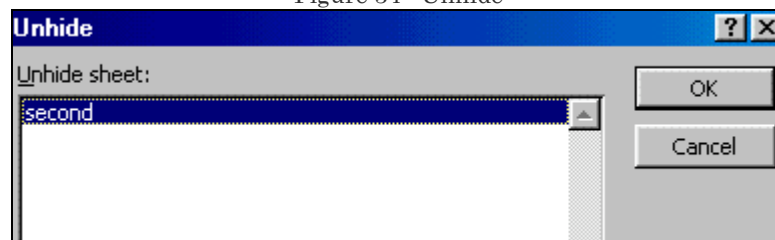
Figure 33: Unhiding a Sheet



All hidden sheets will be shown in the Unhide dialog that is reproduced in the next figure. Click on a sheet you want to unhide and click on the OK button.

Use this feature to verify if a workbook sent to you has any hidden sheets.

Figure 34: Unhide



3.11

ZOOM AND FULL SCREEN: CHANGING THE ON-SCREEN SIZE OF THE SHEET

3.11.A

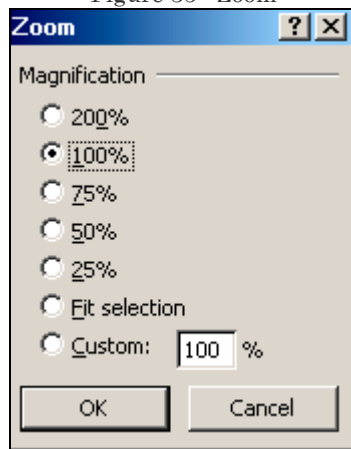
ZOOM

You may customize the magnification employed to display the sheet. You may want a large magnification if, for example, you want to focus on a small range of cells, or if the fonts used or row and column sizes are small.

Conversely, you may want to reduce the magnification if, for example, you want to see a larger range of cells in one view, or if the fonts used or row

and column sizes are too large.

Figure 35: Zoom



The magnification can be changed using the simple dialog (user-input form) for the menu option VIEW/ZOOM. I prefer working with a magnification of 85%.

3.11.B

FULL SCREEN

The sheet may be viewed on the entire monitor screen— that is, even on those portions of the screen that usually contain icons, windows shortcut bars, etc.

Select the menu option VIEW/FULL SCREEN. Return to the normal view by clicking on the small dialog “Clear Full Screen.”

Note:

The ZOOM level does not conform to the magnification level on a printout. The magnification level for printing can be customized with the “Scaling” option under FILE / PAGE SET UP. Refer to section 10.4.

Figure 36: Full Screen

File Edit View Insert Format Tools Data Window Help Microphone Tools Ha							
	A	B	C	D	E	F	G
1	Series Name	Country Name	1995	2000	2010		
2	Age 0 - 19 and over 64 years	Algeria	15,218,000	16,284,000	17,846,000	189685000	
3	Age 0 - 19 and over 64 years	Bahrain	234,000	254,000	261,000		
4	Age 0 - 19 and over 64 years	Egypt, Arab Rep.	32,543,000	34,420,000	35,543,000		
5	Age 0 - 19 and over 64 years	Iran, Islamic Rep.	40,309,000	44,610,000	51,449,000		
6	Age 0 - 19 and over 64 years	Iraq	11,348,000	12,779,000	15,959,000		
7	Age 0 - 19 and over 64 years	Israel	2,641,000	2,814,000	3,018,000		
8	Age 0 - 19 and over 64 years	Jordan	3,078,000	3,561,000	4,613,000		
9	Age 0 - 19 and over 64 years	Kuwait	857,000	909,000	916,000		
10	Age 0 - 19 and over 64 years	Lebanon	1,484,000	1,583,000	1,595,000		
11	Age 0 - 19 and over 64 years	Libya	3,162,000	3,717,000	4,937,000		
12	Age 0 - 19 and over 64 years	Morocco	13,761,000	14,097,000	14,280,000		
13	Age 0 - 19 and over 64 years	Oman	1,309,000	1,635,000	2,411,000		
14	Age 0 - 19 and over 64 years	Qatar	192,000	214,000	259,000		
15	Age 0 - 19 and over 64 years	Saudi Arabia	9,977,000	11,636,000	15,415,000		
16	Age 0 - 19 and over 64 years	Syrian Arab Republic	8,407,000	9,058,000	9,925,000		
17	Age 0 - 19 and over 64 years	Tunisia	4,489,000	4,681,000	4,773,000		
18	Age 0 - 19 and over 64 years	United Arab Emirates	865,000	957,000	1,087,000		
19	Age 0 - 19 and over 64 years	Yemen, Rep.	9,133,000	11,034,000	15,223,000		
20	Age 15 - 19 years	Algeria	3,195,000	3,521,000	3,776,000		
21	Age 15 - 19 years	Bahrain	45,000	52,000	65,000		
22	Age 15 - 19 years	Egypt, Arab Rep.	6,316,000	7,525,000	7,647,000		
23	Age 15 - 19 years	Iran, Islamic Rep.	7,320,000	8,540,000	10,940,000		
24	Age 15 - 19 years	Iraq	2,144,000	2,503,000	3,037,000		
25	Age 15 - 19 years	Israel	499,000	529,000	579,000		
26	Age 15 - 19 years	Jordan	604,000	637,000	916,000		
27	Age 15 - 19 years	Kuwait	176,000	218,000	209,000		
28	Age 15 - 19 years	Lebanon	292,000	311,000	367,000		
29	Age 15 - 19 years	Libya	566,000	679,000	936,000		
30	Age 15 - 19 years	Morocco	3,020,000	3,041,000	3,292,000		
31	Age 15 - 19 years	Oman	215,000	275,000	423,000		
32	Age 15 - 19 years	Qatar	36,000	44,000	51,000		
33	Age 15 - 19 years	Saudi Arabia	1,898,000	2,198,000	2,929,000		
34	Age 15 - 19 years	Syrian Arab Republic	1,619,000	1,980,000	2,081,000		
35	Age 15 - 19 years	Tunisia	952,000	1,035,000	1,026,000		
36	Age 15 - 19 years	United Arab Emirates	155,000	210,000	221,000		
37	Age 15 - 19 years	Yemen, Rep.	1,626,000	1,852,000	2,818,000		
38	Age 20 - 24 years	Algeria	2,718,000	4,157,303	5,757,303		
39	Age 20 - 24 years	Bahrain	36,000	46,000	59,000		
40	Age 20 - 24 years	Egypt, Arab Rep.	5,261,000	6,251,000	8,043,000		
41	Age 20 - 24 years	Iran, Islamic Rep.	5,770,000	6,958,000	10,174,000		

3.12

PROTECTING SHEETS AGAINST UNAUTHORIZED CHANGES/VIEWING BY OTHERS

This topic is taught in *Volume 3: Excel– Beyond The Basics*.

CHAPTER 4

COLUMNS AND ROWS

This chapter teaches the following topics:

- WORKING WITH COLUMNS
- SELECTING COLUMNS
- SELECTING ALL COLUMNS
- USING THE MOUSE TO CHANGE COLUMN WIDTH
- USING AUTO FIT TO FIND THE “CORRECT” COLUMN WIDTHS
- HIDING
- UNHIDING
- DELETING A COLUMN (SO THAT ALL OTHER COLUMNS MOVE ONE OVER TO THE LEFT)
- CLEARING CONTENTS SO THAT THE COLUMN BECOMES EMPTY BUT DOES NOT GET REMOVED
- INSERTING A PAGE BREAK BEFORE A COLUMN
- INSERTING COLUMNS
- COPYING AND PASTING (OR INSERTING)
- THE SHORTCUT MENU
- WORKING WITH ROWS
- VIEWING & WORKING ON NON-ADJACENT ROWS/COLUMNS SIDE— - BY-SIDE

-
- LOCKING PART OF THE WORKSHEET SO THAT CERTAIN ROWS/COLUMNS DON'T MOVE WHEN YOU SCROLL (FREEZING PANES)
 - FREEZING ROWS
 - SPLITTING THE FILE INTO TWO WINDOWS; EACH WINDOW HAS ITS OWN VERTICAL AND HORIZONTAL SCROLL BAR
-

4.1

WORKING WITH COLUMNS

Open the file “File2.xls.” Select the sheet “base.” Note that this file has three more columns than the first sample file. The first few rows of the sheet are shown in Figure 37.

Figure 37: This range is from the worksheet “base” in the file “File2.xls”

	B	C	D	E	F	G	H
1	Country Name	1995	2000	2010	Ratio 2000/95	Ratio 2010/95	
2	Algeria	15,218,000	16,284,000	17,846,000	107%	110%	117%
3	Bahrain	234,000	254,000	261,000	109%	103%	112%
4	Egypt, Arab Rep.	32,543,000	34,420,000	35,543,000	106%	103%	109%
5	Iran, Islamic Rep.	40,309,000	44,610,000	51,449,000	111%	115%	128%
6	Israel	11,348,000	12,779,000	15,959,000	113%	125%	141%

4.1.A

SELECTING COLUMNS

Selecting one column

Click on the gray “cell” with the label of the column. For example, to select column “C,” just click on the “C” at the top of the worksheet shown in the figure.

Figure 38: Selecting one column

	A	B	C	D	E
1	Series Name	Country Name	1995	2000	2010
2	Age 0 - 19 and over 64 years	Algeria	15,218,000	16,284,000	17,846,000
3	Age 15 - 19 years	Algeria	3,195,000	3,521,000	3,776,000
4	Age 20 - 24 years	Algeria	2,718,000	415,720,000	2,577,000

Selecting several adjacent columns

Click on the first and last columns in the sequence while pressing the SHIFT key.

Figure 39: Selecting adjacent columns

	B	C	D	E	F	G	H
1	Country Name	1995	2000	2010	Ratio 2000/95	Ratio 2010/95	Ratio 2010/95
2	Algeria	15,218,000	16,284,000	17,846,000	107%	110%	117%
3	Bahrain	234,000	254,000	261,000	109%	103%	112%
4	Egypt, Arab Rep.	32,543,000	34,420,000	35,543,000	106%	103%	109%
5	Iran, Islamic Rep.	40,309,000	44,610,000	51,449,000	111%	115%	128%
6	Israel	11,348,000	12,779,000	15,959,000	113%	125%	141%

Selecting several non-adjacent columns

Click on each sheet's s name tab while pressing the CONTROL button.

Figure 40: Selecting non-adjacent columns

	B	C	D	E	F	G	H
1	Country Name	1995	2000	2010	Ratio 2000/95	Ratio 2010/95	Ratio 2010/95
2	Algeria	15,218,000	16,284,000	17,846,000	107%	110%	117%
3	Bahrain	234,000	254,000	261,000	109%	103%	112%
4	Egypt, Arab Rep.	32,543,000	34,420,000	35,543,000	106%	103%	109%
5	Iran, Islamic Rep.	40,309,000	44,610,000	51,449,000	111%	115%	128%
6	Israel	11,348,000	12,779,000	15,959,000	113%	125%	141%

Note: some operations like deletion of columns cannot be done on a group of non-adjacent columns

4.1.B

SELECTING ALL COLUMNS

Figure 41: Click on the tab between the tabs that have the labels for columns and Rows



	B	C	D	E	F	G	H
1	Country Name	1995	2000	2010	Ratio 2000/95	Ratio 2010/95	Ratio 2010/95
2	Algeria	15,218,000	16,284,000	17,846,000	107%	110%	117%
3	Bahrain	234,000	254,000	261,000	109%	103%	112%
4	Egypt, Arab Rep.	32,543,000	34,420,000	35,543,000	106%	103%	109%
5	Iran, Islamic Rep.	40,309,000	44,610,000	51,449,000	111%	115%	128%
6	Israel	11,348,000	12,779,000	15,959,000	113%	125%	141%
7	Jordan	2,641,000	2,814,000	3,018,000	107%	107%	114%

4.1.C

USING THE MOUSE TO CHANGE COLUMN WIDTH

Focus on cells F1, G1, and H1. The text does not fit into the cell. In other words, the width of the column is not large enough to fit the text in the cell. Let us widen the columns. Highlight the three columns (F, G, and H) and move the mouse over the edge of the column title of any one of these columns. When a two-headed white arrow appears, use the mouse to widen the column.

Even though you only widened one column using the mouse, all three selected columns will widen!

Figure 42: Selecting the range of columns

F	G	H
Ratio 2000/95	Ratio 2010/95	Ratio 2010/95
107%	110%	117%
109%	103%	112%
106%	103%	109%
111%	115%	128%
113%	125%	141%
107%	107%	114%
116%	130%	150%
106%	101%	107%

Even though you only widened one column using the mouse, all three selected columns will widen! As shown in Figure 43, the three columns are widened.

Figure 43: After widening the columns

F	G	H
Ratio 2000/95	Ratio2010/95	Ratio 2010/95
107%	110%	117%
109%	103%	112%

4.1.D

USING AUTO FIT TO FIND THE “CORRECT” COLUMN WIDTHS

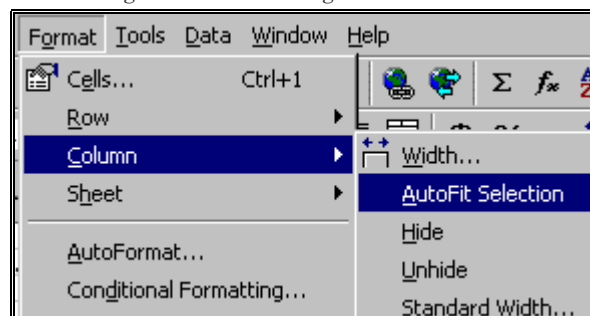
Though using the mouse gives you a lot of control over the exact width of a column, finding the size that allows a proper display of all the data in all three columns may require a lot of trial-and-error. Let us use another method to widen the columns. (First, select the option EDIT/UNDO to undo the width change you performed in the previous example.) Choose the columns F, G, and H as shown in Figure 44.

Figure 44: The sample range

F	G	H
Ratio 2000/95	Ratio2010/95	Ratio 2010/95
107%	110%	117%
109%	103%	112%

Pick the menu option **FORMAT/COLUMN/AUTOFIT SELECTION**.

Figure 45: Accessing Column Autofit



Each of the selected columns will expand to the minimum size needed to fit each cell in the column. The result is shown in the next figure.

Figure 46: The column widths have increased just enough so that each cells contents are visible

F	G	H
Ratio 2000/95	Ratio2010/95	Ratio 2010/95
107%	110%	117%
109%	103%	112%

4.1.E

HIDING

Sometimes you may want to “hide” some columns from view. You do not want to delete the columns because they are used in the spreadsheets formulae or may be needed in the future. You just want to hide them temporarily so you can focus on the columns that have data/text of particular interest to you during your current session.

Alternatively, you may want to present a client with an abridged version of the datasheet but allow the client to look at the full unabridged (that is, unhidden) datasheet if they so desire. Assume you want to hide columns “C” to “E.”

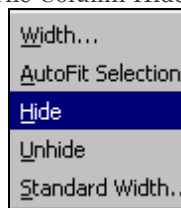
Figure 47: The sample range

	B	C	D	E	F	G
1	Country Name	1995	2000	2010	Ratio 2000/95	Ratio2010/95
2	Algeria	15,218,000	16,284,000	17,846,000	107%	110%
3	Bahrain	234,000	254,000	261,000	109%	103%
4	Egypt, Arab Rep.	32,543,000	34,420,000	35,543,000	106%	103%
5	Iran, Islamic Rep.	40,309,000	44,610,000	51,449,000	111%	115%

First, highlight the three columns by clicking on the letter label at top (that is, on the “C” or “E”) of the column and then dragging the mouse over the other two columns so that all three columns are highlighted. The figure above illustrates this. (Alternatively, click on the column label “C,” then push down SHIFT and click on the column label “E.”)

Using the mouse, select the menu path **FORMAT/COLUMN/HIDE**.

Figure 48: The Column Hide menu option



The three columns are hidden. Look at the figure below — can you see columns “C” to “E”?

Figure 49: After columns “C” to “D” are hidden

B	F	G	H
Country Name	Ratio 2000/95	Ratio2010/95	Ratio 2010/95
Algeria	107%	110%	117%
Bahrain	109%	103%	112%
Egypt, Arab Rep.	106%	103%	109%
Iran, Islamic Rep.	111%	115%	128%

You can also hide non-adjacent columns. Try hiding columns “F” and “H.”

A time saving trick:

Assume you want to hide many columns that are spread over the entire worksheet and maybe even across worksheets. Go to the first “to be hidden” column or group of columns and hide it/them.

Go to the next “to be hidden” column(s) and press the Redo key — F4.

The columns will be hidden. You can continue using the key to hide columns. The F4 key repeats the last action you performed. It is a great time saver.

You can use it almost all tasks in Excel saving you time and the tedium of during repetitious tasks. More on the F4 feature later in the book.

4.1.F

UNHIDING A GROUP OF HIDDEN COLUMNS

Highlight the two columns that lie to the left and right of the hidden columns.

Assume columns “C” to “E” are to be unhidden. Select the two columns to the left and right of “C:E.” These columns are “B” and “F”. The next figure illustrates this.

Figure 50: Select the columns to the right and left of the hidden columns

B	F
Country Name	Ratio 2000/95
Algeria	107%
Bahrain	109%
Egypt, Arab Rep.	106%

Select the menu path **FORMAT/ COLUMN/ UNHIDE**. The hidden columns will be visible once again.

Figure 51: Column E is unhidden

E	F	G
2010	Ratio 2000/95	Ratio 2010/95
17,846,000	107%	110%
261,000	109%	103%
35,543,000	106%	103%

Tip Assume you have several hidden columns spread across the range “C” to “Y” with several of the columns in between these two columns being hidden. Now you want to unhide all the columns in the sheet. You do not have to unhide each group of hidden columns one-by-one. Just choose all the visible columns. Select the option **FORMAT/ COLUMNS/ UNHIDE**.

4.1.G

DELETING A COLUMN (SO THAT ALL OTHER COLUMNS MOVE ONE OVER TO THE LEFT)

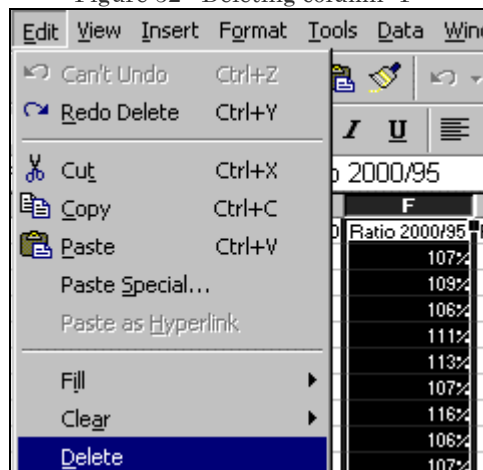
Select all the columns you want to delete. I have chosen to delete column “F” which has the series “Ratio 2000/95.”

Select the option EDIT/DELETE. The next figure illustrates this. Column “F” has been deleted.

Note:

If you made a deletion in error, you can undo the error by selecting EDIT / UNDO, or using the Undo icon. Refer to 11.5.

Figure 52: Deleting column “F”



When a column is deleted, the next column moves to the left. Therefore, when column “F” was deleted, the series it had was deleted and column “G” moved to the left (and so did column “H”).

Figure 53: After column “F” was deleted, the other columns data moved one column left

C	D	E	F	G
1995	2000	2010	Ratio 2010/95	Ratio 2010/95
15,218,000	16,284,000	17,846,000	110%	117%
234,000	254,000	261,000	103%	112%

The data that was previously in “G” is now in “F” and that which was in “H” is not in “G.” If the data in the (pre-delete) “G” or “H” was used in a formula or chart, the formula or chart will automatically update its references to adjust for the leftward movement in the columns.

4.1.H

CLEARING CONTENTS SO THAT THE COLUMN BECOMES EMPTY BUT DOES NOT GET REMOVED

You may want to empty the contents of a column (for example, column “F”). Select the column(s). Select the option **EDIT/CLEAR/CONTENTS** or push down the key “DELETE.”

Note that **EDIT/ CLEAR** can be used to clear formatting and comments. These topics will be taught later in the book.

The data/text inside column “F” will be cleared and the column will become empty as shown in the next figure below.

Figure 54: The menu option for clearing the contents in a column

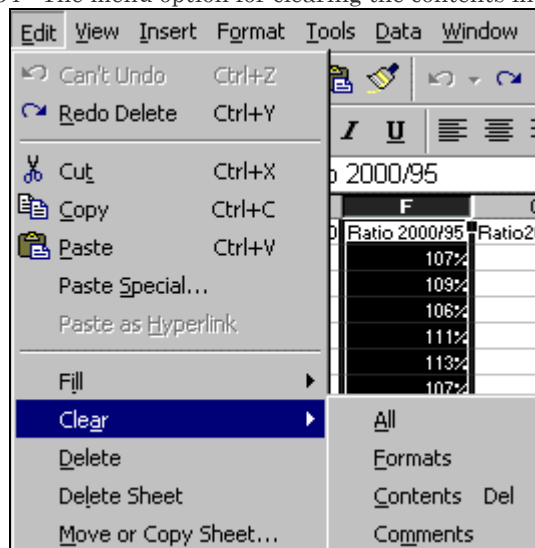


Figure 55: The contents in column F are deleted

C	D	E	F	G	H
1995	2000	2010		Ratio2010/95	Ratio 2010/95
15,218,000	16,284,000	17,846,000		110%	117%
234,000	254,000	261,000		103%	112%

4.1.1

INSERTING A PAGE BREAK BEFORE A COLUMN

You may want to print up to a certain column on one page and then start printing the next column on the next page. Use a page break to facilitate this desire. Highlight the column to whose left you want the page break. I have selected column “G” (see next figure for an illustration).

Figure 56: Column “G” is selected

F	G	H
2000/95	Ratio2010/95	Ratio 2010/95
107%	110%	117%
109%	103%	112%

Choose the menu option INSERT/PAGE BREAK.

The page break is shown by a dotted line to the left of column “G.”

Figure 57: The page break is shown by a dotted line to the left of column “G”

F	G
Ratio 2000/95	Ratio 2010/95
107%	110%
109%	103%
106%	103%

4.1.J

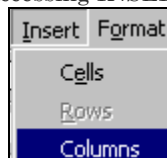
INSERTING COLUMNS

You may need to add additional columns in between existing columns.

Assume you want to add three new columns to the left of column “F.”

Choose three columns starting with “F” (and up to “H”). Select the option INSERT/COLUMNS. (Alternatively, click on the right mouse and choose the option INSERT).

Figure 58: Accessing INSERT/COLUMNS



Three columns will be inserted (because you selected three columns before requesting the insertion.) This is reproduced in the next figure.

Figure 59: Three columns are inserted

C	D	E	F	G	H	I	J	K
1995	2000	2010				Ratio 2000/95	Ratio 2010/95	Ratio 2010/95
15,218,000	16,284,000	17,846,000				107%	110%	117%
234,000	254,000	261,000				109%	103%	112%

4.1.K

COPYING AND PASTING (OR INSERTING)

A column can be copied and pasted at another location as a column.

Choose the column. Pick the menu option EDIT/COPY.

Pasting

Highlight the “pasted on” column and pick the menu option EDIT/PASTE.

This will replace the data/formats in the “pasted on” column.

Inserting

Highlight the “pasted on” column and pick the menu option EDIT/INSERT COPIED CELLS. A new empty column will be created and the copied column will be pasted on this new column. The “pasted on” column remains unchanged in content and format, but shifts one column to the right. The copied data will be pasted onto the new empty column and not on the original data (which will now be one column to the right).

Paste Special

This powerful tool is taught in chapter 16.

4.1.L

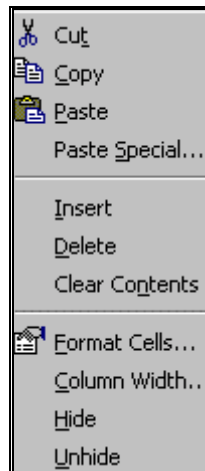
THE SHORTCUT MENU (RIGHT-CLICK)

After selecting a column(s), click on the right half of the mouse. A “pop-up” menu opens — like the one shown the next figure.

This menu provides easy access to the most commonly used procedures that you may wish to perform after selecting the column(s).

The right-click “Shortcut menu” is available in most software applications.

Figure 60: The shortcut menu that will pop-up if you click on the right half of the mouse after selecting one or more columns



The options shown in the menu will change depending on the current selection

Therefore, if you click on a sheet tab and then click on the right mouse you will see a menu with options relevant for working on a sheet(s)— like rename, delete, insert sheet.

The options and properties are analogous to those for columns.

4.3

GROUPING AND OUTLINING ROWS AND COLUMNS

The “Grouping and Outlining” tool enables easy grouping of rows and/or columns which you may want to hide/unhide as a group.

4.3.A

GROUPING

Several groups may be created. Groups can overlap or subsume other groups. Such groupings are useful if you desire “clickable” collapsibility/expandability of details. Excel creates groups automatically as part of a few procedures.

See *Volume 4: Managing & Tabulating Data in Excel* to learn about grouped sub-totals.

The data for this section is in the sample file “Grouping.xls.” Choose the rows 3 and 4. Pick the menu option “DATA/GROUP AND OUTLINE/GROUP.” The two rows will be grouped and a grouping indicator will be shown on the left of the row titles for rows 3 and 4.

This is shown in the next figure. The black “inverted L” to the left of the row titles 3 and 4 shows the range of the group. The “minus” sign next to this “inverted L” indicates that the group is “currently expanded/visible but can be collapsed/hidden by pressing on the minus sign.”

Figure 61: After grouping rows 3 and 4

	3	Age 15 - 19 years	Algeria	3,195,000	3,521,000	3,776,000	
	4	Age 20 - 24 years	Algeria	2,718,000	415,730,292	3,577,000	
	5	Age 25 - 29 years	Algeria	2,366,000	2,699,000	3,488,000	
	6	Age 30 - 34 years	Algeria	2,096,000	2,348,000	3,142,000	

Click on the minus sign. The group will be collapsed (hidden) as is shown in the next figure. Note that rows 3 and 4 are hidden.

Refer to sections 4.1.e-4.1.f for manual hiding/unhiding of rows or columns.

Figure 62: The group made from rows 3 and 4 after collapsing

	1	Series Name	Country Name	1995	2000	2010
	2	Age 0 - 19 and over 64 years	Algeria	15,218,000	16,284,000	17,846,000
+	5	Age 25 - 29 years	Algeria	2,366,000	2,699,000	3,488,000
	6	Age 30 - 34 years	Algeria	2,096,000	2,348,000	3,142,000
	7	Age 35 - 39 years	Algeria	1,562,000	2,075,000	2,666,000

The “plus” sign next to the hidden group indicates that the group is “currently collapsed/hidden but can be expanded/shown by pressing on the plus sign.”

Multiple Groups

I have made several groupings. The groups are indicated by the “inverted Ls” in the next figure. The group “rows 3-11” overlaps the other two groups. The group “rows 3-7” overlaps the smallest group “rows 3-4.”

Note the small buttons “1,” “2,” “3” and “4” on the top-left of the next figure. These buttons can be used instead of the minus signs to expand the groups. Experiment with the buttons and the minus signs. Collapsing the largest group will collapse all groups because the two other groups are subsumed by the largest group.

Figure 63: Several groups, with overlap

1	2	3	4	A	B	C	D	E	
	1			Series Name	Country Name	1995	2000	2010	
	2			Age 0 - 19 and over 64 years	Algeria	15,218,000	16,284,000	17,846,000	
	3			Age 15 - 19 years	Algeria	3,195,000	3,521,000	3,776,000	
	4			Age 20 - 24 years	Algeria	2,718,000	415,730,292	3,577,000	
	5			Age 25 - 29 years	Algeria	2,366,000	2,699,000	3,488,000	
	6			Age 30 - 34 years	Algeria	2,096,000	2,348,000	3,142,000	
	7			Age 35 - 39 years	Algeria	1,562,000	2,075,000	2,666,000	
	8			Age 40 - 44 years	Algeria	1,302,000	1,543,000	2,309,000	
	9			Age 45 - 49 years	Algeria	968,000	1,282,000	2,030,000	
	10			Age 50 - 54 years	Algeria	674,000	946,000	1,494,000	
	11			Age 55 - 59 years	Algeria	635,000	650,000	1,217,000	
	12			Age 60 - 64 years	Algeria	571,000	597,000	867,000	
	13			Age 65 and up years	Algeria	1,006,000	1,194,000	1,505,000	
	14			All age groups combined - years	Algeria	28,109,000	31,599,000	38,636,000	

Once you have tried the minus signs or the buttons, expand all the groups again by clicking on the plus signs if any. Group rows 2-14. The next figure displays the result. Note that all other groups are contained within this group. Furthermore, note that the top-left of the figure now shows five numbered buttons. Experiment with the buttons and/or the minus/plus signs. Try grouping columns along with rows.

Figure 64: All other groups are contained within the largest group

1	2	3	4	5	A	B	C	D	E	F
	1	Series Name				Country Name	1995	2000	2010	
	2	Age 0 - 19 and over 64 years				Algeria	15,218,000	16,284,000	17,846,000	
	3	Age 15 - 19 years				Algeria	3,195,000	3,521,000	3,776,000	
	4	Age 20 - 24 years				Algeria	2,718,000	415,730,292	3,577,000	
	5	Age 25 - 29 years				Algeria	2,366,000	2,699,000	3,488,000	
	6	Age 30 - 34 years				Algeria	2,096,000	2,348,000	3,142,000	
	7	Age 35 - 39 years				Algeria	1,562,000	2,075,000	2,666,000	
	8	Age 40 - 44 years				Algeria	1,302,000	1,543,000	2,309,000	
	9	Age 45 - 49 years				Algeria	968,000	1,282,000	2,030,000	
	10	Age 50 - 54 years				Algeria	674,000	946,000	1,494,000	
	11	Age 55 - 59 years				Algeria	635,000	650,000	1,217,000	
	12	Age 60 - 64 years				Algeria	571,000	597,000	867,000	
	13	Age 65 and up years				Algeria	1,006,000	1,194,000	1,505,000	
	14	All age groups combined - years				Algeria	28,109,000	31,599,000	38,636,000	
	15	Age 0 - 19 and over 64 years				Bahrain	234,000	254,000	261,000	
	16	Age 15 - 19 years				Bahrain	45,000	52,000	65,000	

4.3.B

OUTLINES

Excel is supposed to have the ability to create outlines of a selected range. That is, to automatically “sense” groups and sub-groups. In my experience, this feature is buggy. Therefore, I do not teach it.

4.4

VIEWING & WORKING ON NON-ADJACENT ROWS/COLUMNS SIDE-BY-SIDE

4.4.A

LOCKING PART OF THE WORKSHEET SO THAT CERTAIN ROWS/COLUMNS DON'T MOVE WHEN YOU SCROLL (FREEZING PANES)

A typical spreadsheet has more columns than can be seen in one window view. For example, in the sample file, you may only be able to see columns “A” to “E” in one view. (For a pictorial reproduction of this, see figure below.)

Figure 65: This range is from the worksheet “Sort by series” in the file “File2.xls”

	A	B	C	D	E	F
1	Series Name	Country Name	1995	2000	2010	Ratio 2
2	Age 0 - 19 and over 64 years	Algeria	15,218,000	16,284,000	17,846,000	
3	Age 0 - 19 and over 64 years	Bahrain	234,000	254,000	261,000	
4	Age 0 - 19 and over 64 years	Egypt, Arab Rep.	32,543,000	34,420,000	35,543,000	
5	Age 0 - 19 and over 64 years	Iran, Islamic Rep.	40,309,000	44,610,000	51,449,000	

You can use the horizontal scrollbar to see the columns “C” to “E” as shown in the next two figures; but then you will not be able to see columns “A” to “B.”

Figure 66: After scrolling to the right, the leftmost columns cannot be seen

	C	D	E	F	G	H	I	J
1	1995	2000	2010	Ratio 2000/95	Ratio2010/95	Ratio 2010/95		
2	15,218,000	16,284,000	17,846,000	107%	110%	117%		
3	234,000	254,000	261,000	109%	103%	112%		
4	32,543,000	34,420,000	35,543,000	106%	103%	109%		
5	40,309,000	44,610,000	51,449,000	111%	115%	128%		
6	11,348,000	12,779,000	15,959,000	113%	125%	141%		

You can use the horizontal scrollbar to see the columns to the right of “E,” but then you will not be able to see columns “A” to “B.” This is a problem: the data for columns “H” onwards makes no sense if it cannot be viewed

along with the column that has the titles/labels for the row. A tool that enables the simultaneous viewing of the “title” columns with the data columns is “freeze panes.”

See page 186 to learn how to print out the “title” columns and “title” rows on each printout worksheet.

Click on the column to the right of the last column you want to see always on the screen (that is, the “title” columns). In our example, I always want “A” and “B” on the screen. Therefore, I clicked on and selected column “C.” Work with me and perform the same selection.

Go to WINDOW/FREEZE PANES. The columns “A” to “B” are *frozen* now. If you move the horizontal scroll bar to the right, then “A” and “B” will not move; the other columns will scroll over. Consequently, you will see columns “G” and “H” along with columns “A” and “B.”

Figure 67: The columns A and B are frozen. As you scroll, you will always see A and B

	A	B	G	H
1	Series Name	Country Name	Ratio2010/95	Ratio 2010/95
2	Age 0 - 19 and over 64 years	Algeria	110%	117%
3	Age 0 - 19 and over 64 years	Bahrain	103%	112%
4	Age 0 - 19 and over 64 years	Egypt, Arab Rep.	103%	109%

Note:

The columns in the middle have not been deleted or hidden; you have just scrolled past them.

Freezing rows

You can also freeze the title rows such that these rows do not move as you scroll down the rows of the worksheet. In our sample file, the title row is

row 1.

Freezing row 1

Highlight row 2. The next figure illustrates this.

Figure 68: Selecting the boundary for the “freeze”

	A	B	C	D
1	Series Name	Country Name	1995	2000
2	Age 0 - 19 and over 64 years	Algeria	15,218,000	16,284,000
3	Age 0 - 19 and over 64 years	Bahrain	234,000	254,000
4	Age 0 - 19 and over 64 years	Egypt, Arab Rep.	32,543,000	34,420,000
5	Age 0 - 19 and over 64 years	Iran, Islamic Rep.	40,309,000	44,610,000

Pick the menu option WINDOW/FREEZE PANES. The first row is frozen now. When you scroll down using the vertical scroll bar, all the rows will scroll except for row 1. Consequently, you will be able to see the data for any row along with the series title in the first row. The next figure illustrates this.

Figure 69: The rows 1 and 2 are frozen. As you scroll down, you will always see rows 1 and 2

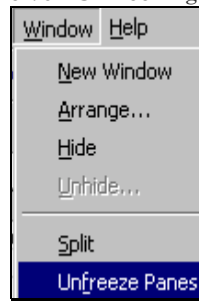
	A	B	C	D	E
1	Series Name	Country Name	1995	2000	2010
9	Age 0 - 19 and over 64 years	Lebanon	857,000	909,000	916,000
10	Age 0 - 19 and over 64 years	Libya	1,484,000	1,583,000	1,595,000
11	Age 0 - 19 and over 64 years	Morocco	3,162,000	3,717,000	4,937,000
12	Age 0 - 19 and over 64 years	Oman	13,761,000	14,097,000	14,280,000
13	Age 0 - 19 and over 64 years	Qatar	1,309,000	1,635,000	2,411,000

4.4.B

REMOVING FREEZE PANES

Select the menu option WINDOW/ UNFREEZE PANES.

Figure 70: Unfreezing panes



4.4.C

PRINTING NON-ADJACENT COLUMNS/ROWS NEXT TO EACH OTHER

Refer to section 10.7 on page 186.

4.4.D

SPLITTING THE FILE INTO TWO WINDOWS; EACH WINDOW HAS ITS OWN VERTICAL AND HORIZONTAL SCROLL BAR

You may want to work on a part of a worksheet independent of another part of the worksheet. You can break up the worksheet into two windows. Each window has its own scroll bars.

Assistance with references in a formula

A major use of this feature is cross-referencing. If you have a formula in cell "G223" that references cells in the range "C2:C15" (for example) then you can split the window such that you can view the referenced data while writing the formula. (As you will learn later, you can also insert the reference by clicking on the referenced cell(s).)

Assistance for crosschecking data

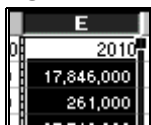
Another use is to crosscheck data on screen when the data to be crosschecked is spread across non-adjacent and possibly distant rows and columns.

4.4.E

SPLITTING ACROSS COLUMNS

Assume you want to split the window through column “D.” First, click on column “E.” Choose the menu option WINDOW/SPLIT.

Figure 71: Selecting the boundary for the “split”



The window will be split into two halves. The next figure illustrates this.

Figure 72: The window is split

	A	B	C	D	E	F	G
1	Series Name	Country Name	1995	2000	2010	Ratio 2000/95	Ratio2010/95
2	Age 0 - 19 and over 64 years	Algeria	15,218,000	16,284,000	17,846,000	107%	110%
3	Age 0 - 19 and over 64 years	Bahrain	234,000	254,000	261,000	109%	103%
4	Age 0 - 19 and over 64 years	Egypt, Arab Rep.	32,543,000	34,420,000	35,543,000	106%	103%
5	Age 0 - 19 and over 64 years	Iran, Islamic Rep.	40,309,000	44,610,000	51,449,000	111%	115%
6	Age 0 - 19 and over 64 years	Israel	11,348,000	12,779,000	15,959,000	113%	125%
7	Age 0 - 19 and over 64 years	Jordan	2,641,000	2,814,000	3,018,000	107%	107%
8	Age 0 - 19 and over 64 years	Kuwait	3,078,000	3,561,000	4,613,000	116%	130%
9	Age 0 - 19 and over 64 years	Lebanon	857,000	909,000	916,000	106%	101%
10	Age 0 - 19 and over 64 years	Libya	1,484,000	1,583,000	1,595,000	107%	101%
11	Age 0 - 19 and over 64 years	Morocco	3,162,000	3,717,000	4,937,000	118%	133%
12	Age 0 - 19 and over 64 years	Oman	13,761,000	14,097,000	14,280,000	102%	101%
13	Age 0 - 19 and over 64 years	Qatar	1,309,000	1,635,000	2,411,000	125%	147%
14	Age 0 - 19 and over 64 years	Saudi Arabia	192,000	214,000	259,000	111%	121%
15	Age 0 - 19 and over 64 years	Syrian Arab Republic	9,977,000	11,636,000	15,415,000	117%	132%
16	Age 0 - 19 and over 64 years	Tunisia	8,407,000	9,058,000	9,925,000	108%	110%
17	Age 0 - 19 and over 64 years	United Arab Emirates	4,489,000	4,681,000	4,773,000	104%	102%
18	Age 0 - 19 and over 64 years	Yemen, Rep.	865,000	957,000	1,087,000	111%	114%
19	Age 0 - 19 and over 64 years	Algeria	9,133,000	11,034,000	15,223,000	121%	138%
20	Age 15 - 19 years	Bahrain	3,195,000	3,521,000	3,776,000	110%	107%
21	Age 15 - 19 years	Egypt, Arab Rep.	45,000	52,000	65,000	116%	125%
22	Age 15 - 19 years	Iran, Islamic Rep.	6,316,000	7,525,000	7,647,000	119%	102%

Note that each window has its own horizontal scroll bar. The next figure illustrates this. Each window may be scrolled independent of the other window.

Figure 73: Each window has its own horizontal scroll bar

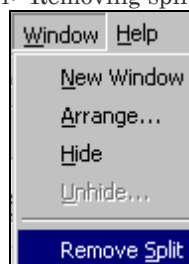


You can see the same range of data in both windows. When you work on a range in one window, the other window is “de-activated.” You can use the split windows to:

- facilitate checking numbers located far away,
- copy/cut and paste/insert from a range in one window into a range in the other window, and,
- lower the chances of making a cell reference error when writing a formula (the cell with the formula is in one window, while the referenced cells may be in the other).

Select the menu option WINDOW/ REMOVE SPLIT.

Figure 74: Removing split windows



4.4.G

SPLITTING ACROSS ROWS

Select the row to split at and then select the option WINDOW/SPLIT. You will see two vertical scroll bars and can scroll on each window independent of the other one.

4.4.H

SPLITTING ACROSS ROWS AND COLUMNS

You can split the window along rows and columns. Click on a cell in the middle of the screen. At this point, pick the menu option WINDOW/SPLIT.

Figure 75: Splitting into four windows

	D	E	F	G	H		C	D	E	F
37	1,852,000	2,818,000	114%	152%	173%		1,626,000	1,852,000	2,818,000	114%
38	415,730,292		15295%	0%	0%		2,718,000	415,730,292		15295%
39	46,000	59,000	128%	128%	164%		36,000	46,000	59,000	128%
40	6,251,000	8,043,000	119%	129%	153%		5,261,000	6,251,000	8,043,000	119%
41	6,958,000	10,174,000	121%	146%	176%		5,770,000	6,958,000	10,174,000	121%
42	2,128,000	2,931,000	110%	138%	152%		1,926,000	2,128,000	2,931,000	110%
43	507,000	557,000	109%	110%	119%		467,000	507,000	557,000	109%
44	601,000	755,000	112%	126%	140%		539,000	601,000	755,000	112%
45	183,000	255,000	136%	139%	189%		135,000	183,000	255,000	136%
46	290,000	340,000	94%	117%	110%		310,000	290,000	340,000	94%
47	562,000	799,000	117%	142%	167%		479,000	562,000	799,000	117%
48	2,979,000	3,138,000	113%	105%	119%		2,647,000	2,979,000	3,138,000	113%
24	2,503,000	3,037,000	117%	121%	142%		2,144,000	2,503,000	3,037,000	117%
25	529,000	579,000	106%	109%	116%		499,000	529,000	579,000	106%
26	637,000	916,000	105%	144%	152%		604,000	637,000	916,000	105%
27	218,000	209,000	124%	96%	119%		176,000	218,000	209,000	124%
28	311,000	367,000	107%	118%	126%		292,000	311,000	367,000	107%
29	679,000	936,000	120%	138%	165%		566,000	679,000	936,000	120%
30	3,041,000	3,292,000	101%	108%	109%		3,020,000	3,041,000	3,292,000	101%
31	275,000	423,000	128%	154%	197%		215,000	275,000	423,000	128%
32	44,000	51,000	122%	116%	142%		36,000	44,000	51,000	122%
33	2,198,000	2,929,000	116%	133%	154%		1,898,000	2,198,000	2,929,000	116%
34	1,980,000	2,081,000	122%	105%	129%		1,619,000	1,980,000	2,081,000	122%

The worksheet is broken into four parts. The top two windows scroll up together. The bottom two scroll up together. The left two scroll sideways together. The right two scroll sideways together. Try it out!

4.4.1

REMOVING THE SPLIT

Choose the menu option WINDOW/REMOVE SPLIT.

CHAPTER 5

CELLS AND RANGES

This chapter discusses the following topics:

- SELECTING BY DRAGGING THE MOUSE
- USING THE KEYPAD TO ASSIST IN SELECTING A RANGE
- SELECTING A RANGE OF ROWS OR COLUMNS
- SELECTING NON-ADJACENT RANGES
- SELECTING ALL CELLS/CONTENT ACROSS THE
WORKSHEET THAT MEET A CRITERION
- SELECTING CELLS WITH DISTINCT FEATURES
- SELECTING BASED ON DATA VALIDATION
- SELECTING BASED ON FORMULAE
- SELECTING BASED ON CELL REFERENCES IN FORMULAS
- SELECTING ALL CELLS WHOSE FORMULAS REFERENCE
THE ACTIVE CELL (DIRECTLY OR/AND INDIRECTLY
- SELECTING ALL CELLS REFERENCED (DIRECTLY OR/AND
INDIRECTLY) BY THE FORMULA IN THE ACTIVE CELL
- WORKING SIMULTANEOUSLY ON CELLS IN DIFFERENT
WORKSHEETS

5.1

SELECTING BY DRAGGING THE MOUSE

Open the file “Files1.xls.” Highlight the range “D2:E3.” I will go through all the features one— by— one starting with the data type format (or “number type” format).

Clicking on the first cell and then dragging the mouse until the last cell of the range can select a range. This selects a range like Range(“B2:D34”).

5.2

USING THE KEYPAD TO ASSIST IN SELECTING A RANGE

Please try these time saving key combinations.

- CONTROL plus A selects the entire worksheet.
- CONTROL plus SHIFT plus END selects the entire range from the current cell to the last cell in the data worksheet.
- CONTROL plus SHIFT plus HOME selects the entire range from the current cell to the first cell in the data worksheet.
- SHIFT plus PAGE UP (or PAGE DOWN) selects large blocks of cells.
- SHIFT plus CONTROL plus the DOWN KEY selects all data from the current row until the last row in the columns associated with the current selection of cells.
- SHIFT plus CONTROL plus the UP KEY selects all data from the current row until the first row in the columns associated with the current selection of cells.

-
- SHIFT plus CONTROL plus the RIGHT KEY selects all data from the current column until the last column in the rows associated with the current selection of cells.
 - SHIFT plus CONTROL plus the LEFT KEY selects all data from the current column until the last column in the rows associated with the current selection of cells.
 - Click and select a column by using the left mouse. Now, using SHIFT plus the RIGHT (LEFT) KEY selects columns, one at a time, to the right (left) of the currently selected column. SHIFT plus CONTROL plus the RIGHT (LEFT) KEY selects columns to the right (left) until the end (start) of the range.
 - Click and select a row by using the left mouse. Using SHIFT plus the DOWN (UP) KEY selects rows, one at a time, to the bottom (top) of the currently selected column. SHIFT plus CONTROL plus the DOWN (UP) KEY selects rows to the bottom (top) until the end (start) of the range.

5.3**SELECTING A RANGE OF ROWS OR COLUMNS**

If the range consists of entire rows or columns, then select the range by clicking on the row or column titles. This process selects a range like Range("A:C") or Range("1:7").

5.4**SELECTING NON-ADJACENT RANGES**

Select the first range. Push down CONTROL and select the next range. And so on...

DATA ENTRY

Data or text may be typed directly into a cell. On pressing the Enter key, the cursor will move to the next cell. Depending on the options set for your copy of Excel, you can “Click, Drag and Move” cells. The options are shown in 13.2.

- Once data is entered, its display format can be changed as shown in 6.1.

Excel provides some special utilities that make data entry easier and less likely to contain typographical errors. The tools include Data Validation, Data Forms, and the Fill option. *Volume 4: Managing & Tabulating Data in Excel.*

- Excel can read many different file formats as was shown in chapter 2.
- Excel can “link” to a database such that linked cells in Excel can be easily updated with “fresh” data from the database whenever the user desires. Refer to *Volume 4: Managing & Tabulating Data in Excel.*
- You can copy and paste tables from another Excel file or another application (like Microsoft Word) into Excel.
- Copy and Paste (or “Paste Special”) is often used to replicate formulas. This is shown in chapter 16.

5.6

SELECTING ALL CELLS/CONTENT ACROSS THE WORKSHEET THAT SATISFY A CRITERION

This extremely powerful timesaving tool (accessible via EDIT/GO TO/SPECIAL) is taught in *Volume 3: Excel– Beyond The Basics* and in *Volume 4: Managing & tabulating Data in Excel*.

5.7

WORKING SIMULTANEOUSLY ON CELLS IN DIFFERENT WORKSHEETS

Assume your workbook has 18 worksheets, each for a different country. Assume further that all the worksheets have a similar composition— the same variables in the same columns and rows. You want to make some calculations for each country/worksheet. The long way of doing this is calculating separately for each country/worksheet. However, this means that you will be repeating the same step 17 times.

An easier way is to select all the worksheets and do the calculations only once. Whenever you select several worksheets¹ and perform some formatting on a range of cells, rows, or columns in one of the worksheets, the same is automatically conducted for the same range of cells, rows, or

¹ Selecting multiple consecutive worksheets: (a) click on the first sheet, (b) press down on the SHIFT key, and, (c) click on the last sheet. Selecting multiple non-consecutive worksheets: (a) click on the first sheet, (b) press down on the CTRL key, and, (c) one by one, click on the other worksheets you want to select. If a sheet is selected successfully, its sheet tab will be highlighted.

columns in all the selected worksheets.

If you write a formula on a cell (for example, in cell “C3”) in one of the worksheets, the same formula is automatically written in the same cell (in cell “C3”) on all the selected worksheets. Whenever you copy and paste formulas or cell values in one worksheet, the same copy and paste action is replicated on the other worksheets.

Try this Once again, as the other sections in this chapter, this feature is best learned by practice. So, try it out on the sample file “Files1.xls.” In that file, all the worksheets whose names are country names (see the worksheets “Algeria,” “Bahrain,” ... , “Yemen”) are identical in their structure.

- In cell D5 of each cell, I wanted the formula “= (C5/C4) — 1.” I selected all the worksheets and typed the formula into cell D5 of only one of the worksheets. The formula was automatically replicated on all the worksheets I had selected.
- Write the formula “= (C6/C5) — 1” into cell D6 of all these worksheets using this method. With all the worksheets selected, try different things like formatting cells, changing the width of columns, etc. Notice that you only have to work on one worksheet, and the work is automatically replicated for all the selected worksheets.

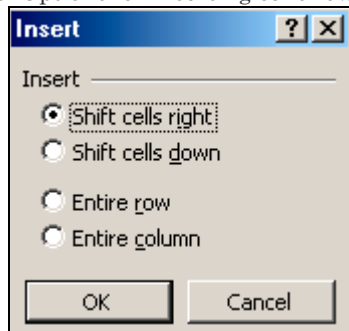
The use of this feature is optimized if data in separate worksheets is arranged in a manner that facilitates work on several sheets.

5.8

INSERTING CELLS

Assume you want to insert three cells to the left of range “C2:C5.” Highlight this range. Pick the menu option INSERT/CELLS. The dialog (user-input form) shown in the next figure opens.

Figure 76: Options for inserting cells/rows/columns



You wanted to insert the cells “to the left of” the chosen range. Therefore, choose the option “Shift cells right” (and place the new cells at the old location of the currently selected cells). The original data in range “C2:C5” will move to cells “D2:D5,” and the range “C2:C5” will end up with three new, blank cells.

If, instead, you choose “Shift cells down,” then the data in cells “C2:C5” will move to the range “C6:C8” and three new, blank cells be inserted into the range “C2:C5.”

5.9

DELETING CELLS

Assume you want to delete the three cells “C2:C5.” Highlight this range. Pick the menu option EDIT/DELETE. The dialog shown in the next figure opens.

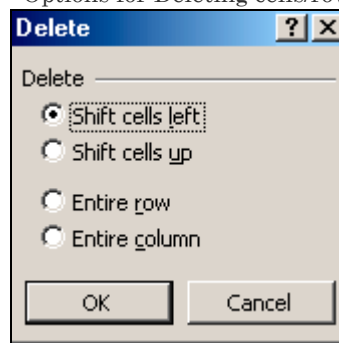
Consequence of choosing “Shift Cells left”

After deletion, the pre-deletion range “D2:D5” will occupy the cells “C2:C5” post-deletion.

Consequences of choosing “Shift cells up”

After deletion, the pre-deletion range “C6:C8” will occupy the range “C2:C5” post-deletion.

Figure 77: Options for Deleting cells/rows/columns



5.10

CLEARING THE CONTENTS OF CELLS (BUT NOT SHIFTING ANY OTHER CELLS)

Assume you want to clear the contents of the three cells “C2:C5” and make these cells empty. You do want to shift any other cells. Highlight this range. Pick the menu option EDIT/CLEAR/CONTENTS.

5.11

NAMING A RANGE

You can use range names as references instead of exact cell references. Named ranges are easier to use if the names chosen are explanatory.

The topic is best discussed after learning about making references in formulas. Please refer to 16.8.

CHAPTER 6

FORMATTING CELLS AND RANGES

In this chapter, you will learn the following topics:

- NUMBER TYPE
- CREATING A CUSTOM NUMBER TYPE OR MODIFYING AN
EXISTING TYPE
- ALIGNMENT
- TEXT ALIGNMENT
- VERTICAL ALIGNMENT
- HORIZONTAL ALIGNMENT
- TEXT CONTROL
- USING “WRAP TEXT “SHRINK TO FIT“
- WRAP TEXT
- CENTER ACROSS SELECTION, MERGING CELLS
- “IN SOME CELLS, ALL I SEE ARE # SIGNS (#####). WHAT IS
THE PROBLEM AND WHAT CAN I DO?”
- ORIENTATION
- FONT
- BORDER
- CHOOSING A BORDER TO OUTLINE ALL FOUR SIDES OF
THE SELECTED RANGE

-
- CHOOSING TOP, BOTTOM, LEFT AND RIGHT BORDERS ONE-BY-ONE
 - BACKGROUND PATTERN
 - DEFINING REUSABLE CUSTOM STYLES THAT FORMAT ALL FEATURES
 - SUMMARY OF PROPERTIES OF CELLS, COLUMNS, ROWS, AND WORKSHEETS
 - REMOVING FORMATTING
-

6.1

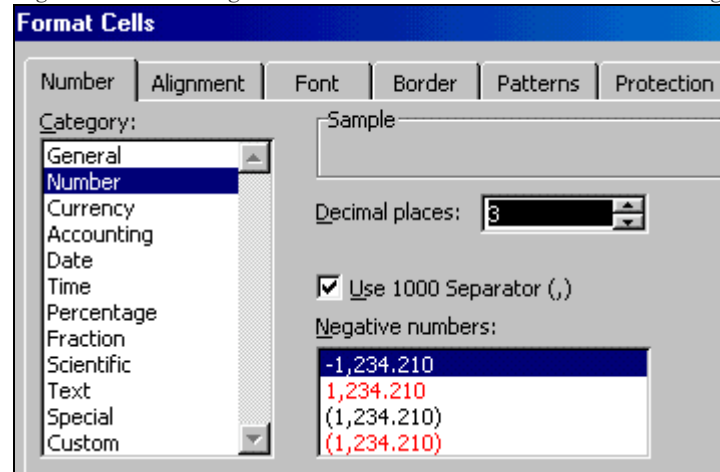
NUMBER TYPE

Using the mouse, select the menu path FORMAT/CELLS. Click on the tab “Number.”

What do you want as the data or number type of the data? Assume it is “Numeric with 3 decimal places and the 1000's separator.”² Make the appropriate choices as shown in the next figure.

² So, the number “1000” will be shown as “1,000.000.”

Figure 78: Selecting the “Number Format” for the selected range



Examples for numeric data

(The format you define will also be used in charts and in any formulas that are derived from this data)

<i>Category</i>	<i>Example</i>	<i>Comment</i>
Number	10000	Decimal Place=0 and “Use 1000 Separator(,)” is not selected
Number	10000.00	Decimal Place=2 and “Use 1000 Separator(,)” is not selected
Number	10,000.00	Decimal Place=0 and “Use 1000 Separator(,)” is selected
Percentage	1000000%	Use percentage for numbers in the range 0 to 1 and if the data series is a percent measure or proportion measure. The number 0.233 will be seen as 23.3%.
Scientific	10+E4	Used if the numbers are very large or small and you are interested in only comparing (visually) the number of “thousands,” “millions,” “billion,” “nanoseconds,” etc. 10E3=1000, 10E6=1 million, 10E9=1 billion and 10E–6 = nanoseconds.

Tips

- Negative numbers can be displayed in three different ways: [1] with a minus sign before the data, [2] by enclosing any negative value in parentheses, or [3] by making negative values data show in red colored font.
- If a cell is formatted as “text” data type but it contains the entry “1,” Excel will not let you use the cell in any numeric formula. Excel is not seeing the 1 as a number.
- When converting data from other file formats (ASCII Text, Lotus, etc) into Excel, you should check if the data types converted correctly.
- Use scientific for very large or small numbers as, for example, 1.21+E10 can be more easily read as 12 billion than 12000000000. This also helps in conserving space. (Usually for very large/small numbers you are usually interested in the rounded off number.)
- Enter percent values as “.01, .02” and not as “1%, 2%.”

6.1.A

CREATING A CUSTOM NUMBER TYPE OR MODIFYING AN EXISTING TYPE

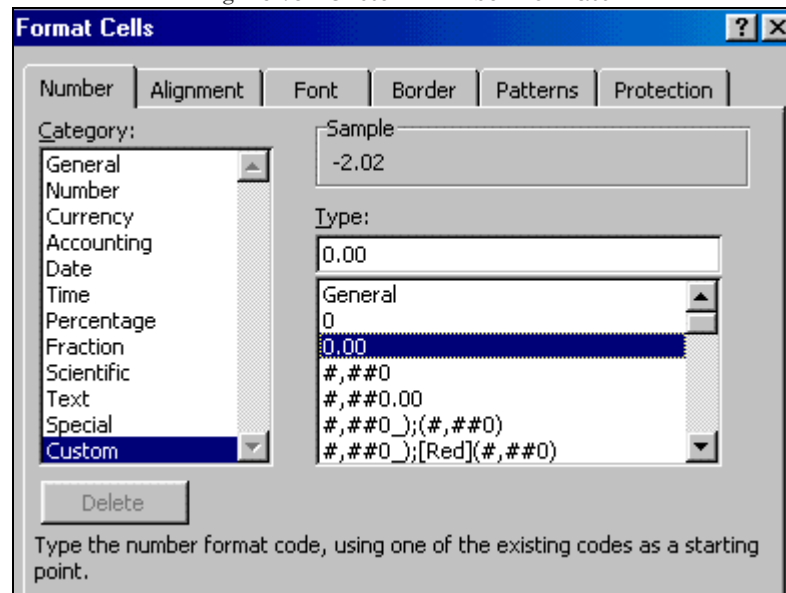
This is an advanced topic; most beginners can skip this sub-section.

The definition of a number type contains four parts of which the first is essential and all codes are separated by semi-colons:

- Format code for a positive value (necessary)
- Format code for negative numbers (optional; otherwise default used)

- Format code for zero values (optional; otherwise default used)
- Format code for text strings (optional; otherwise default used)

Figure 79: Custom Number Formats



The above list can be represented by the letters p, n, z and t for positive, negative, zero and text format codes, respectively. A number type is then represented by:

p ; n ; z ; t

As mentioned above, the last three format codes are optional. What series of characters can the format codes have? Some of these characters are shown in the next table.

Table 11: Codes used for creating custom Number Formats

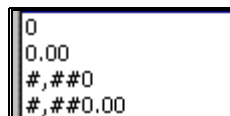
Code	What it represents
,	Thousands separator

<i>Code</i>	<i>What it represents</i>
.	Decimal point
%	Percentage
#	The default — represents a digit or space
0	A digit or zero
Blue	Sets the color of the font. Can use any of the basic colors: Black, yellow, red, etc. You can choose a special color for negative numbers— as is often used in accounting when red is shown for negative numbers.
(	Open parentheses
)	Close parentheses
_)	No parentheses
\$	Currency sign

The format code typically uses a series of the characters in the table above. You will view some examples in the next few figures.

The first four custom number types on my Excel have only a positive number format because they do not have any semi-colon. The four types are shown in the next figure.

Figure 80: Excel has a few custom formats already defined



In order of complexity, the next higher level of number type definitions uses two format code series. The first series is for the codes for positive number; the second is typically for the codes for negative values. Such a number type in which the zero and text formats are not defined is represented by:

p ; n

The custom number collection on my PC's Excel has the following two—"number type" definitions. Notice the semi-colon in each of the definitions. The codes to the left of the semi-colon define the format for positive numbers. The codes to the right of the semi-colon define the format for negative numbers.

Note Definitions 1 and 2 are similar — the only difference is definition 2 makes Excel color red the font of a negative number. Definition 3 differs from definition 1 by permitting a higher level of preciseness in number display — two points after the decimal point.

Figure 81: Formats with codes for negative values

```
#,##0_);(#,##0)
#,##0_);[Red](#,##0)
#,##0.00_);(#,##0.00)
#,##0.00_);[Red](#,##0.00)
```

A number type in which the negative and zero formats are not defined is represented by:

p ; ; ; t

A number type in which the negative and text formats are not defined is represented by:

p ; ; z

Click on the tab "Alignment." Choose the alignment of data/text within

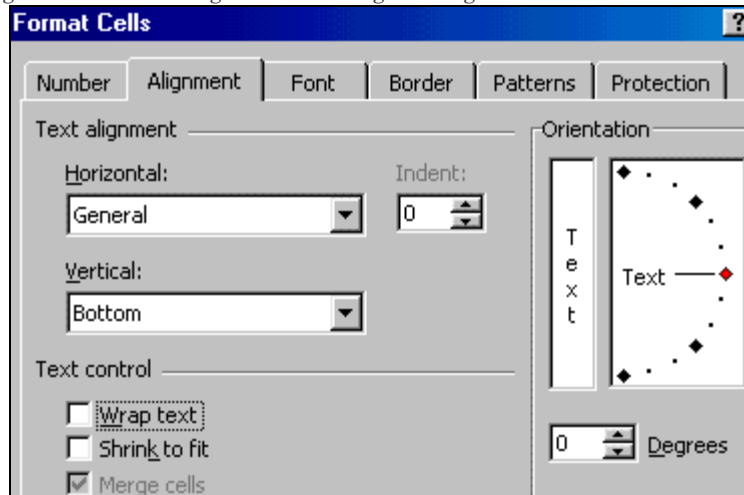
each cell.

Reminder:

The formatting dialog is accessed through the menu path **FORMAT/CELLS**.

The dialog for formatting the alignment has three areas—Text alignment, Text control, and Orientation.

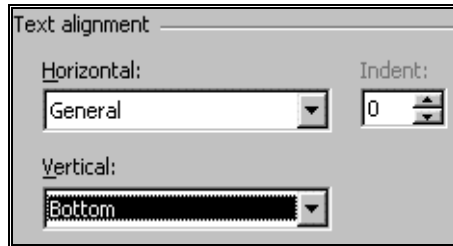
Figure 82: The dialog for formatting the alignment of the selected range



Focus on the “Text alignment” part of the dialog. This part is reproduced in the next figure.

The options permit setting of the Vertical and Horizontal alignments in the currently-chosen cells.

Figure 83: Text Alignment area in the dialog for alignment formatting



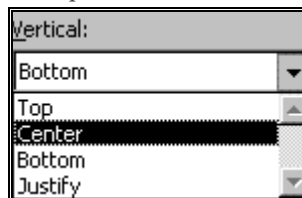
6.3.A

VERTICAL ALIGNMENT

The choices here set the vertical alignment. The choice aligns the text/data in the cell relative to the top and bottom boundaries of the cell.

A “Top” alignment will place the data/text at the top of the cell. This may be a problem if it makes the text in, for example, the heading cell too far up from the first row of data. In certain situations, you may want the top alignment for some cells.

Figure 84: Options for Vertical Alignment



The “Center” alignment is usually the best, irrespective of the type of data you have. This alignment provides a good symmetry and useful white space between the cell and the top/bottom cell boundary. The “Justify” option is not advisable for vertical alignment.

6.3.B

HORIZONTAL ALIGNMENT

The options for horizontal alignment are greater. Apart from the standard alignment options, the choices include “Left (Indent),” “Fill,” and “General.” General is the default. Excel uses left alignment if the cell contains text and right alignment if it contains data. (This is accounting convention.)

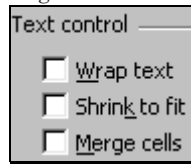
I recommend you follow the same practice. Sometimes you may want to “Center” the entire column. Do this only if the data is still easy to read. If the data cells have very different number of characters then the horizontal alignment may make comparing across cells a bit tricky.

A slight indent can be given in a cell. The indent effectively starts the text/data in the cell after a gap to the left of the cell. This feature should be used when you want to delineate categories and sub-categories in the labels column.

6.4**TEXT CONTROL**

The options in this area allow you to (a) Wrap text:— permit multiple lines in one cell, (b) Shrink to Fit— reduce font size until the data/text just fits into the cell, (c) Merge cells and the contents in them.

Figure 85: The “Text Control” options. You can ensure that the text in the cell will go on a second line in the cell if the cell width is not sufficient to show all the text in the cell. You may also merge two or more cells.



6.4.A

USING “WRAP TEXT” AND “SHRINK TO FIT”

One way to ensure that a column is wide enough to display the text in the cells in the column is to use “Autofit.” (Refer to page 74 for a discussion on “Auto fit.”) The problem with Auto fit is that even if one cell has a lot of information, the entire column becomes very wide.

Ensuring that several lines of text fit into a row

Assume you do want text to flow into the next cell but to “wrap” by allowing cell to contain more than one line of text (the cell height increases accordingly). Simply implement this by choosing the option “Wrap text.”

Choose column A the worksheet “Sort by country” in the file “File2.xls” and— using the mouse— make its width smaller so that the text does not fit into the cells.

Figure 86: Use the mouse to decrease the width of column A such that one can see the entire text in the cell

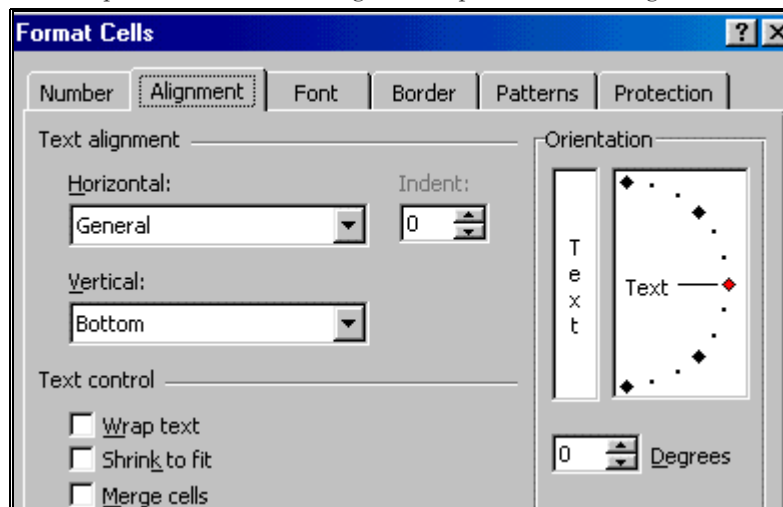
	A	B
1	Series Name	Country Name
2	Age 0 - 19 and over	Algeria
3	Age 0 - 19 and over	Bahrain

Assume this is the width desired for this column. Further, assume that you want to make a trade-off— this width but a higher row height so that

the cells can have more than one line.

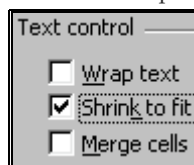
Choose column A and pick FORMAT/CELLS. The dialog shown in Figure 87 opens. Click on the tab “Alignment.”

Figure 87: Reproduction of the dialog (user-input form) for Alignment formatting



Let us focus on the area “Text control.” One way to ensure that each cells width is sufficient is to choose the option “Shrink to fit.”

Figure 88: The “Shrink to fit” option of “Text control”



The result of this is usually horrendous— the font size adjusts in each cell so that the text fits within each cell. However, this makes the fonts very different in size across the worksheet, a real eyesore!

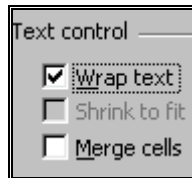
Figure 89: The result of “Shrink to Fit” option

	A
1	Series Name
2	Age 0 - 19 and over 64 years
3	Age 0 - 19 and over 64 years

Wrap text

A better option is the use of the “Wrap text” option.

Figure 90: Choosing the “Wrap text” option for text control



This allows the cell to display more than one line of text. The row height automatically increases to adjust to wrapping of text.

Figure 91: Result of using “Wrap text”—text is wrapped within each cell

	A
1	Series Name
2	Age 0 - 19 and over 64 years
3	Age 0 - 19 and over 64 years

Sometimes, when using the wrap text option for text control, the row heights may not adjust fully. An example is shown in the next figure

Figure 92: The row height may need adjustment if the text is being cut from the top or bottom of the cell

	A	
1	Series Name	C
2	Age 0 - 19 and over 64 years	A
3	Age 0 - 19 and over 64 years	B

Correcting the problem

You can (a) widen column width or/and (b) increase row height. (You can also use **FORMAT/ROW/AUTOFIT** to ensure that the row heights increase to “just fit” every cell's contents. This may give you rows of differing heights. You have to make the trade-off between row height and column width.)

6.4.B

CENTER ACROSS SELECTION, MERGING CELLS

While merging cells or centering text along selection (of cells) may assist with formatting they may also increase the possibility of making an error while deleting or inserting rows/columns, referencing cells, etc.

“In some cells, all I see are # signs (#####). What is the problem and how can I resolve it?”

Figure 93: Cells cannot display all the digits in the number

D	E	F
1995	2000	2010
####	#####	####
####	254,000	####

There are a few ways for you to see the full data instead of the # signs.

- Increase the width of the columns using **FORMAT/COLUMNS/AUTOFIT**.
- Use the “Shrink to fit” option discussed on page 117.
- Choose a “Number Format” that uses less space. For example, the scientific format uses less space. (In changing number format, you can also benefit by reducing the number of decimals displayed.) This method is used below.

Select the range whose Number Format you want to change.

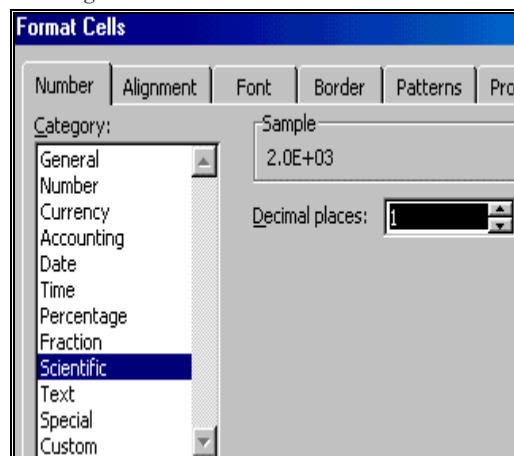
Go to FORMAT/CELLS .

The dialog shown on the right opens. Click on the tab “Number” and choose the category “Scientific.”

Setting number of Decimals displayed on screen

Change the decimal settings in the box “Decimal places.”

Figure 94: Scientific Number Format



The next figure displays the result.

Figure 95: Scientific notation may be a superior Number Format for numbers with many digits

D	E	F
2.0E+03	2.0E+03	2.0E+03
1.5E+07	1.6E+07	1.8E+07
2.3E+05	2.5E+05	2.6E+05

The orientation of the values in a cell can be set using the “Degrees” control in the area “Orientation.” The next figure displays this area.

You can set the text to write top to bottom instead of left to right by setting the “Degrees” to 90.

Figure 96: Orientation

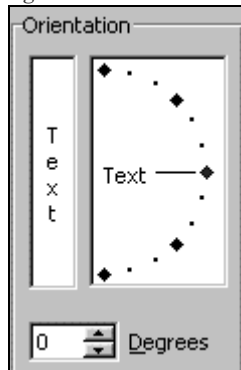
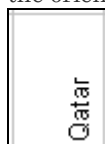


Figure 97: Cell B14 in the sample file



Figure 98: Cell B14 after the orientation is set to 90 degrees.



Click on the tab “Font” and choose the font type, size, color, etc. (For a pictorial reproduction of this, see the next picture.)

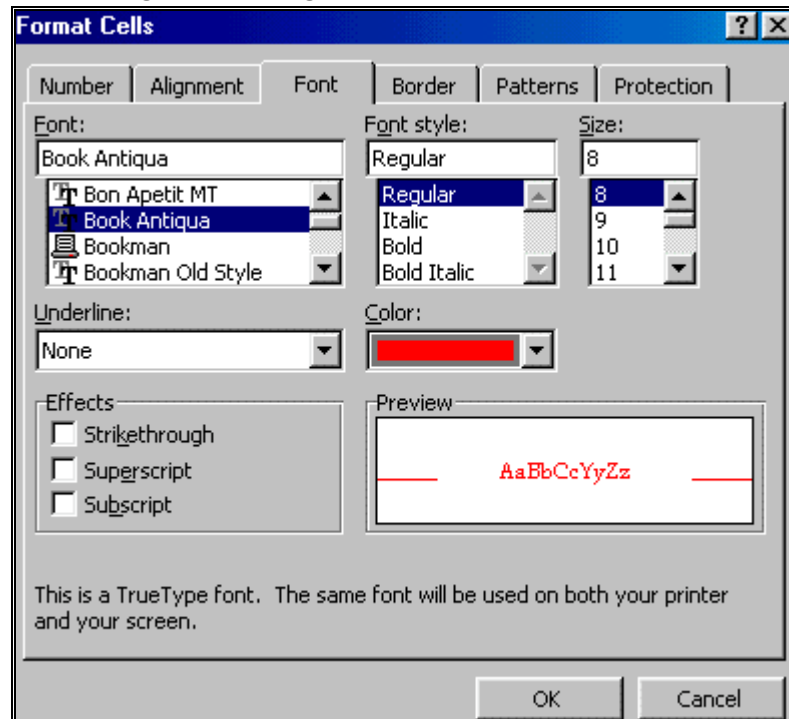
Tips

Make the font for the data cells a bit smaller than the font for the cells with row/column labels. (I use sizes 8 and 10, respectively).

Furthermore, increase the height of rows a bit relative to Excel's default.

For increasing height: (a) select all the rows by pressing and holding down the keyboard keys CONTROL and A, then (b) use the mouse to increase the height of any one row. The heights of all the rows will now equal the height of the one row whose height you increased.

Figure 99: The dialog for formatting the font of the contents of cells in the selected range

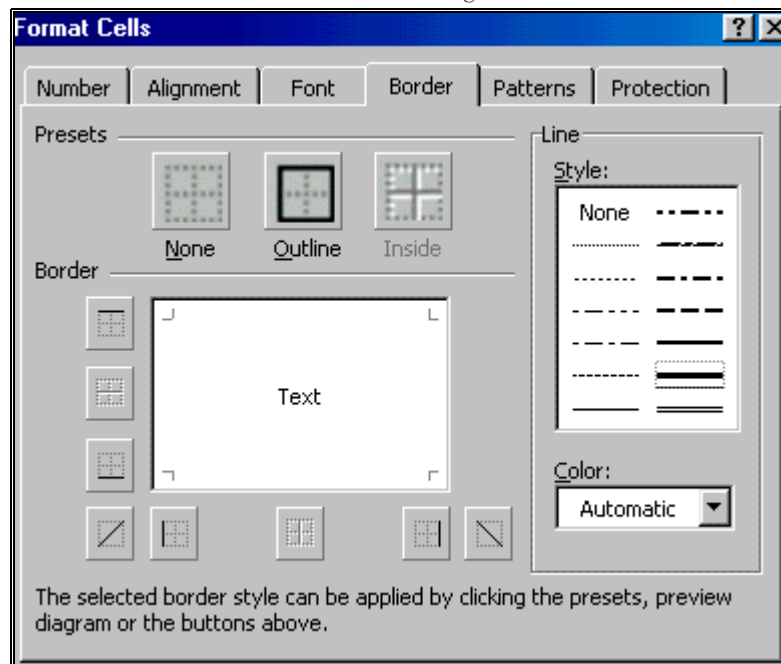


Click on the tab "Border."

Tip Note that borders are more useful if you remove the default gridlines by deselecting "Gridlines" in the dialog TOOLS/OPTIONS/

VIEW.

Figure 100: The dialog for setting borders for cells in the selected range and a boundary for the entire range.



6.7.A CHOOSING A BORDER TO OUTLINE ALL FOUR SIDES OF THE SELECTED RANGE

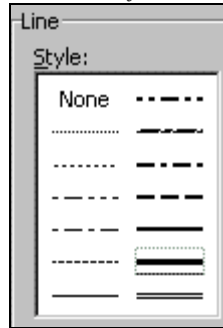
When using the dialog: choosing “Outline” for a border to the entire range of cells you have selected will set all four sides of the borders around the entire range of cells.

6.7.B CHOOSING TOP, BOTTOM, LEFT AND RIGHT BORDERS ONE-BY-ONE

You can choose a specific border component— top, right, left, bottom, diagonal-up, and diagonal -down. (I ignore the diagonal borders.)

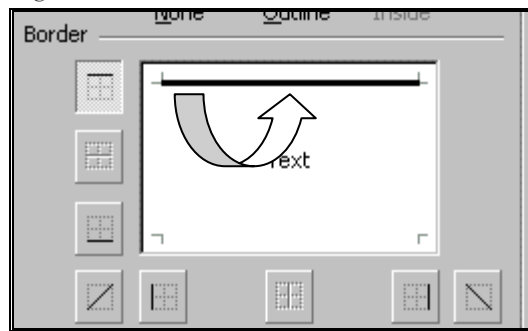
For example, assume you desire a line for the “top border.” First, click on the desired line “Style.”

Figure 101: Select a style for the border line



Second, click on the “top border” button inside the dialog. (This button is highlighted with an arrow in the next figure.)

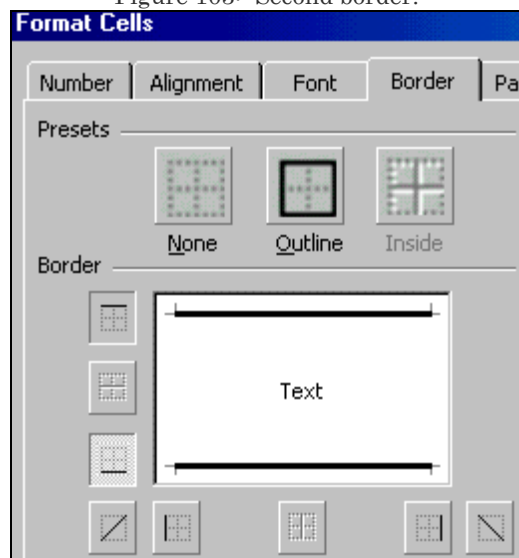
Figure 102: When you click on the indicator (the depressed/lighted box where the arrow starts) for the top border, the top border will be set equal to the line style you chose. Clicking again on the indicator will remove the border.



If you want to apply the same line style and color for the “bottom border,” simply click on the “bottom border” icon inside the dialog. The next figure illustrates this.

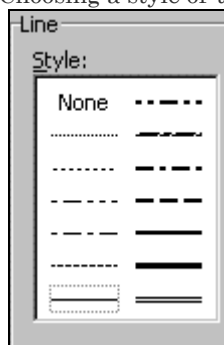
Tip When you click on the icon (the pressed/lighted box the bottom border will be set equal to the line style. Clicking again on the indicator will remove the border.

Figure 103: Second border.



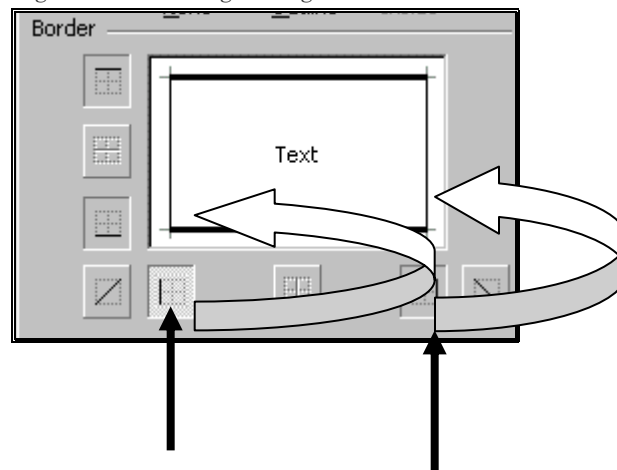
Assume you want a thinner line style for the right and left borders. Choose the line style and thickness in the area “Style”. The next figure illustrates this.

Figure 104: Choosing a style or the border line



Now, click on the “left border” and “right border” icons.

Figure 105: Setting the right and left borders



6.7.C

REMOVING EXCEL GRIDLINES AND USING USER-SET BORDERS

Go to **TOOLS/OPTIONS/VIEW**, and deselect the option “Gridlines” in the area “Show.”

6.7.D

COPYING AND PASTING ALL EXCEPT BORDER FORMATTING

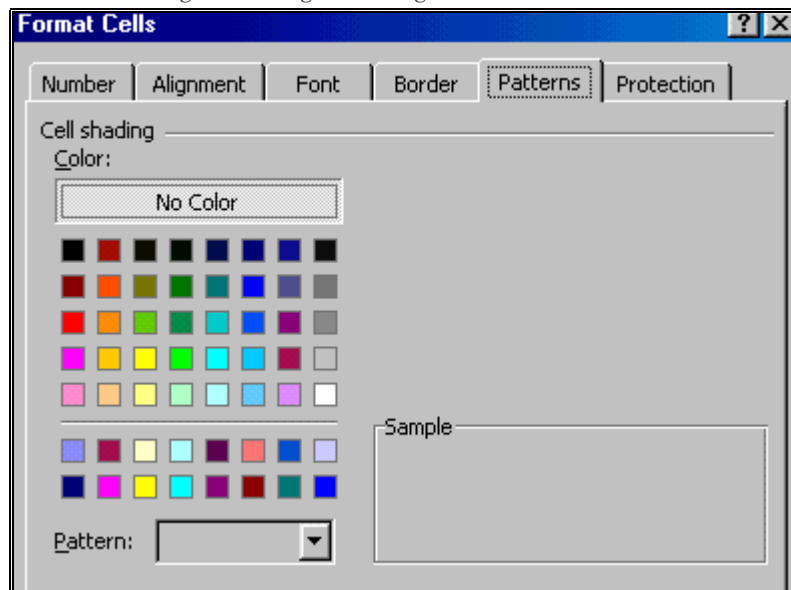
Refer to *Volume 3: Excel– Beyond The Basics*.

6.8

BACKGROUND PATTERN

Click on the tab “Patterns” and choose the background color and patterns for cells.

Figure 106: The dialog for setting the background color of cells in the selected range.



This feature is very useful if you will be printing in color. If using Black and White, then use softer shades. Shading alternate rows or columns looks nice. You may also want to shade cells that you wish to highlight—better than using bold or italic, as it is more eye-catching.

DEFINING REUSABLE STYLES THAT FORMAT ALL FEATURES

A simple yet powerful feature is “Style.” Assume there are five formatting combinations you like. The combinations are ‘Annex Tables’, ‘Accounts’, ‘Personal’, ‘Flashy’, and ‘High text content cells.’ You can make Excel store information on all these formatting combinations. You can use any of these whenever you desire.

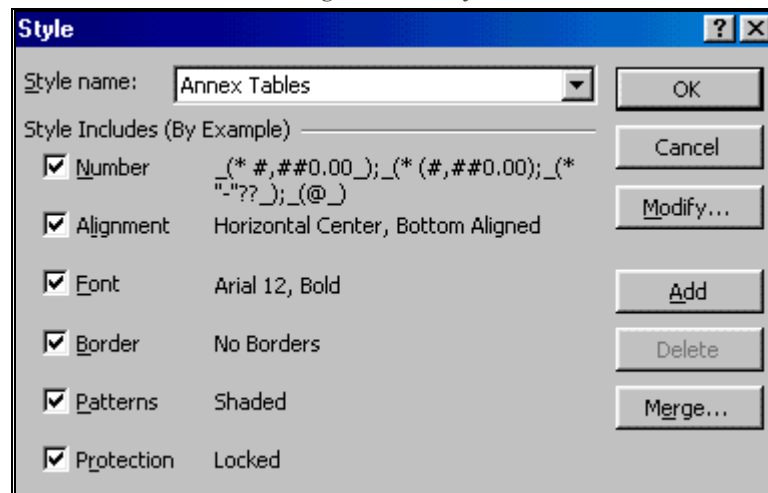
First, format a cell with the cell formatting (font, patterns, borders,

shading, alignment, etc) that define the formatting combination “Annex Tables.” Then select the option FORMAT/STYLE. The dialog (user-input form) that opens is shown in the next figure.

Write the name of the new style into the text-box “Style name.” I have typed “Annex Tables.”

The dialog options will pick up and display all the formatting features of the underlying cell.

Figure 107: Style



Include this style in the list of styles by clicking on the button “Add.”

Applying the style in the future

Select a range, and then select the option FORMAT/STYLE. Choose the style name “Annex Tables” and then execute the dialog by clicking on the button OK. (If you have to do this several times repetitively then use the STYLE dialog for the first range and then press the F4 key (the Redo key) after selecting the second range, and so on...keep using F4.

Deleting a style

A style can be deleted by clicking on the “Delete” button in the STYLE dialog.

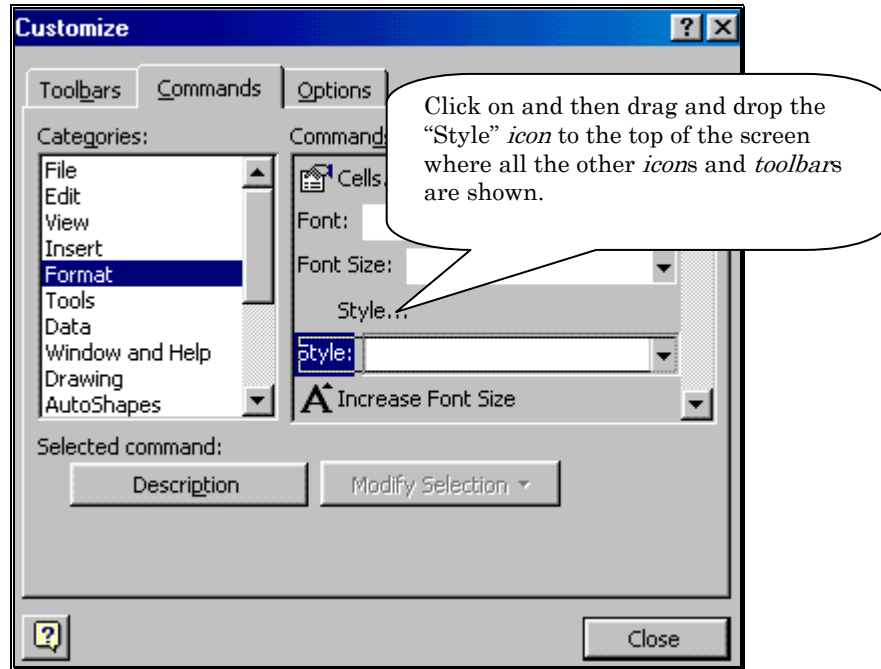
Modifying a style

A style’s definition can also be changed by clicking on the “Modify” button and making changes in the “Format Cells” dialog that appears.

You can define styles for the other formatting combinations also. Remember to give style names that relate to its functionality or intended purpose/context.

If you want to use the styles feature often then you should make the styles more accessible (compared to opening the STYLE dialog). Follow the menu path TOOLS/CUSTOMIZE/COMMANDS, choose the toolbar category “Format” and the toolbar icon “Style.” (For a pictorial reproduction of this, see figure below.)

Figure 108: Customizing Command icons displayed on the toolbar



6.10

PROPERTIES OF CELLS, COLUMNS, ROWS & SHEETS

Table 12: Summary of properties

<i>If method or property is valid</i>	<i>Sheet</i>	<i>Row</i>	<i>Column</i>	<i>Cell</i>	<i>Range</i>
Name (& rename)	✓	×	×	×	C
Hide	✓	✓	✓	×	×
Unhide	✓	✓	✓	×	×
Delete	✓	✓	✓	✓	✓
Insert new object	✓ *	✓	✓	✓	✓
Data type specification	×	×	×	✓	U
Alignment of text/data	×	×	×	✓	U
Merge objects	×	×	×	✓	U

<i>If method or property is valid</i>	<i>Sheet</i>	<i>Row</i>	<i>Column</i>	<i>Cell</i>	<i>Range</i>
Text orientation	×	×	×	✓	U
Font	×	×	×	✓	U
Background pattern	×	×	×	✓	U
Borders	×	×	×	✓	U
Comments	×	×	×	✓	×

Legend/Key for table

*: Increases the size of the workbook

C: a range can be referenced by a user-defined name. However, this name is a reference to the range, not the range itself. The range itself is just a description of begin cell and end cell.

U: These methods are applicable on ranges because a range is just a collection of cells. The methods are applied to the cells with the chosen range.

6.11

REMOVING FORMATTING

Select the range with the formatting and follow the menu path
EDIT/CLEAR/FORMATS.

6.11.A

COPYING AND PASTING FORMATTING (AND NOT CELL VALUES OR FORMULAS)

Refer to 11.1, and *Volume 3: Excel– Beyond The Basics*.

CHAPTER 7

“CONDITIONAL FORMATTING

This chapter illustrates the use of the following features:

- UNDERSTANDING THE DIALOG
- DEFINING THE CONDITION
- STEP 1: DEFINING THE CONDITION/CRITERIA
- STEP 2: DEFINING THE FORMAT TO USE FOR CELLS THAT SATISFY THE CONDITION
- UNDERSTANDING THE “CONDITIONAL FORMAT”
- DEFINING A “DYNAMIC” CONDITION
- DELETING CONDITIONAL FORMATS

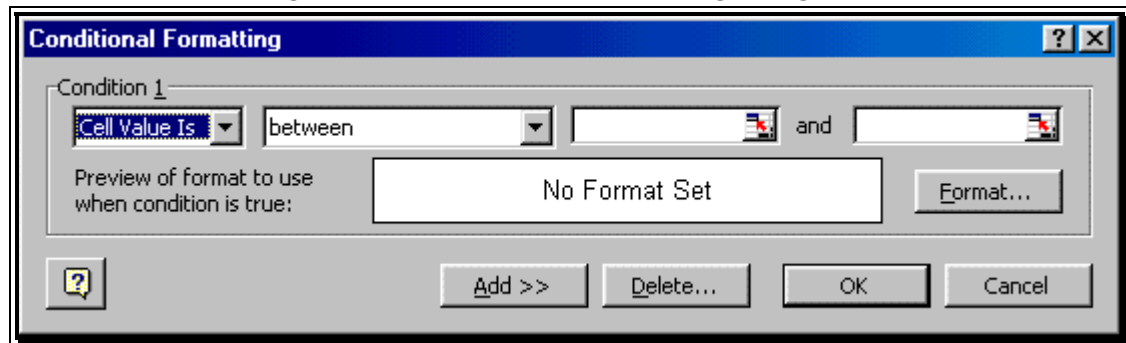
CONDITIONAL FORMATTING is an excellent utility for quickly color-coding patterns in data. As you go through this example, the usefulness of this utility will become clear.

7.1

UNDERSTANDING THE DIALOG

Access the feature through the menu path **FORMAT/CONDITIONAL FORMATTING**. The dialog shown in Figure 109 opens.

Figure 109: The “Conditional Formatting” dialog



In this box, you have to tell Excel: “If condition 1 is satisfied by the data in a cell than format the cell using Format 1 which you have defined. If condition 1 is not satisfied by the data in a cell than do not format the cell using Format 1.

7.2

DEFINING THE CONDITION

Figure 110 to Figure 113 show how to set the first conditional format. Let us go through this process systematically.

7.2.A

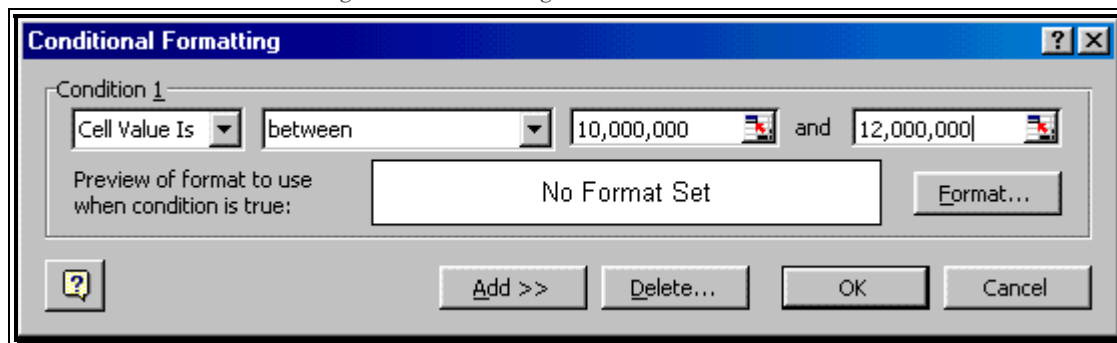
STEP 1: DEFINING THE CONDITION/CRITERIA

Assume the conditional format is:

“If the value of the cell is between 10,000,000 and 12,000,000 then give the cell the formatting I will define by pressing the button Format.”

First, define the condition as shown in Figure 110.

Figure 110: Defining the first condition



7.2.B

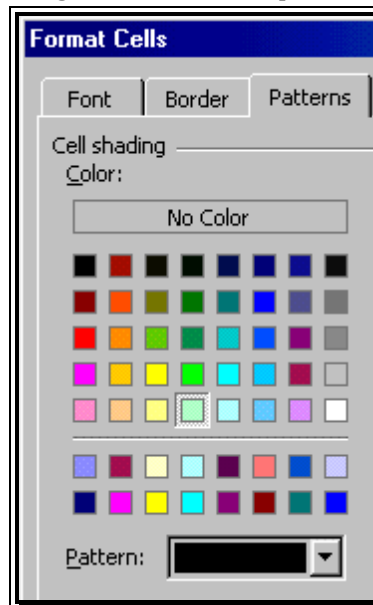
STEP 2: DEFINING THE FORMAT TO USE FOR CELLS THAT SATISFY THE CONDITION

Click on the button “Format”³ and (as shown in Figure 111 and Figure 112) choose the formatting desired for those cells that satisfy the condition “Cell value is between 10,000,000 and 12,000,000.”

Select the tab “Patterns” and choose the fill color for the cells.

³ On clicking “Format,” I got the dialogs shown in Figure 208 and Figure 209. I chose a font style (see Figure 208) and a pattern/background shading (see Figure 209).

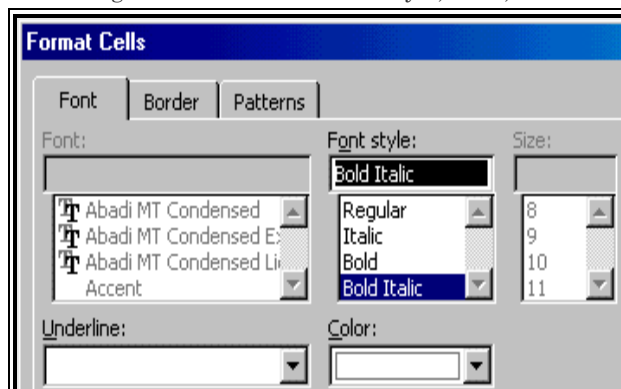
Figure 111: Choose a pattern



I recommend using bright yet light and distinct colors. Dark colors will make the reading of cell data a bit of a pain in the eye.

After selecting the pattern, you may want to select a font style also. I recommend using patterns only. If you set font features in a conditional format, select different font colors for every conditional format.

Figure 112: Choose a font style, color, etc.

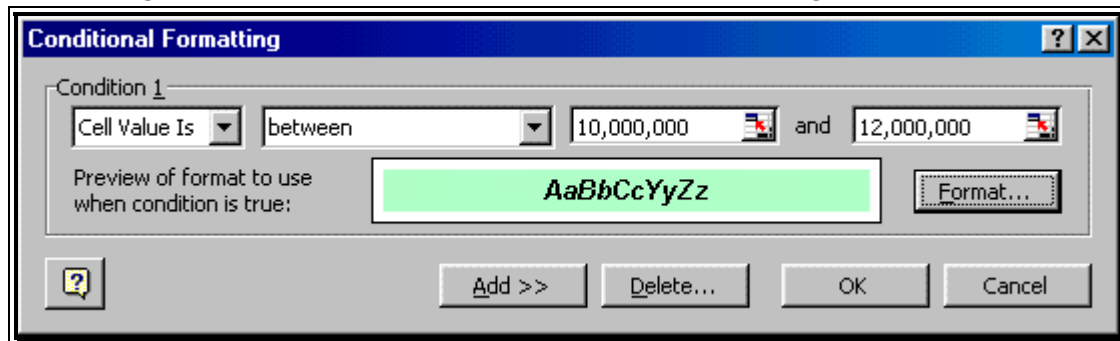


7.3

UNDERSTANDING THE “CONDITIONAL FORMAT”

After clicking on the button “OK,” you will be back to the CONDITIONAL FORMATTING dialog. (For a pictorial reproduction of this, see Figure 113).

Figure 113: The first condition and the concomitant formatting are defined



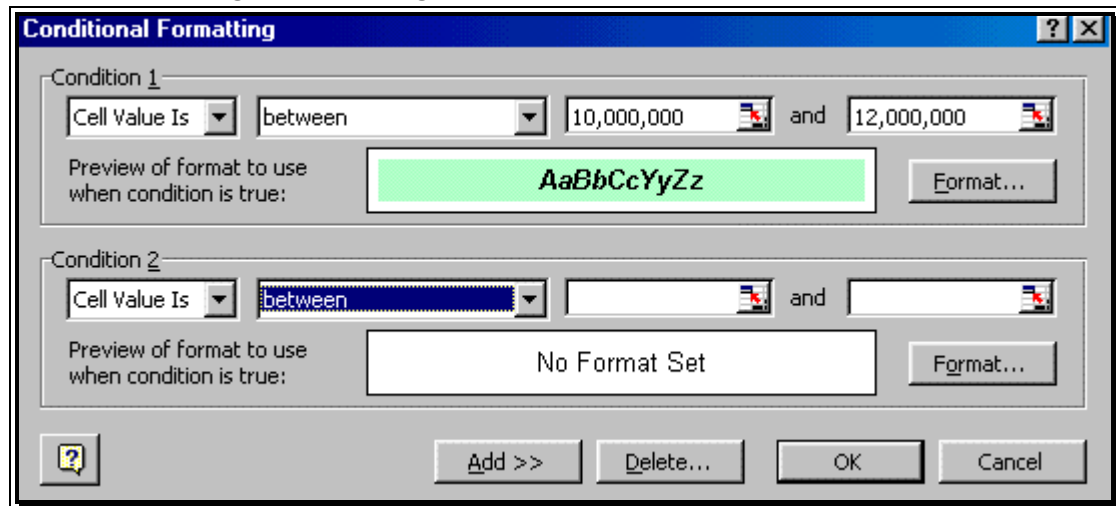
The formatting style you chose is displayed in the area “Preview of format to use when condition is true.” The 'condition' mentioned is what you had defined— “Cell Value is between 10,000,000 and 12,000,000.”

7.3.A

STEP 3: ADDING MORE CONDITIONAL FORMATS

Assume you want to add more conditional formats (the maximum allowed is three). In the dialog shown in Figure 113, see the button “Add.” Click on this button. The result is that the dialog becomes bigger with a new sub-section titled “Condition 2” as shown in Figure 114 below.

Figure 114: Adding conditions to the ‘Conditional Format ‘



As you did for condition 1, define the expression for condition 2 and condition 3 and the formatting style to be applied if the condition is satisfied. I do not show all the steps because they are the same as for condition 1.

7.4

DEFINING A “DYNAMIC” CONDITION

In this example, the condition does not reference a fixed number (as in Figure 115 where the fixed number is 100,000,000) but, instead, a cell on the Excel worksheet.

This can be termed as a “dynamic” condition, because it changes if the referenced cells value changes (this cell is “E14” in my example). If the value in cell E14 changes, then any conditional format definition that references the value in cell E14 will also change.

Figure 115: Another example of defining a condition

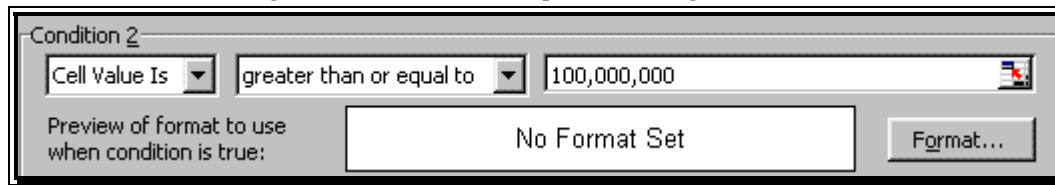
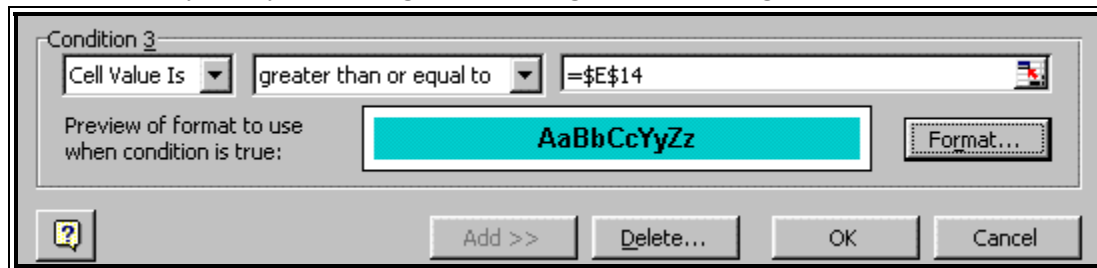


Figure 116: Example of defining a “dynamic” condition. If the definition cell (“E14”) changes, then you may see a change in formatting of the cells using this definition.

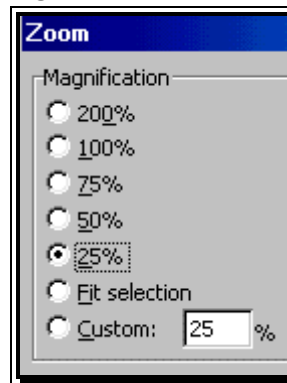


After defining the conditional formats, execute the dialog by clicking on the button OK. The formatting of cells that meet the criteria you defined will change to the formats defined by you.

You may find that a lower level of magnification (“zoom”) allows the patterns in the data to be seen more easily. Change the zoom level by selecting the menu option VIEW/ZOOM and making the change. The next figure illustrates this.

Excel offers preset options of magnifications/reductions from “200%” to “25%.” You can set a custom level by typing the value into the box “Custom (and selecting the option “Custom”). I usually set the zoom to 85%.

Figure 117: ZOOM dialog

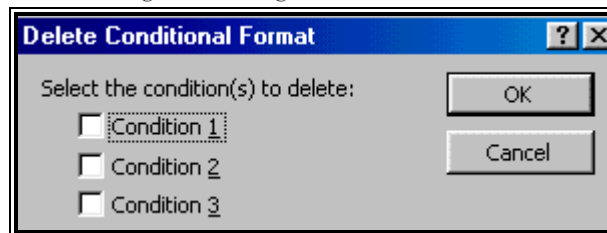


7.5

DELETING CONDITIONAL FORMATS

Select the area that is under conditional formatting. Go to **FORMAT/CONDITIONAL FORMATTING** and click on the button “Delete.” The dialog shown in the next figure opens. You can delete conditional formats by pressing on the button “Delete” and choosing the appropriate options from the dialog that opens.

Figure 118: Dialog for deleting Conditions in a Conditional Format



7.6

SELECTING ALL CELLS WITH THE SAME CONDITIONAL FORMAT RULE

This topic is taught in *Volume 4: managing & Tabulating Data in Excel*.

CHAPTER 8

SORTING

This chapter discusses the following topics:

- BASIC SORTING
- CASE SENSITIVITY
- SORTING BY ROWS
- SORTING RANGES THAT DO NOT COVER ENTIRE COLUMNS
OR ROWS

8.1

BASIC SORTING

I use a simple data set for this example –"Advanced File2.xls." The set has five columns; each column corresponds to one series/series. (For an illustration, see Figure 119.)

Follow these basic rules for facilitating effective data handling:

- Always write the series name in the first row.
- Do not leave the first column empty

Figure 119: The sample data

	A	B	C	D	E	F
1	Series Name	Country Name	1995	2000	2010	
2	Age 0 - 19 and over 64 gear	Bahrain	234000	254000	261000	
3	Age 0 - 19 and over 64 gear	Iran, Islamic Rep.	40309000	44610000	51449000	
4	Age 0 - 19 and over 64 gear	Iraq	11348000	12779000	15959000	
5	Age 0 - 19 and over 64 gear	Israel	2641000	2814000	3018000	
6	Age 0 - 19 and over 64 gear	Jordan	3078000	3561000	4613000	
7	Age 0 - 19 and over 64 gear	Kuwait	857000	909000	916000	
8	Age 0 - 19 and over 64 gear	Lebanon	1484000	1583000	1595000	

Choose the columns you want to Sort by clicking the mouse on a column title (like “A”) and then dragging the mouse over the other columns you want to Sort.

Select the option DATA/SORT. In the dialog (user-input form), choose the series by which you want to Sort.

Choose a series by (a) clicking on the down–arrow next to the topmost white box, and, (b) picking a series from the list of series.

Sorting by two or three series

Repeat this process with a second (and, after that, a third) choice of series name in the middle (and, after that, lowest) box in the dialog. Excel first sorts by the series whose name is in the topmost box. Within each value of this series, it sorts the data by the values of the series whose name is in the middle box.

I show an example with two series in the next figure.

Figure 120: The dialog for Sorting

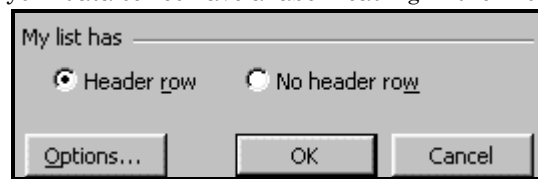


8.2

NAMES OF SERIES OR COLUMNS

How does Excel know the names of the series? It has picked them up from the first row. I allowed this by clicking on “Header row” in the area “My list has.” If you look at the worksheet, notice that the first row has the label for each series. These are the “headers.” If there is no such header row, then choose “No Header row” in the area “My list has.”

Figure 121: Choose if your data series have a label/heading in the first cell of each data series



Execute the dialog by clicking on the button OK.

The result is shown in Figure 122. The data is sorted— first by “Country

Name,” then by “Series Name.”

Figure 122: Compare the Sorted data with the original data shown in Figure 119

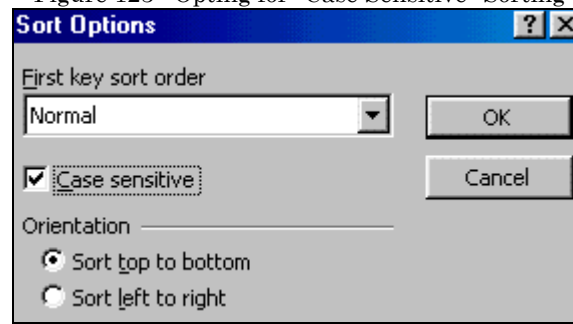
	A	B	C	D	E
1	Series Name	Country Name	1995	2000	2010
2	Age 0 - 19 and over 64 year	Algeria	15218000	16284000	17846000
3	Age 15 - 19 years	Algeria	3195000	3521000	3776000
4	Age 20 - 24 years	Algeria	2718000	3174000	3577000
5	Age 25 - 29 years	Algeria	2366000	2699000	3488000
6	Age 30 - 34 years	Algeria	2096000	2348000	3142000
7	Age 35 - 39 years	Algeria	1562000	2075000	2666000
8	Age 40 - 44 years	Algeria	1302000	1543000	2309000
9	Age 45 - 49 years	Algeria	968000	1282000	2030000
10	Age 50 - 54 years	Algeria	674000	946000	1494000
11	Age 55 - 59 years	Algeria	635000	650000	1217000
12	Age 60 - 64 years	Algeria	571000	597000	867000
13	Age 65 and up years	Algeria	1006000	1194000	1505000
14	All age groups combined - y	Algeria	28109000	31599000	38636000
15	Age 0 - 19 and over 64 year	Bahrain	234000	254000	261000

CASE SENSITIVITY

Click on the button *Options*. The dialog (user-input form) that opens is shown in Figure 123. Within this box, you can fine-tune the Sorting options.

If you want the Sorting to be “Case Sensitive” (so that AA6 is higher ranked than aa6), then select the option “Case Sensitive.”

Figure 123: Opting for “Case Sensitive” Sorting



SORTING BY ROWS

In rare cases, you may have to Sort 'by rows'. Choose the rows you want to use for defining the sorting criterion. Drag the mouse over the entire data that needs to be sorted (including the labels for each row, usually in column A).

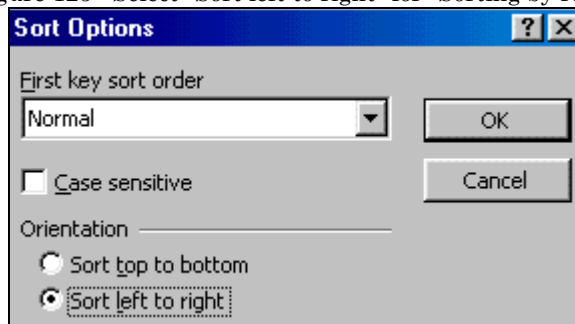
Choose the menu option DATA/SORT. The Sort dialog opens.

Figure 124: Sorting by rows — click on the “Options button and... (see next figure)



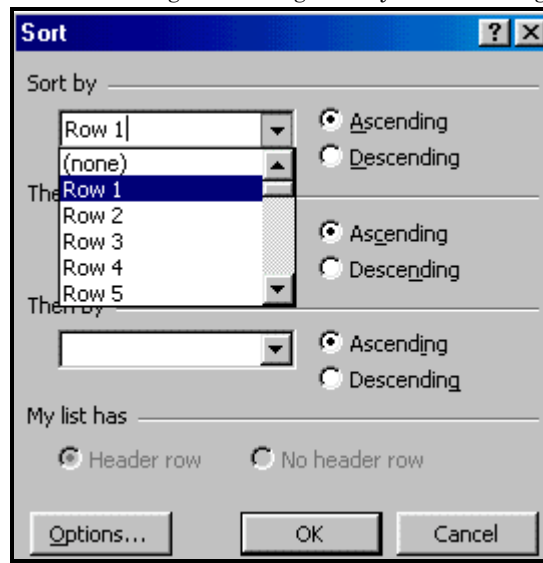
Click on the “options” button and choose the option “Sort left to right” in the area “Orientation” (for an illustration of this, see Figure 125).

Figure 125: Select “Sort left to right” for “Sorting by rows”



Execute the dialog by clicking on the button OK. You will be returned to the “Sort” dialog, but it will look different from the dialog you were in earlier.

Figure 126: The dialog for Sorting when you are sorting by rows



The dialog will ask you for the “Rows to Sort by.” Figure 126 shows the “Sort” dialog when sorting by rows. Compare it to the generic “Sort” dialog shown in Figure 124 above.

SORTING RANGES THAT DO NOT COVER ENTIRE COLUMNS OR ROWS

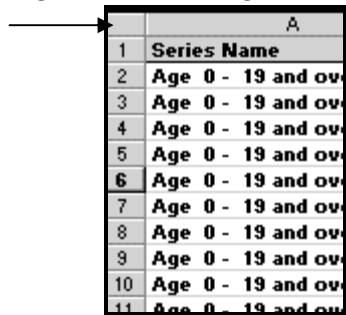
Assume your main data is in the cells “A1:D180.” However, in cells below row “180” and/or to the right of column “D” you have some formulae and text that you do not want to include in the Sorting. This can be done easily — the process is similar to the examples above.

The only exception is that you do not click on the column or row titles while selecting the range to Sort; instead, you highlight the cells that define the range you want to Sort.

CHOOSING THE ENTIRE WORKSHEET

Choose the entire worksheet by clicking on the gray button on top of row title “1” and to the left of column title “A.” The area is pointed out by the arrow in Figure 127. Try it on a sample worksheet.

Figure 127: Selecting the sample data



1	Series Name
2	Age 0 - 19 and ov
3	Age 0 - 19 and ov
4	Age 0 - 19 and ov
5	Age 0 - 19 and ov
6	Age 0 - 19 and ov
7	Age 0 - 19 and ov
8	Age 0 - 19 and ov
9	Age 0 - 19 and ov
10	Age 0 - 19 and ov
11	Age 0 - 19 and ov

CHAPTER 9

FILTER (“HIDING THE DATA YOU DO NOT WANT TO VIEW”)

This chapter teaches the following topics:

- BY ONE CRITERION ON ONE COLUMN
- THE FILTERING ARROWS
- CHOOSING THE VALUE TO USE AS THE FILTERING CRITERION
- THE RESULT: A FILTERED WORKSHEET
- COPYING AND PASTING THE FILTERED ROWS
- REMOVING THE FILTER
- CUSTOM FILTERING — USING MULTIPLE CRITERION, LOGICAL CONDITIONS, ETC
- EXAMPLE OF A FILTER THAT HAS TWO CRITERIA OVER ONE SERIES/COLUMN
- USING THE WILDCARD “*”
- FILTERING USING CRITERIA FROM MORE THAN ONE COLUMN/SERIES
- ICONS FOR SORTING AND FILTERING

Filtering is used to hide the data one is not interested in viewing at

present. For example, you may want to view only those rows that have data for the country Algeria. Alternatively, only the data for Algeria and (within the rows having Algeria data) only for those Algerian's in the sample who are less than 20 years in age. (Please look at and work along side on the sample data set— “Advanced File2.xls;” otherwise, you may not completely grasp this section.) Filtering provides this ability.

The chapter shows several examples of “Filtering.” Using this feature, you can define criteria to “Filter out” (or hide) the data you do not want to view on screen. Filtering has several uses; the section shows some of these.

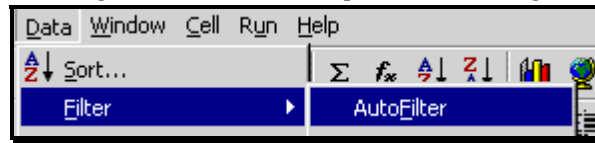
9.1**BY ONE CRITERION ON ONE COLUMN**

Open the sample data file supplied⁴ in the zipped file and work along with the section.

Access the feature through the menu path DATA/FILTER/AUTOFILTER as shown in Figure 128.

⁴ The sample is in one of the Excel files provided in the zipped file: “Advanced File2.xls.”

Figure 128: The menu option for Filtering



9.1.A

THE FILTERING ARROWS

Now the Filter is “on.” On the worksheet, you will observe small downward arrows on each of the first rows. (I have made huge ovals around them in Figure 129.)

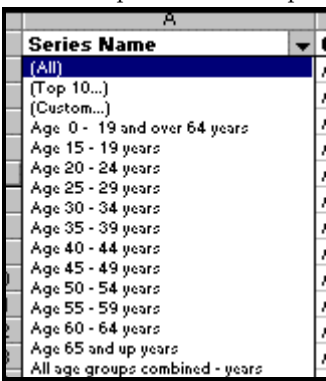
Figure 129: The indicators that a column is “Filter-ready”



9.1.B

CHOOSING THE VALUE TO USE AS THE FILTERING CRITERION

Click on one of the arrows. A list will “drop down.” (For an illustration, see the next figure.)

Figure 130: Looking at the “drop-down” list of possible Filtering criteria

This list contains each unique value of the series “Series Name” (or, equivalently, each unique value of the column a, except the value in the first cell) and some other options:

- “(All)” does no Filtering.
- “(Top 10)” chooses the rows that have the 10 most occurring values in that column.
- “(Custom)” is very powerful and is discussed later in this section

Assume you want only to view the data for those in the category “Age 15 — 19 years.” Click on that label in the list displayed by Excel.

9.1.C**THE RESULT: A FILTERED WORKSHEET**

The worksheet will only show data for the rows in which the “Series Name” series has the value you chose (“Age 15 — 19 years”). All else is hidden (and not deleted). If you look at the row numbering on the left,

you will see non-consequent numbers (3, 16, 29, etc.) as highlighted by the rectangle in Figure 131. The “unfiltered” (or “Filtered out”) rows are hidden⁵.

Figure 131: The results of a simple Filter— one-value criteria for one data series

	A	B	C	D	E
1	Series Name	Country Name	1995	2000	2010
3	Age 15 - 19 years	Algeria	3195000	3521000	3776000
16	Age 15 - 19 years	Bahrain	45000	52000	65000
29	Age 15 - 19 years	Egypt, Arab Rep.	6316000	7525000	7647000
42	Age 15 - 19 years	Iran, Islamic Rep.	7320000	8540000	10940000
55	Age 15 - 19 years	Iraq	2144000	2503000	3037000
68	Age 15 - 19 years	Israel	499000	529000	579000
81	Age 15 - 19 years	Jordan	604000	637000	916000
94	Age 15 - 19 years	Kuwait	176000	218000	209000
107	Age 15 - 19 years	Lebanon	292000	311000	367000
120	Age 15 - 19 years	Libya	566000	679000	936000
133	Age 15 - 19 years	Morocco	3020000	3041000	3292000
146	Age 15 - 19 years	Oman	215000	275000	423000
159	Age 15 - 19 years	Qatar	36000	44000	51000
172	Age 15 - 19 years	Saudi Arabia	1898000	2198000	2929000
185	Age 15 - 19 years	Syrian Arab Republic	1619000	1980000	2081000
198	Age 15 - 19 years	Tunisia	952000	1035000	1026000
211	Age 15 - 19 years	United Arab Emirates	155000	210000	221000
224	Age 15 - 19 years	Yemen Rep.	1626000	1852000	2818000

9.1.D

COPYING AND PASTING THE FILTERED ROWS

One use of Filtering is to make a new worksheet with only the Filtered data.

Therefore, after you have done the Filter above, highlight all the rows, click on EDIT/COPY, go to an empty worksheet, click on the first cell and choose the menu option EDIT/PASTE. You now have a new worksheet with data for only the category⁶ you chose in the Filter. (For an

⁵ Unhide the rows by selecting the option DATA / FILTER / AUTOFILTER.

⁶ You chose “Series Name” = “Age 15-19 Years.”

illustration of this, see Figure 132.)

Figure 132: Copying and pasting the Filtered data
(which will be a subset of the entire data set)

	A	B	C	D	E
1	Series Name	Country Name	1995	2000	2010
2	Age 15 - 19 years	Algeria	3195000	3521000	3776000
3	Age 15 - 19 years	Bahrain	45000	52000	65000
4	Age 15 - 19 years	Egypt, Arab Rep.	6316000	7525000	7647000
5	Age 15 - 19 years	Iran, Islamic Rep.	7320000	8540000	10940000
6	Age 15 - 19 years	Iraq	2144000	2503000	3037000
7	Age 15 - 19 years	Israel	499000	529000	579000
8	Age 15 - 19 years	Jordan	604000	637000	916000
9	Age 15 - 19 years	Kuwait	176000	218000	209000
10	Age 15 - 19 years	Lebanon	292000	311000	367000
11	Age 15 - 19 years	Libya	566000	679000	936000
12	Age 15 - 19 years	Morocco	3020000	3041000	3292000
13	Age 15 - 19 years	Oman	215000	275000	423000
14	Age 15 - 19 years	Qatar	36000	44000	51000
15	Age 15 - 19 years	Saudi Arabia	1898000	2198000	2929000
16	Age 15 - 19 years	Syrian Arab Republic	1619000	1980000	2081000
17	Age 15 - 19 years	Tunisia	952000	1035000	1026000
18	Age 15 - 19 years	United Arab Emirates	155000	210000	221000
19	Age 15 - 19 years	Yemen, Rep.	1626000	1852000	2818000
20					

9.2

REMOVING THE FILTER

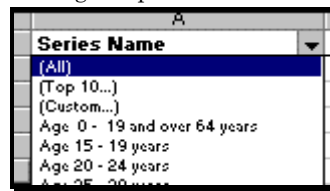
Select the option DATA/FILTER and choose AUTOFILTER. The Filtering arrows will be removed and the “Filtered out” rows (which were hidden when they had been filtered out) will be unhidden and visible again.

9.3

CUSTOM FILTERING – USING MULTIPLE CRITERION, LOGICAL CONDITIONS, ETC

Typically, one would use a more complex Filter. These are created using the option “Custom.” Thus, this time click on the option “(Custom).”

Figure 133: Choosing the powerful “Custom Filter” criteria



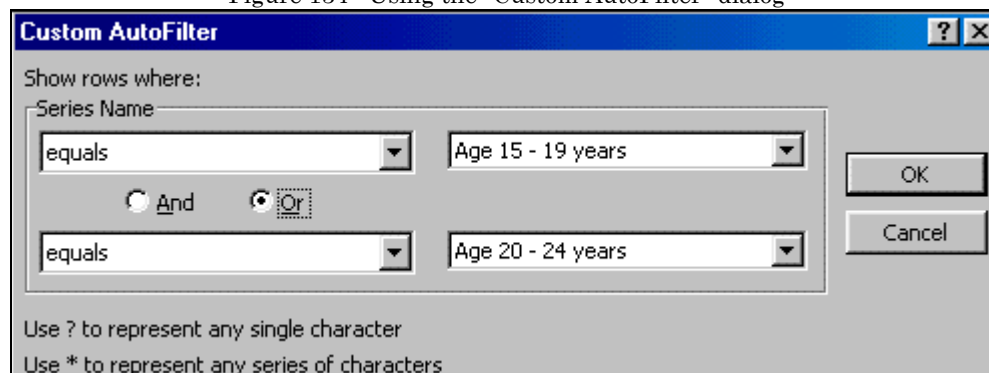
9.3.A

EXAMPLE OF A FILTER THAT HAS TWO CRITERIA OVER ONE SERIES/COLUMN

Try an example choosing rows that meet either of two criteria:

- Series Name = “Age 15— 19 years”
- Series Name = “Age 20— 24 years”

Figure 134: Using the “Custom AutoFilter” dialog



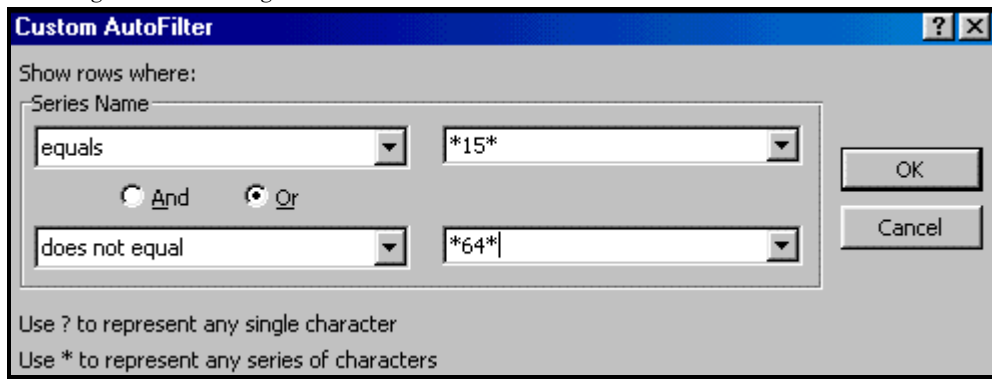
9.3.B

USING THE WILDCARD ASTERISK (*)

Try a more complex example—

Filter all rows in which the cell in the column “Series Name” contains the text 15 (and other stuff) but does *not* contain the text 64.

Figure 135: Using a wildcard and two conditions to define a custom AutoFilter



The options for this Filter are shown in Figure 135. The * is called a wildcard. It means “any other character/digit/text.” So “*15*” will choose any cell that contains “15.” The choice “2?” will choose any cell that contains 2 followed by some characters (for example, 20, 24, and 29).

Removing the Filter

Choose the menu option DATA/FILTER and choose AUTOFILTER. The Filtering arrows will be removed and the “Filtered out” rows (which were hidden when they had been filtered out) will be unhidden and visible again.

You can also filter using criteria from *more than one* series.

Step 1:

First, click on the arrow next to “Series Name,” choose “(Custom),” and choose criteria as shown in Figure 135. Execute the dialog by clicking on

the button OK. The worksheet will be Filtered based on these criteria based on the column/series “Series Name.”

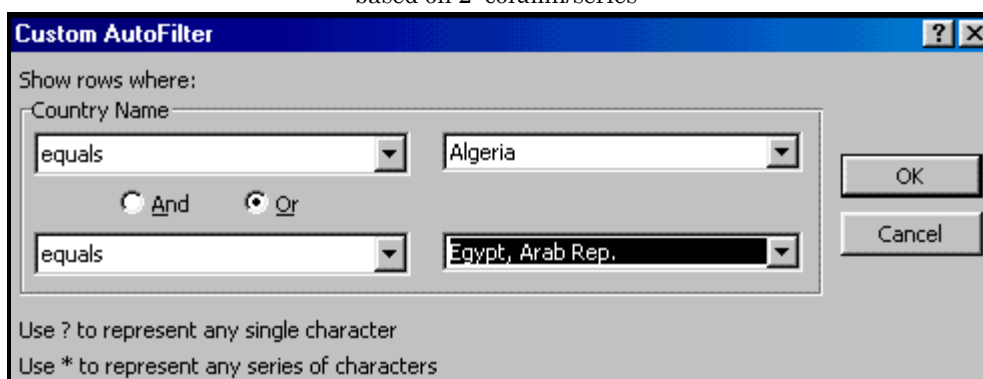
Step 2:

Now, *Filter the Filtered data* by running a Filter through a second column/series— “Country Name.” Click on the arrow next to “Country Name” and choose custom criteria as shown in Figure 136 and the figure next after that.

Figure 136: Setting up an additional Filtering criteria



Figure 137: Defining the custom AutoFilter for the second column used in this complex “Filter based on 2-column/series”



The worksheet will only show the data that corresponds to both the multi-column Filters.⁷ (For an illustration of this, see Figure 138.)

⁷ The two filters are shown in Figure 611 and Figure 613.

Figure 138: The results of Filtering across categories of two columns

	A	B	C	
1	Series Name	Country Name	1995	200
2	Age 0 - 19 and over 64 year	Algeria	15218000	162
3	Age 15 - 19 years	Algeria	3195000	35
4	Age 20 - 24 years	Algeria	2718000	31
5	Age 25 - 29 years	Algeria	2366000	26
6	Age 30 - 34 years	Algeria	2096000	23
7	Age 35 - 39 years	Algeria	1562000	20
8	Age 40 - 44 years	Algeria	1302000	15
9	Age 45 - 49 years	Algeria	968000	12
10	Age 50 - 54 years	Algeria	674000	9
11	Age 55 - 59 years	Algeria	635000	6

You can have as many levels of Filtering as the number of columns with series. Each additional column you filter with adds more criterions to the set defined by the previous columns being used to define the Filter.

9.5

NEW IN THE XP VERSION OF EXCEL

You may insert or delete columns while the sheet is in filter mode.

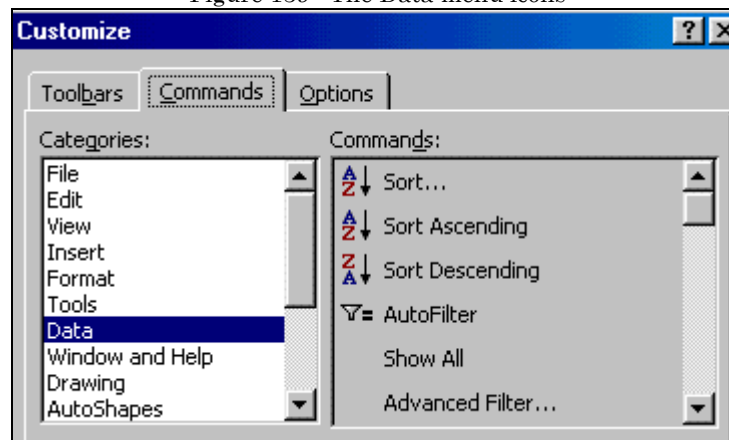
9.6

ICONS FOR SORTING AND FILTERING

The icons shown in the right half of the next figure will be useful for Sorting and Filtering data. You can customize the set of icons shown on the toolbars at the top of the screen. This can save time by enabling you to place the often-used buttons onto the toolbar.

Please refer to *Volume 3: Excel- Beyond The Basics* to learn how and why to customize toolbars and the icons shown in them.

Figure 139: The Data menu icons



CHAPTER 10

PRINTING AND PAGE SETUP

In this chapter, you will learn the following topics:

- USING “PRINT PREVIEW VIEW THE PAGES
- PAGE BREAKS
- PAGE BREAK PREVIEW
- PAGE SETUP FOR WORKSHEETS
- SETTING PAGE ORIENTATION AND SCALE
- ORIENTATION: PRINTING “SIDEWAYS” (LANDSCAPE ORIENTATION)
- SEEING THE DIFFERENCE BETWEEN THE TWO ORIENTATION TYPES
- SCALING — MAGNIFYING/REDUCING THE SCALE AT WHICH WORKSHEET DATA IS PRINTED
- SETTING MARGINS
- SETTING THE MARGINS WITH THE MOUSE
- ORIENTATION OF CONTENT WITHIN EACH PRINT-OUT SHEET
- INSERTING A CUSTOM HEADER AND FOOTER
- ICONS AVAILABLE FOR USE IN CUSTOM HEADERS/FOOTERS
- AN EXAMPLE OF PLACING TEXT, DATE, AND PAGE NUMBERS INTO THE HEADER

-
- SETTING THE FONT OF HEADER (OR FOOTER) TEXT
 - CUSTOM FOOTER
 - ENSURING THAT ROWS AND COLUMNS WITH TABLE HEADINGS ARE PRINTED ON EVERY PAGE
 - RESTRICTING THE RANGE PRINTED
 - ORDER OF PAGES
 - NEW PRINTING FEATURES IN EXCEL XP
 - PAGE SETUP FOR CHARTS

You should make changes to the “setup” of each sheet so that your printouts look good and convey the information they are intended to convey. In addition, you may want to include information on page numbers, print date, etc on the headers or footers of the printouts.

Before sending material to a printer, you can preview how the material will look when printed out. Access “Print Preview” by, either, (a) selecting the option FILE/PRINT PREVIEW, or (b) clicking on the “Print Preview” icon at the top of the screen.

Figure 140: The “Print Preview” icon



Figure 141: The “Print Preview” view. This range is from the worksheet “Sort by country” in the file “Files1.xls”

Series Name	Country Name	1995
Age 0 - 19 and over 64 years	Nigeria	15,218,000
Age 15 - 19 years	Nigeria	3,195,000
Age 20 - 24 years	Nigeria	2,718,000
Age 25 - 29 years	Nigeria	2,366,000
Age 30 - 34 years	Nigeria	2,096,000
Age 35 - 39 years	Nigeria	1,562,000
Age 40 - 44 years	Nigeria	1,302,000
Age 45 - 49 years	Nigeria	968,000
Age 50 - 54 years	Nigeria	674,000
Age 55 - 59 years	Nigeria	635,000

You can preview the next page in the printout by using the vertical scrollbar on the right or by using the key “Page Down” on your keyboard.

Access the “Page Setup” options by clicking on the button “Setup” at the top of the “Print Preview” window. (I recommend not using this route to reach the setup; instead use FILE/PAGE SET UP.) Return to the “datasheet view” by clicking on the button “Normal View.”

10.2

PAGE BREAKS

10.2.A

INSERTING AND REMOVING BREAKS

Manually inserted Page Breaks (at a Column or Row) allow you to print logical tables/data together and to start a new print page at specific rows and/or columns. Place a break before a column by selecting the column by clicking on its label bar (that is, the alphabet for the column) which is just before the first row. Place a break before a row by selecting the row by clicking on its label bar (that is, the number for the row) which is just to the left of the first column. Inserting page breaks is easier in the Page Break Preview. This topic is discussed next.

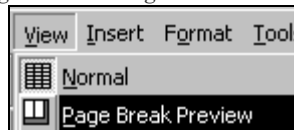
10.2.B

PAGE BREAK PREVIEW

Go to VIEW/PAGE BREAK VIEW.

Note Not all versions of Excel have this feature.

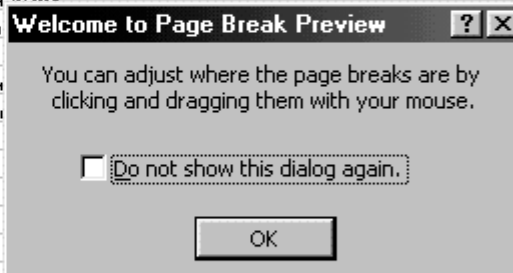
Figure 142: Page Break Preview



In this view, you see each page break represented by a dashed-line. (Notice the line to the right of column C and below row 25). You can change the location of page breaks by clicking and dragging on their indicator line.

Figure 143: The page breaks are shown as dotted lines

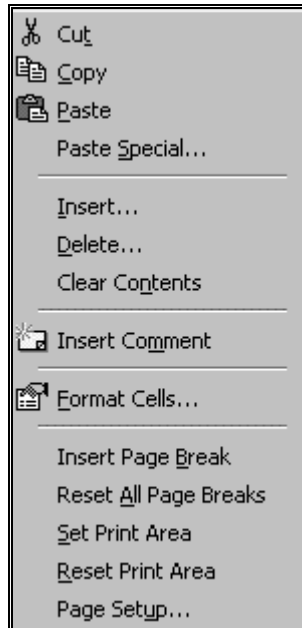
	A	B	C	D	E	F	G	H	I	J	K
1	Series Name	Country Name	1995	2000	2004						
2	Aggr 8 - 13 and new 54 years	Algeria	15,248,000	15,204,000	17,045,000						
3	Aggr 15 - 19 years	Algeria	3,135,000	3,524,000	3,775,000						
4	Aggr 20 - 24 years	Algeria	2,718,000	415,730,232	3,577,000						
5	Aggr 25 - 29 years	Algeria	2,355,000	2,539,000	3,400,000						
6	Aggr 30 - 34 years	Algeria	2,035,000	2,340,000	3,142,000						
7	Aggr 35 - 39 years	Algeria	1,552,000	2,075,000	2,555,000						
8	Aggr 40 - 44 years	Algeria	1,302,000	1,549,000	2,303,000						
9	Aggr 45 - 49 years	Algeria	950,000	1,202,000	2,030,000						
10	Aggr 50 - 54 years	Algeria	574,000	945,000	1,100,000						
11	Aggr 55 - 59 years	Algeria	535,000	550,000	1,100,000						
12	Aggr 60 - 64 years	Algeria	571,000	537,000	1,100,000						
13	Aggr 65 and up years	Algeria	1,005,000	1,134,000	1,100,000						
14	All age groups combined - years	Algeria	20,103,000	31,535,000	31,535,000						
15	Aggr 8 - 13 and new 54 years	Dakrnia	234,000	254,000	31,535,000						
16	Aggr 15 - 19 years	Dakrnia	45,000	52,000	31,535,000						
17	Aggr 20 - 24 years	Dakrnia	35,000	45,000	31,535,000						
18	Aggr 25 - 29 years	Dakrnia	47,000	35,000	31,535,000						
19	Aggr 30 - 34 years	Dakrnia	52,000	45,000	31,535,000						
20	Aggr 35 - 39 years	Dakrnia	53,000	53,000	31,535,000						
21	Aggr 40 - 44 years	Dakrnia	40,000	54,000	31,535,000						
22	Aggr 45 - 49 years	Dakrnia	23,000	47,000	31,535,000						
23	Aggr 50 - 54 years	Dakrnia	15,000	20,000	31,535,000						
24	Aggr 55 - 59 years	Dakrnia	12,000	15,000	31,535,000						
25	Aggr 60 - 64 years	Dakrnia	3,000	12,000	31,535,000						
26	Aggr 65 and up years	Dakrnia	14,000	10,000	31,535,000						
27	All age groups combined - years	Dakrnia	557,000	510,000	717,000						



Clicking on the right mouse, when in the page break view, opens a shortcut menu (shown in the next figure).

The shortcut menu provides easy access to addition/removal of page breaks, definition of the area to include in the printout (the “Print Area”), and also for the general Page Setup.

Figure 144: When in “Page Break Preview,” right-clicking displays this shortcut menu



PAGE SETUP FOR WORKSHEETS

You can do the setup of one or several worksheets at a time. Choose the worksheet(s)⁸; then, choose the menu option FILE/PAGE SETUP. The dialog for “Page Setup” opens. It is shown in Figure 145.

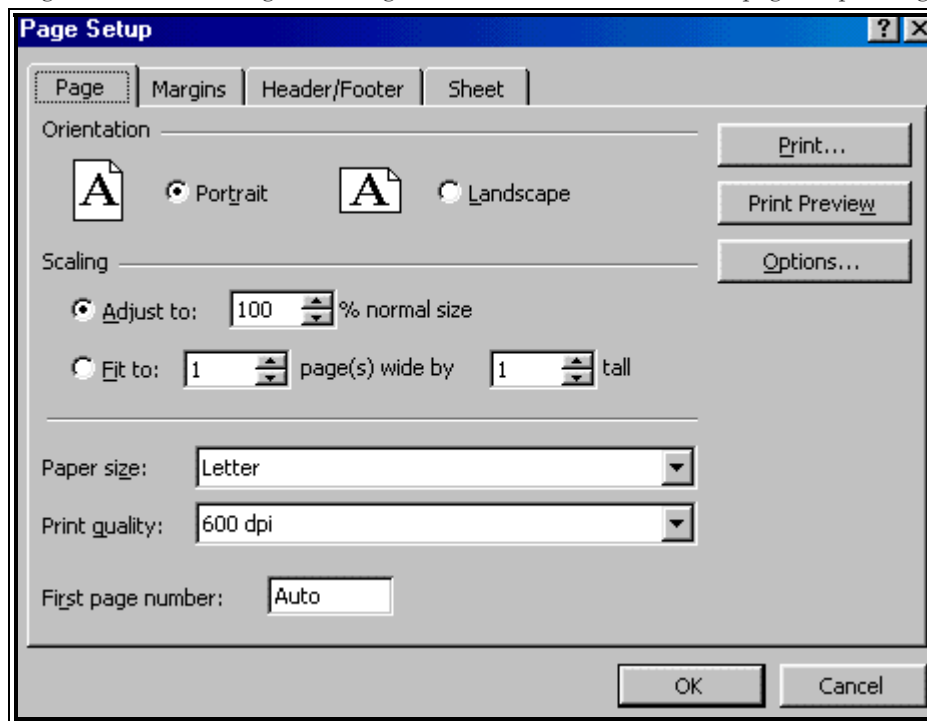
⁸ For multiple adjacent sheets, click on the named tab for the first sheet, press the SHIFT key, and, holding SHIFT pressed, click on the last worksheet whose Page Setup you want to select. If the sheets are non-adjacent, then press the CONTROL key and, while keeping this key pressed, click on the sheet tabs of all the worksheets you want to select.

10.4

ORIENTATION AND SCALE

Choose the tab “Page.” (For a pictorial reproduction of this, see Figure 145.)

Figure 145: The dialog for setting the Orientation and Scale of a page for printing



10.4.A

ORIENTATION: PRINTING “SIDEWAYS” (LANDSCAPE ORIENTATION)

If the tables/data on the sheet have a longer horizontal length relative to vertical height (that is, many columns plus — relatively— few rows, or

very wide columns), then choose “Landscape” orientation⁹. Verify if this orientation is better by viewing the “Print Preview” button.

Portrait orientation fits more rows but less columns per page compared to landscape orientation.

10.4.B

THE DIFFERENCE BETWEEN THE TWO ORIENTATION TYPES

Click on the first sheet of the sample file. Choose the orientation “Portrait” and then choose to see the print preview. The preview is shown in the next figure.

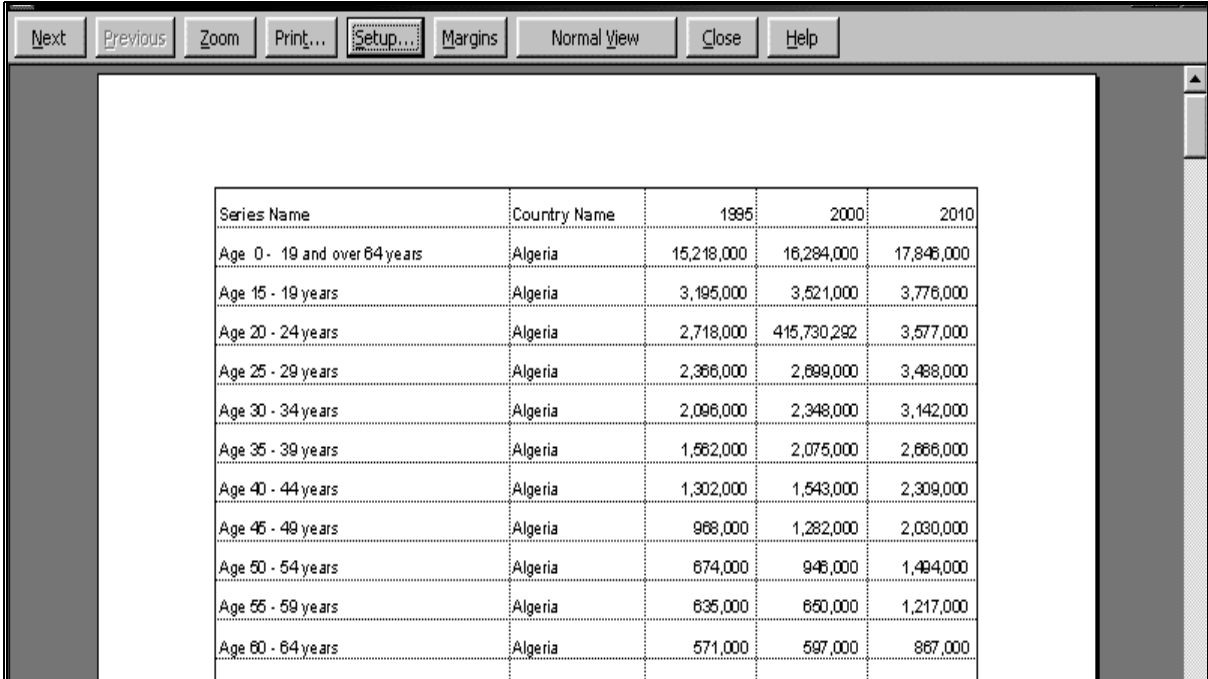
Figure 146: Print preview of first page of a worksheet that has a “Portrait” orientation

Series Name	Country Name	1995
Age 0 - 19 and over 64 years	Algeria	15,218,000
Age 15 - 19 years	Algeria	3,195,000
Age 20 - 24 years	Algeria	2,718,000
Age 25 - 29 years	Algeria	2,366,000
Age 30 - 34 years	Algeria	2,096,000
Age 35 - 39 years	Algeria	1,562,000
Age 40 - 44 years	Algeria	1,302,000
Age 45 - 49 years	Algeria	968,000
Age 50 - 54 years	Algeria	674,000
Age 55 - 59 years	Algeria	635,000
Age 60 - 64 years	Algeria	571,000
Age 65 and up years	Algeria	1,006,000
All age groups combined - years	Algeria	28,109,000

⁹ When using letter size paper, the landscape orientation corresponds to a height of 8.5” and width of 11” but the portrait orientation corresponds to a height of 11” and a width of 8.5”.

Choose the orientation “Landscape” and then choose to see the print preview. The preview is shown in the next figure.

Figure 147: Print preview of one page of a worksheet that has a “Landscape” orientation. The worksheet is the used in the print preview of the portrait orientation example in the figure above.



The screenshot shows the Excel print preview window. The top menu bar includes buttons for Next, Previous, Zoom, Print..., Setup..., Margins, Normal View, Close, and Help. The 'Setup...' button is currently selected. The main area displays a table with the following data:

Series Name	Country Name	1995	2000	2010
Age 0 - 19 and over 64 years	Algeria	15,218,000	16,284,000	17,846,000
Age 15 - 19 years	Algeria	3,195,000	3,521,000	3,776,000
Age 20 - 24 years	Algeria	2,718,000	415,730,292	3,577,000
Age 25 - 29 years	Algeria	2,366,000	2,699,000	3,488,000
Age 30 - 34 years	Algeria	2,096,000	2,348,000	3,142,000
Age 35 - 39 years	Algeria	1,562,000	2,075,000	2,666,000
Age 40 - 44 years	Algeria	1,302,000	1,543,000	2,309,000
Age 45 - 49 years	Algeria	968,000	1,282,000	2,030,000
Age 50 - 54 years	Algeria	674,000	946,000	1,494,000
Age 55 - 59 years	Algeria	635,000	660,000	1,217,000
Age 60 - 64 years	Algeria	571,000	597,000	867,000

10.4.C

SCALING — MAGNIFYING/REDUCING THE SCALE AT WHICH WORKSHEET DATA IS PRINTED

Sometimes you may find that almost all the spreadsheet print area can print out on a page but a few rows/columns do not fit even when you perform innovative formatting like making the row or column sizes smaller, using Auto fit, reduce font size, etc.

Apart from the time-consuming trial and error process involved in such reformatting, the reformatting may also change the look of your spreadsheet in a way you do not desire. For example, the columns may be

bunched too closely together with no space between the data and the edge of the cells.

Use the “Scaling” option to rectify this problem. This option allows you to scale down the way in which the worksheet is mapped into a printout. For example, you can choose to scale down this mapping to, for example, 97%, or 91%¹⁰ of the original.

This will reduce the size of all items in the worksheet proportionally to the percent you selected. Consequently, more content will fit on a printed page.

Figure 148: Scaling reduces the size of the entire sheet as printed, thereby allowing you to fit more information into every sheet in the printout



Verify if a scaling percentage is appropriate by using “Print Preview.” You can keep decreasing the scaling until you reach your objective of fitting a certain amount of information on one page and/or to reduce the

¹⁰ Another way of making more fit into a page is the reduction of margins. This is shown in the next sub-section.

total number of pages printed¹¹.

10.5

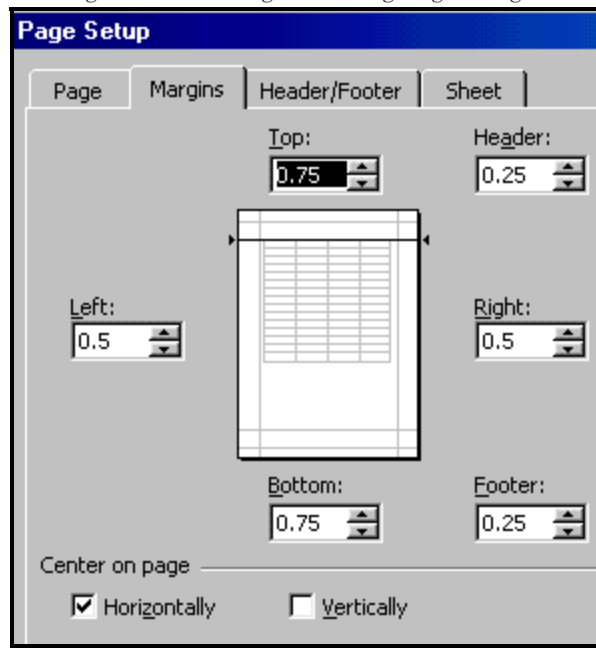
MARGINS

Click on the tab “Margins” and choose the margins you desire. Each margin is measured in inches and is the distance between the edge (end) of the paper and the margin type¹². I usually use the margin levels shown in Figure 149.

¹¹ The lower the scaling percent, the more are the total number of cells displayed on each page of the print-out (and, thus, the data may print-out in less number of pages).

¹² Therefore, a header margin of .5 and top margin of .25 means that the header starts at a distance of .25 inches from the paper’s edge and the actual content of the sheet starts at a distance of .5 inches from the paper’s edge.

Figure 149: Dialog for setting Page Margins



Tip

- Do not reduce any of the margins below 0.25 or the edges of the table will be cut-off in the printout.
- Keep a gap between the header and top (and, correspondingly, the footer and bottom) margins if you are going to insert a header or /and a footer. The gap should be at least 0.25.” Therefore, if the header margin is 0.25” then the top margin should be at least 0.50.” For a large/long header or footer, you may need a larger gap.
- If you have no header or footer, then the corresponding margin can — technically— equal the margin for the top (bottom) margin, but, for aesthetic reasons, I advise against having a top or bottom margin less than 0.5.

Note Try this

Playing around with the margins is another way (the other way is

“Scaling” discussed on page 172) to make your data fit on less number of pages.

Table 13: Tips for page margins

<i>Margin</i>	<i>Minimum Size</i>
Top	0.5; more if header is large or uses large font
Header	0.25
Right	0.25
Footer	0.25; 0.5; more if footer is large or uses large font
Bottom	0.5

10.5.A

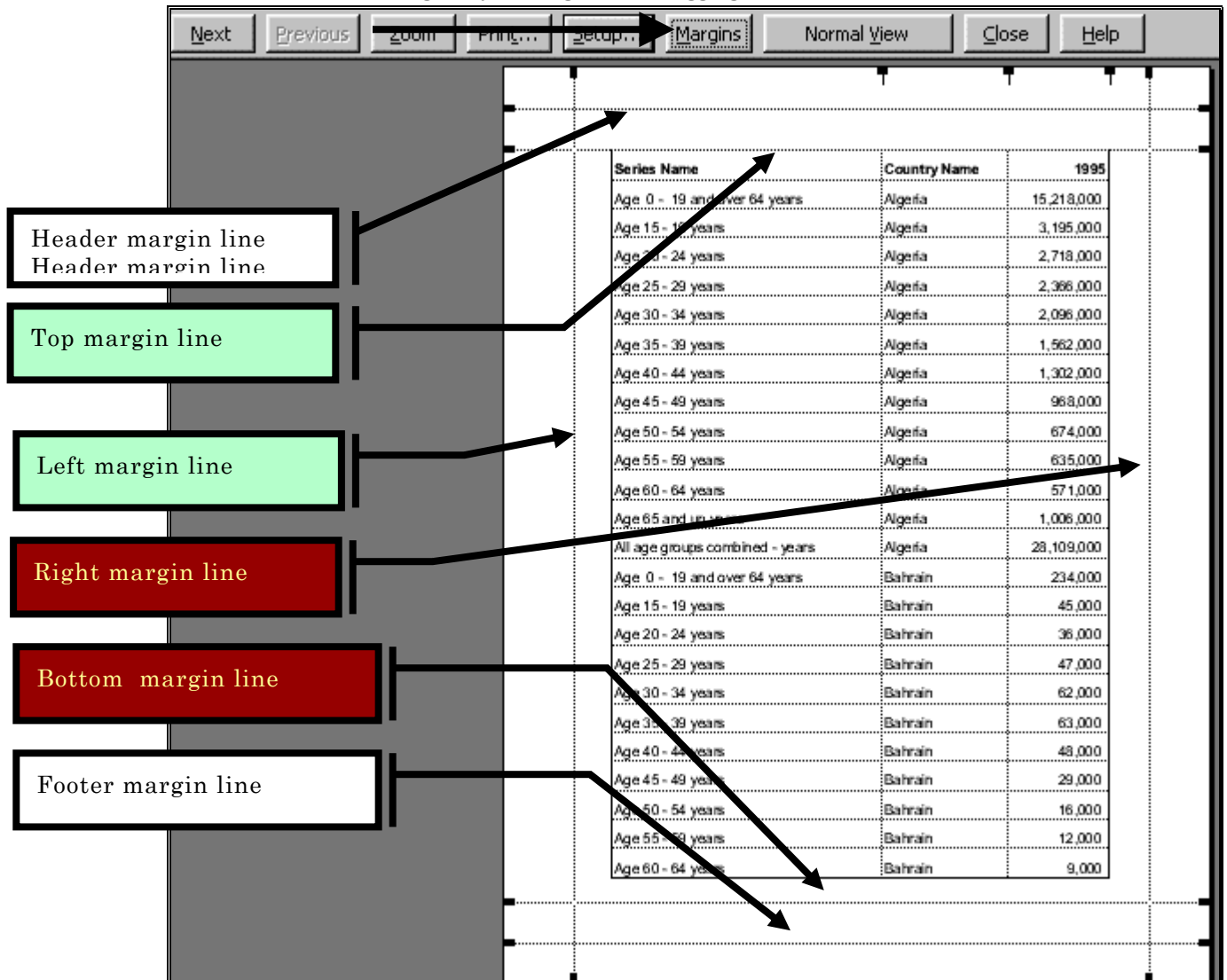
SETTING MARGINS WITH THE MOUSE

Access the feature through the menu path **FILE/PRINT PREVIEW**.

(Alternatively, click on the “Print Preview” button inside the “Page Setup” dialog.) The print preview window opens. Click on the button “Margins”.

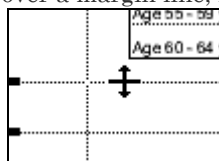
The next figure illustrates this. Thin, dotted lines will show the six margin lines — header, footer, top, bottom, left and right.

Figure 150: In “Print Preview,” the margins are shown as dotted lines. You can move the margins by clicking on and dragging the dotted line



Move the mouse over any of the lines. When the cursor changes to a bi-directional arrow, click on the left mouse and drag the margin line to the left/right/top/bottom.

Figure 151: When the mouse is just over a margin line, it will become a double-headed arrow



Note The top margin needs to be more than the header margin and the bottom margin needs to be more than the footer margin.

10.5.B

ORIENTATION OF CONTENT WITHIN EACH PRINT-OUT SHEET

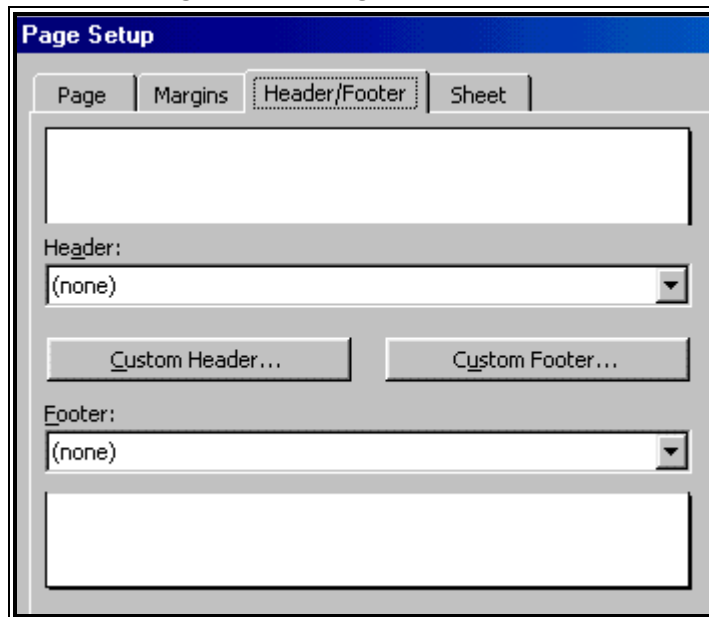
I recommend you choose the option “Horizontally” in the option area “Center on page.”

10.6

INSERTING A CUSTOM HEADER AND FOOTER

Click on the tab “Header/Footer.” The “Header/Footer” dialog is shown in Figure 152. Let us first create the header. The first step is the launching of the “Header/Footer” dialog. This is achieved by clicking on the button “Custom Header.”

Figure 152: Dialog for Header/Footer



The header dialog opens. (It is shown in Figure 153.) The header has three text-boxes—left, center, and right section. You can type text into any one of them or in more than one. Do not type in too much text in more than one box— if you type too much text in, for example, the left box, then it may run into the text written in the center box.

Figure 153: The three sections in a Header/Footer

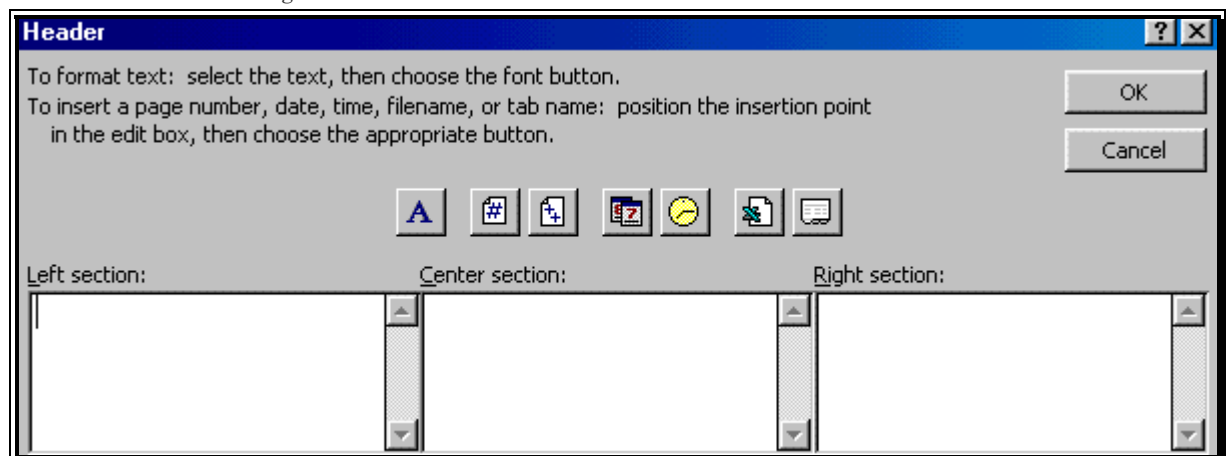
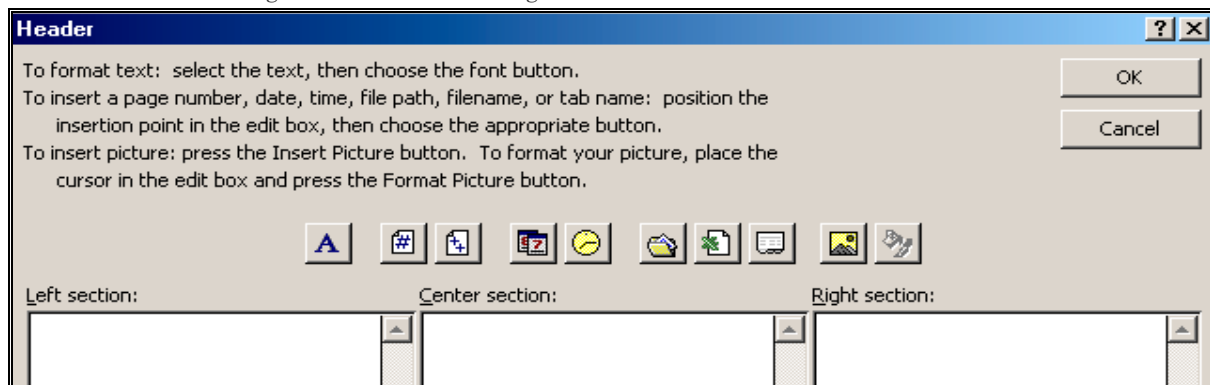


Figure 154: Header dialog in the XP version of Excel



Above the text-boxes, you see some icons. These icons make it easy to add file information into the header.

Icons available for use in custom headers/footers

— Font formatting 

— Insert page number 

— Insert total number of pages 

— Insert date 

— Insert time 

— Insert file name (including path in versions before Excel XP) 

— Insert path and filename (for Excel XP) 

— Insert sheet name 

— Insert and format picture (only available in the XP version of Excel)



Placing text, date, and page numbers into the header

Step 1: Inserting text

In the “Center section” text-box, type the text “labor data” as shown in Figure 155.

Step 2: Inserting page numbering

Assume you want each page to have the text “Page X of Y pages” (the result is shown in Figure 155): The steps required are:

— Click inside the “Right section” box

— Type “Page”

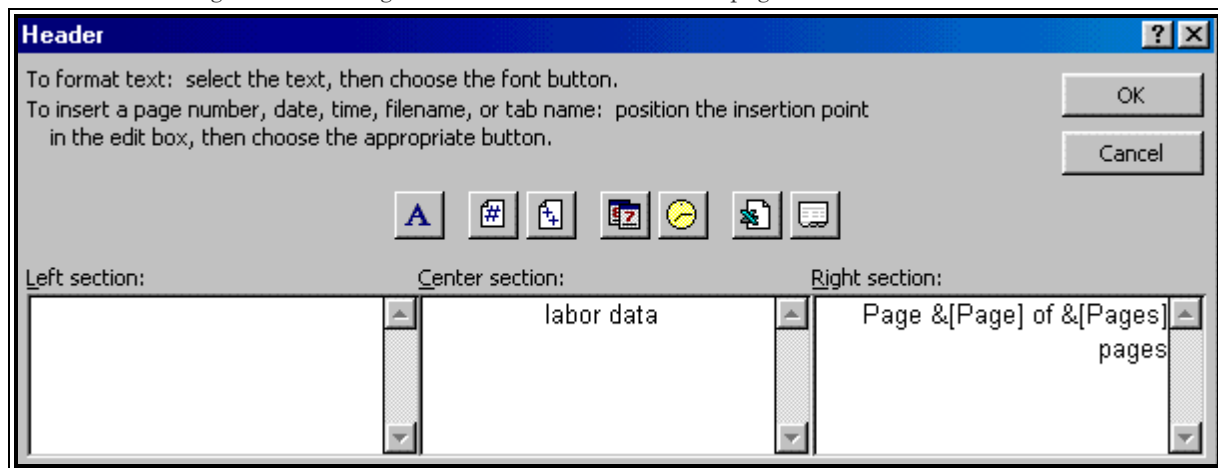
— Click on the “Insert page number” icon 

— Type “of”

— Click on the “Insert number of pages” icon 

— Type “pages”

Figure 155: Using field codes for information on page numbers



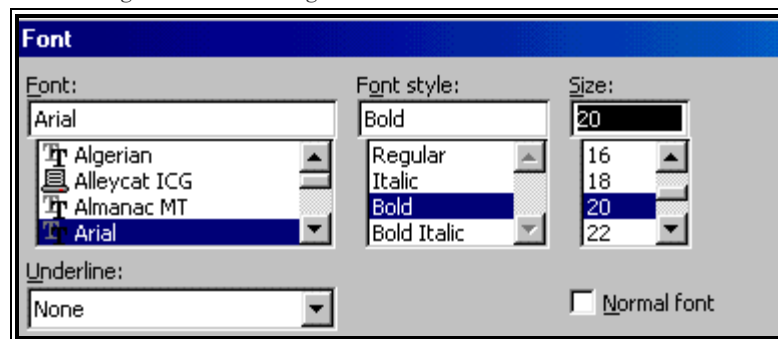
Font

Typically, one desires a large font for the header. Click on the “Center section” and highlight the text in there. Now, click on the “Format” icon—



The “Font” dialog opens. It is shown in Figure 156.

Figure 156: Setting the font of text in a Header/Footer



Opt for a large font size. In addition, choose the style *bold* (see Figure 156).

Execute the options chosen in the dialog, by clicking on the button OK. Notice that the font of the chosen text changed— for an illustration of

this, see Figure 157.

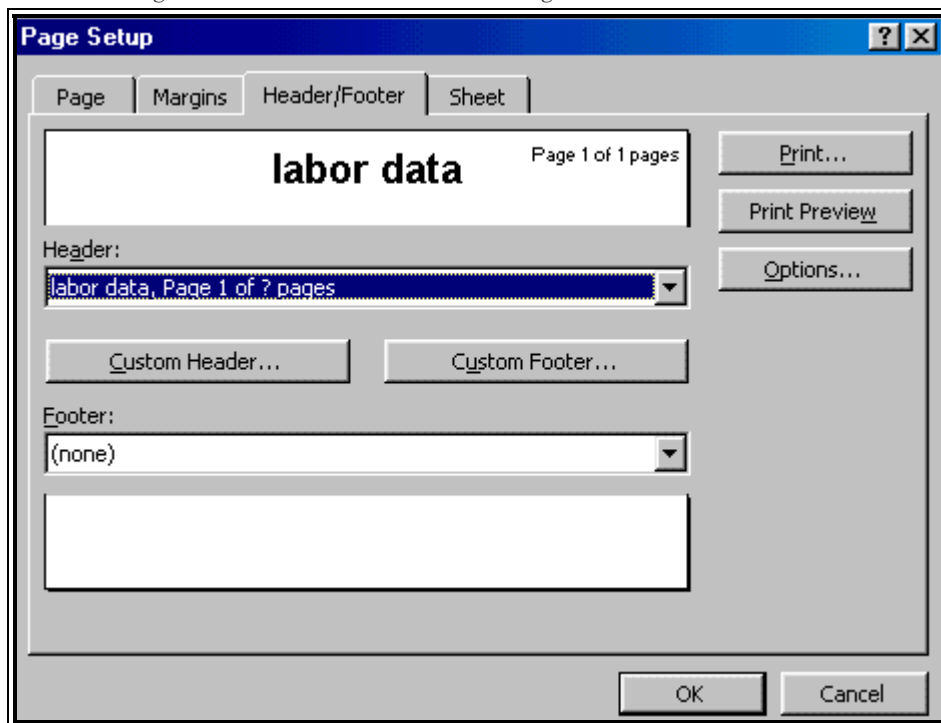
Figure 157: The reformatted center text-box of the Header



Click “OK” to return to the “Header/Footer” tab of PAGE SETUP. The dialog will look like the one shown in the next figure.

Notice that the top white text-box now shows a sample of the header.

Figure 158: The Header/Footer dialog with the Header defined

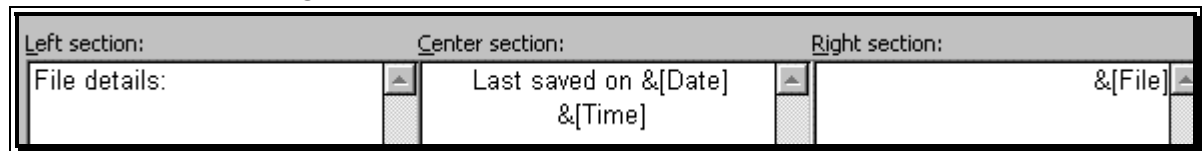


Custom Footer

Choose the menu option FILE/PAGE SETUP/HEADER/FOOTER. Click on the button “Custom Footer” (see Figure 158). The dialog is the similar as that the dialog for “Custom Header” (shown in Figure 153).

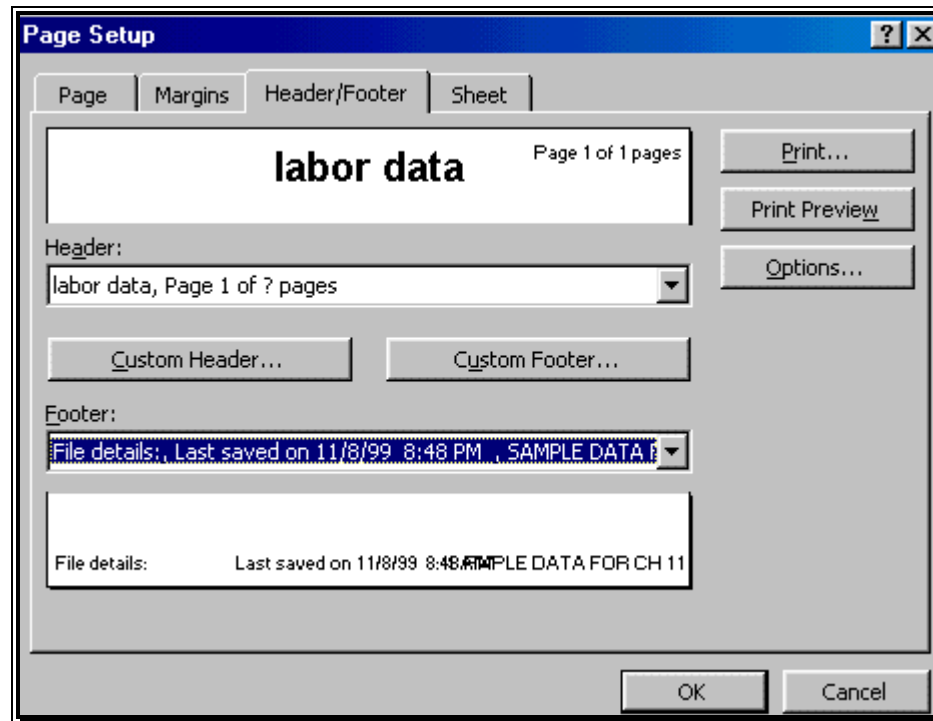
- Type in “File details:” into the left section, and use the icons for “Date”  and “Time”  to insert the data and time into the center section.
- In the right section, place information on the file name by clicking on the “File name” icon— .

Figure 159: The three text-boxes in the Footer



Execute the dialog by clicking on the button OK. You are back to the “Header/Footer” tab of PAGE SETUP. (For a pictorial reproduction of this, see Figure 160.)

Figure 160: The completed Header/Footer dialog



Note The tab shows samples of the header and footer you have created. If you do not like what you see, click on the “Custom Header” or

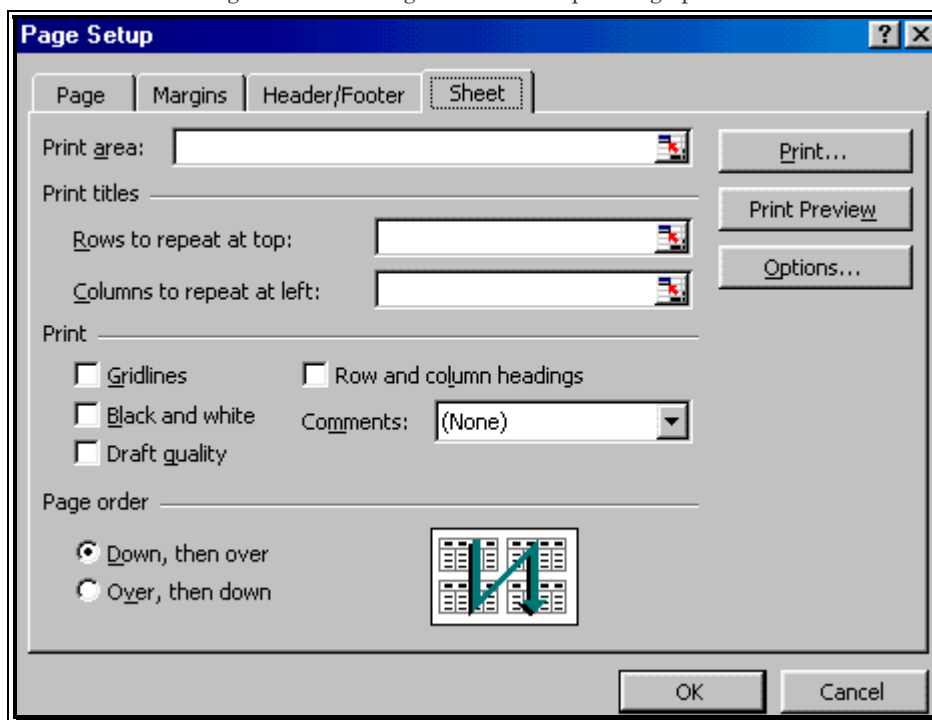
“Custom Footer” button, and make the changes needed¹³.

10.7

PRINT RANGE

Click on the tab “Sheet.” The dialog shown in Figure 161 opens¹⁴.

Figure 161: Dialog for advanced printing options



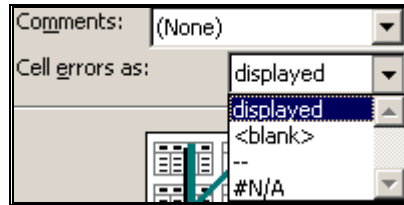
¹³ Look at the footer preview. Observe that the “Center section” text runs into the “Right section” text. Tip for corrective measure: Move all the text into the “Left section” or experiment until you can fit in all the information.

¹⁴ When doing the Page Setup for a chart, you will see the tab “Chart” instead of the tab “Sheet”. The chart tab is shown in Figure 205.

Displaying Cell Errors (only available in the XP version of Excel)

In Excel XP, you can print cells with errors “as displayed on the sheet,” or after alteration. The alterations are to display the error-containing cell as a blank cell, or as a cell containing the indicator “—” or “#N/A.” The list of possible errors is shown in *Volume 3: Excel– Beyond The Basics*.

Figure 162: Options for Printing Cell Errors



10.8

ENSURING THAT ROWS AND COLUMNS WITH TABLE HEADINGS ARE PRINTED ON EVERY PAGE

In the area “Print Titles,” define the rows/columns you want repeated on every printed sheet. Usually these rows/columns have the labels for the data in each row and column. (Typically, row “1:1” and columns “AA” or “A:B.”)

10.8.A

THE PROBLEM

Assume row 1 has the series names and columns. If you print out the worksheet without choosing to repeat rows, then only the first printed worksheet will have the headings/labels of the column!

In the sample file, leave the box “Rows to repeat at top” blank as in Figure 161.

When this worksheet is printed, you will notice that the series labels on the first page (refer to Figure 163) but not on the second or later pages.

Figure 163: Page 1 of the printout. The first row contains the labels you would like to use to label the data shown on each page of the printout

labor data					Page 1 of 7 pages
Series Name	Country Name	1995	2000	2010	
Age 0 - 19 and over 64 years	Algeria	15,218,000	16,284,000	17,846,000	
Age 15 - 19 years	Algeria	3,195,000	3,521,000	3,776,000	
Age 20 - 24 years	Algeria	2,718,000	415,730,292	3,577,000	

Figure 164: Page 2 of the printout.

Note that the first row on this page does not have the series titles/labels/headings

labor data					Page 2 of 7 pages
Age 65 and up years	Egypt, Arab R	2,639,000	3,072,000	3,923,000	
All age groups combined - years	Egypt, Arab R	62,096,000	68,119,000	80,260,000	
Age 0 - 19 and over 64 years	Iran, Islamic R	40,309,000	44,610,000	51,449,000	
Age 15 - 19 years	Iran, Islamic R	7,320,000	8,540,000	10,940,000	

Ensuring the repetition of row 1 on each printed page

Type “1:1” into the box “Rows to repeat at top,” or click on the right edge of the text-box “Rows to repeat at top” and then highlight row 1.

Figure 165: Requesting Excel to repeat title rows on each page of the printout

Print titles

Rows to repeat at top: 1:1

Now when you print the worksheet, each page will have the series/series labels on the top. (Page 2 of the printout is shown in Figure 166.

(Compare with two figures above.)

Figure 166: Note that the first row on this page does have the series titles/labels/headings

labor data					Page 2 of 7 pages
Series Name	Country Name	1995	2000	2010	
Age 65 and up years	Egypt, Arab R	2,639,000	3,072,000	3,923,000	
All age groups combined - years	Egypt, Arab R	62,096,000	68,119,000	80,260,000	
Age 0 - 19 and over 64 years	Iran, Islamic R	40,309,000	44,610,000	51,449,000	
Age 15 - 19 years	Iran, Islamic R	7,320,000	8,540,000	10,940,000	

Ensuring the repetition of columns A and B on each printed page

Type "A:B" into the box "Columns to repeat at left," or click on the right edge of the text-box "Columns to repeat at left" and then highlight columns A and B. The options should look like Figure 167.

Figure 167: Requesting Excel to show columns A and B on the left and row 1 on top of each printed page

Print titles

Rows to repeat at top: 1:1

Columns to repeat at left: A:B

Note Although the choice of columns to repeat at left is redundant in this sample file (because there are only five columns), the choice becomes important if the number of columns are greater than would fit on one page.

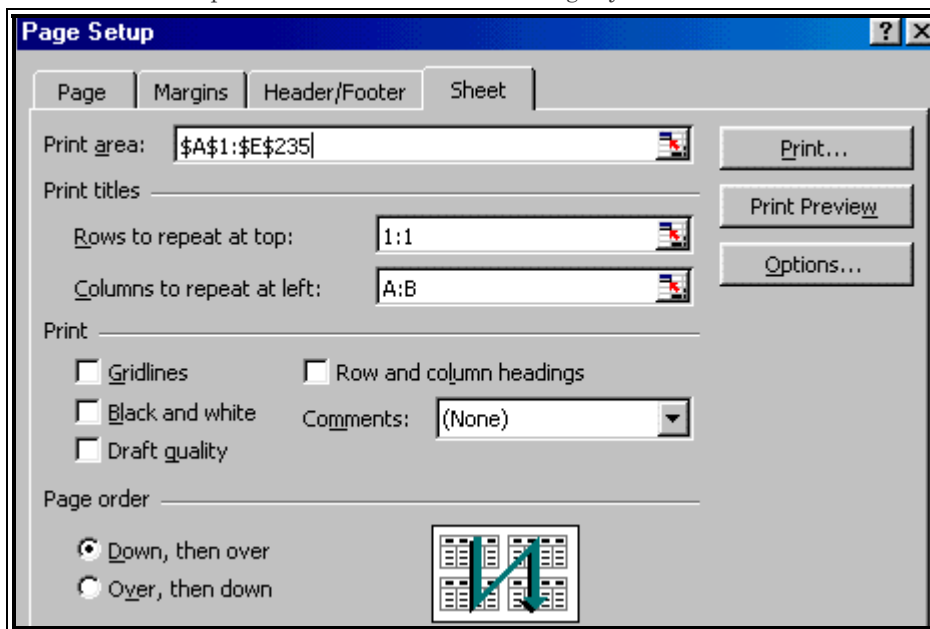
You may only want to print a certain range from a worksheet. You can

restrict the printing to the range you want by entering the range into the text-box “Print area.” (For a pictorial reproduction of this, see Figure 168.)

Click on the multi-colored [blue, red, and white] edge of the text box “Print area,” and then use the mouse to select columns A and B by highlighting the columns with the mouse and again pressing on this multi-colored edge.

This is the same functionality provided by “FILE/PRINT AREA.” Highlight the range you want to print and then Go to the menu FILE/PRINT AREA.

Figure 168: Choosing a Print Area. You can click on the Print Preview button to check how the printout will look after the changes you have made.



Options in the area “Print:” I recommend deselecting all the options. You may want to select the option “Row and column headings” if you want the reader of the printout to know the exact location of each cell. When this option is selected, then the row numbers (“1,” “2,” “3,” ...) and column

numbers (“A,” “B,” “C,” ...) also print along with the text and data cells.

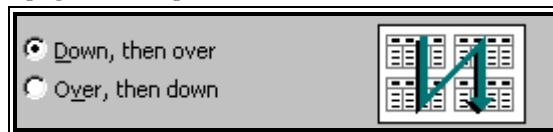
Click on the button “Print Preview” and, if you are satisfied with the preview, print the sheet[s].

10.10

ORDER OF PAGES

The other important option is “Page order.” If you want the data for the first X rows (and all columns) to be printed before that for other rows, choose “Over, then down.” Therefore, for example, all the data for Algeria will be printed before any data for Lebanon. If you choose “Down, then over” then all the data for the first few columns will be printed before the data for the next column is printed.

Figure 169: The pages can be printed either “All rows first” or “All columns first”



Click on the button “Print Preview” and, if you are satisfied with the preview, print the sheet[s].

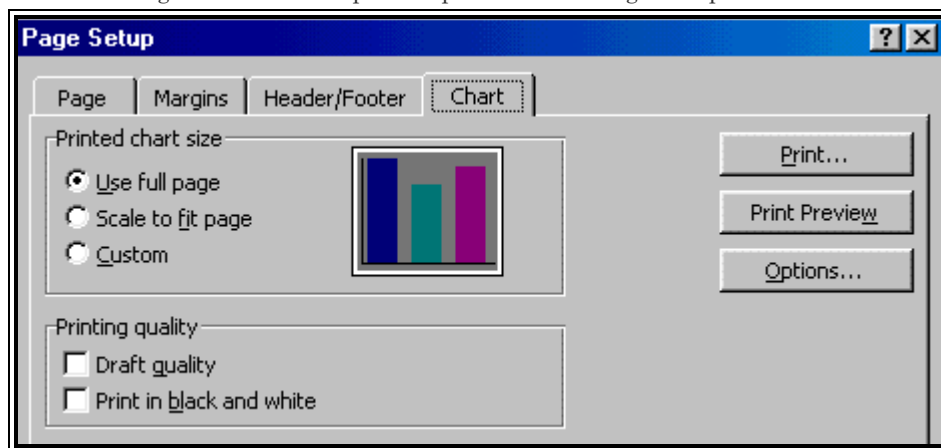
10.11

PAGE SETUP FOR CHARTS

When you use FILE/PAGE SETUP, the “Chart” tab replaces the “Sheet” tab. (For a pictorial reproduction of this, see Figure 170.) The other three tabs are the same as for worksheets.

When you copy and paste a chart into Word or PowerPoint, then you may want to choose “Custom” size and manually resize the chart using the mouse. This way, your copy & paste may be better at maintaining the relative integrity of font sizes in the chart.

Figure 170: Some specific options for the Page Setup of charts



CHAPTER 11

SHORTCUTS

This chapter teaches the following timesaving tools:

- THE FORMAT PAINTER
- CHOOSING THE RANGE WHOSE FORMAT DESIRED AS THE
“MODEL” FOR OTHER RANGES
- ACTIVATING THE FORMAT PAINTER
- THE “MIDAS” TOUCH— PAINTING THE FORMAT ONTO
TARGET RANGES
- FORMAT PAINTING CHARTS
- QUICK FORMATTING OF TABLES (AUTOFORMAT)
- CUSTOMIZATION OF AN AUTOFORMAT
- THE SHORTCUT MENU (ACCESSED THROUGH THE RIGHT
MOUSE)
- F4 (REDO)
- WHAT DOES F4 DO?
- USING F4 ACROSS OBJECT OR SELECTION TYPES
- UNDO
- OFFICE CLIPBOARD (ONLY IN XP)
- FIND AND REPLACE
- TASK PANE

11.1

THE FORMAT PAINTER

F4 repeats the last action. However, what if you wanted to duplicate/replicate all the formatting of one range¹⁵? Use the “format painter” to achieve such format replication.

11.1.A

CHOOSING THE RANGE WHOSE FORMAT IS DESIRED AS THE “MODEL” FOR OTHER RANGES

Choose the “model” range whose format you want to use as the role model. The range could be a cell, a collection of cells, rows, columns, the entire worksheet, drawing objects (like arrows, text-boxes), etc¹⁶.

11.1.B

ACTIVATING THE FORMAT PAINTER

Click on the “Format Painter” icon (see Figure 171) twice in quick succession.

¹⁵ That is, use the formatting of one range/chart as the blueprint for the formatting of other ranges/charts.

¹⁶ Choose a range that has a distinctive format; for example, a background color of blue and bold font. (Or, format a range in such a way and then use it as the model range.)

Figure 171: The icon for Format Painting



11.1.C

THE “MIDAS” TOUCH— PAINTING THE FORMAT ONTO TARGET RANGES

Now, wherever you click (or click and drag) the mouse, the formatting of the chosen range will take on the formatting of the model range¹⁷. In effect, you are “painting” the format of one range onto other ranges.

11.1.D

STOPPING THE PAINTING OF FORMATS

Click again (a single click) on the format painter button. Until you do that, “format painting” will be done on any range the mouse highlights.

¹⁷ Formatting includes a wide array of attributes:

- Font color, size, type, etc
- Background shades and patterns
- Borders
- Alignment of text/data within the cell
- Number type and number of decimals
- Indentations
- Text control — whether text wraps around a cell

In addition to the above, row height when using row(s) as the model range, column width when using column(s) as the model range and both, row height and column width, when using a range that combines rows and columns.

Please experiment with this feature. Try it out by using, as the model range, the following: a cell, a collection of cells, a row, a column, and an entire worksheet. You can use this feature across worksheets and files—use the range from one Excel worksheet and file as the model, and paint its format on ranges in other worksheets, either in the same file or in another Excel file.

The format painter is also available in Word.

11.1.E

FORMAT PAINTING CHARTS

You can copy and paste the formatting of one chart on to another. This topic is taught in book two in this series — *Charting in Excel*.

11.2

QUICK FORMATTING OF TABLES (AUTOFORMAT)

Excel has several preset table formats called “AutoFormats.” The use of these AutoFormats can save a lot of time; in addition, it provides a tool for enforcing uniformity in formatting style across tables.

11.2.A

PRIOR TO USING AN AUTOFORMAT

Remove the gridlines from the worksheet. This is done by going to TOOLS/OPTIONS and deselecting the option “Gridlines.” (For a detailed description, read 13.1 on page 242.)

Highlight the range of cells that constitute the table. Choose the menu

option FORMAT/AUTOFORMAT.

The “AutoFormat” dialog opens— it is shown in Figure 172. In the area “Table format,” click on the names of different AutoFormats and view a sample in the area “Sample.”

Figure 172: Dialog for Table AutoFormat

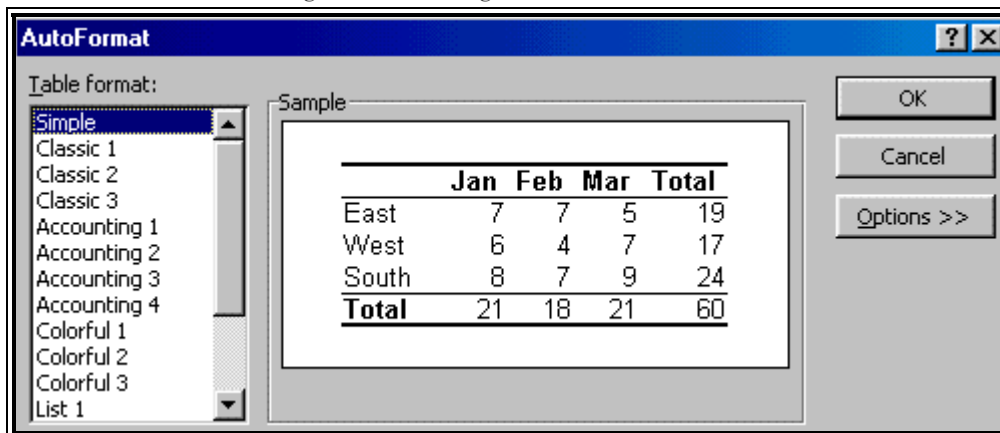
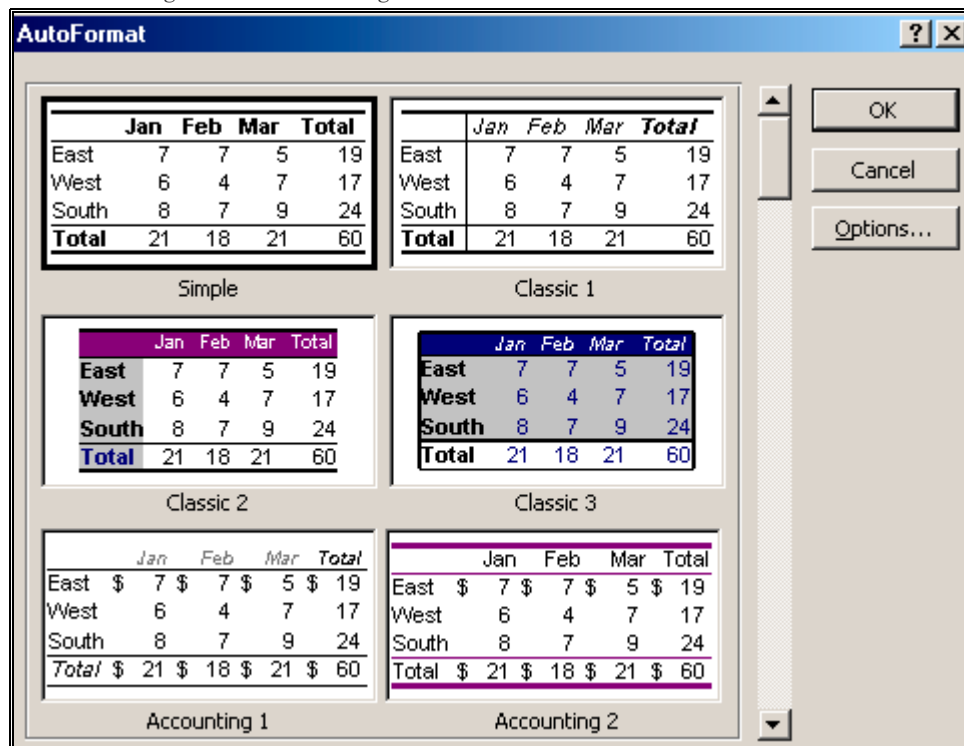
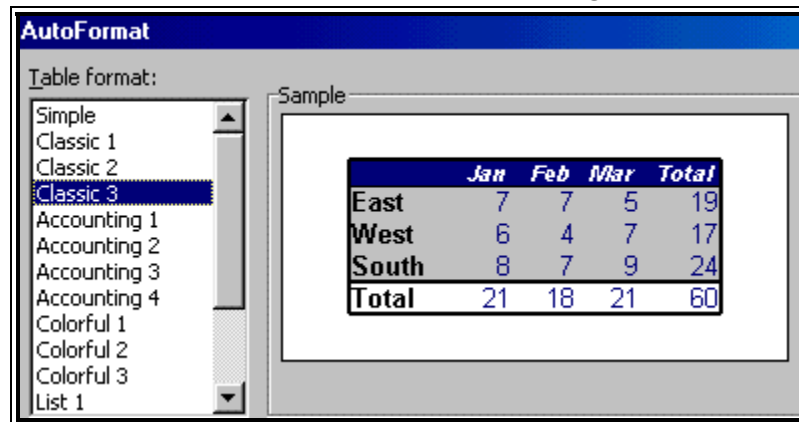


Figure 173: The dialog looks different in the XP version of Excel



Say you like the AutoFormat “Classic 3.” Click “OK” after choosing the AutoFormat the range of cells you had chosen will now have a new format, all in a few seconds!

Figure 174: Choose an AutoFormat by browsing through the list of available AutoFormats (shown in the left half of the dialog)

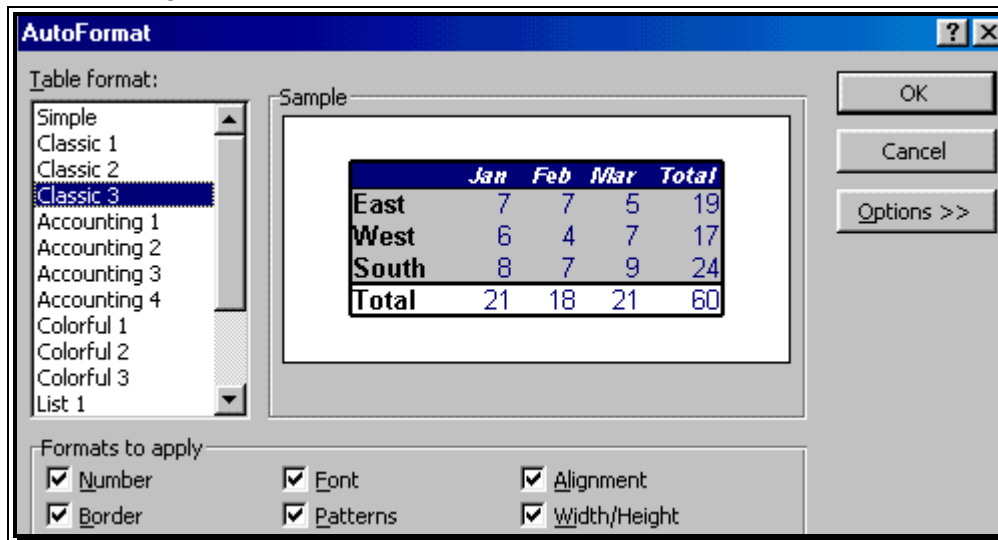


11.2.B

CUSTOMIZATION OF AN AUTOFORMAT

You can opt not to apply certain parts of the AUTOFORMAT. If you click on the button *Options* (see Figure 174) a new area “Formats to apply” opens at the bottom of the dialog as is shown in Figure 175. By deselecting any of the options in the area “Formats to apply,” you ensure that that component of the AutoFormat is not applied.

Figure 175: You can customize some attributes of the AutoFormat



The components functions

- “Number” — if your table has percentage data then you will want to deselect the option “Number.” Otherwise, the percentage “7.87%” will be displayed as “0.07” if you choose the Auto format style “Classic 3.”
- “Font” — deselect this if you do not want to change the font type, color, style (bold, italic, other) and size of the existing table data and labels.
- “Alignment” — deselect this option if you do not want to change the horizontal alignment (left, center, or right) or vertical alignment of data/text in the cells of the existing table.
- “Border” — deselect if you want to maintain the existing borders.
- “Patterns” — deselect if you want to maintain the existing background shades of all cells in the table.
- “Auto fit” (an option available for some auto formats) — deselect if you do not want to change the width/height of existing

cells/columns/rows.

- “Last row” (an option that exists for some auto formats) — deselect if you do not want the format of the last Row to be different from the format of the second last row. (Sometimes you will want a different format for the last row if the row contains aggregates or averages of the other rows). In Autoformat style “Classic 3” the last row has a different background shade (it is white and not shaded as the other rows are) and border as compared to the rows above it.
- “Last column” (an option that exists for some auto formats) — deselect this option if you do not want the format of the last column to be different from the format of the second last column. (Sometimes you will want a different format for the last column if the column contains aggregates or averages of the other columns).

Learning some simple tricks can make you lightning fast in working on Excel. This chapter teaches some utilities that Help save time spent in performing the same task repetitively.

Apart from the major time saving enabled by these techniques, they serve another purpose — assisting in enforcing uniformity in formatting across cells, rows, columns, worksheets, and charts.

THE SHORTCUT MENU (ACCESSED THROUGH THE RIGHT-CLICK-ON-MOUSE)

The most used menu options are available when you right-click the mouse. These menu options constitute the “shortcut menus.”

An additional feature makes these shortcut menus very useful— they are “dynamic” in the sense that they give different options depending on what the currently active object is in Excel. Therefore, if you choose some rows by using the left-click-and-drag method and then click on the right mouse, the options you will see are different then when you right-click after selecting a range of cells. The options “Row Height,” “Hide” and “Unhide” are relevant to rows but not to individual cells.

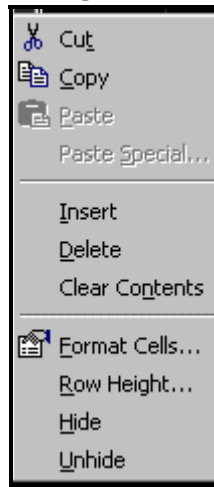
On the other hand, the options “Insert Comments” and “Pick from List” are relevant only to specific cells and not to entire rows. In this section, you will see pictorial reproductions of the shortcut menus for different “current selection” items.

11.3.A**CELLS, ROWS, WORKSHEETS AND COLUMNS**

After selecting a row or several rows by clicking on the row titles (like “1,” “2,” etc), right-click. The shortcut menu still displays some options of specific relevance to rows.

Note The sample shortcut menu reproduced in the next figure includes two options — Hide and Unhide— that are relevant only for rows and columns, and one option — “Row Height” — specific to the attributes of rows.

Figure 176: Shortcut menu for a row (or several rows). In Excel XP, you may see more options.



The options included in the menu change if Excel senses that you might be conducting a certain procedure.

For example, after you choose some rows and choose EDIT/COPY, and then right-click the mouse the options shown will be a bit different—Excel has sensed that you will want the “Insert Copied Cells” as an option at this stage. (Compare the two menus on the right.)

Figure 177: Shortcut menu for a single cell. In Excel XP, you may see more options.

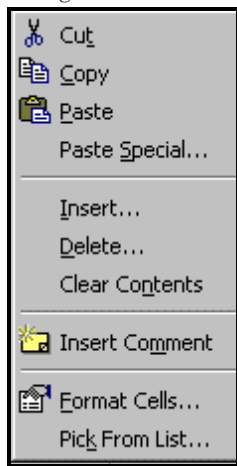
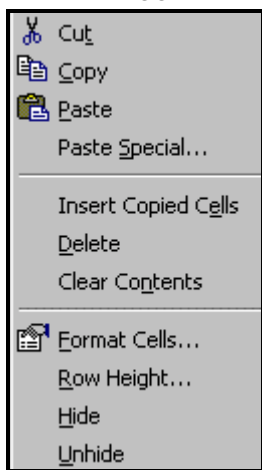
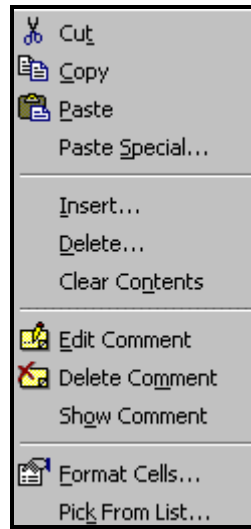


Figure 178: Shortcut menu for a range of cells after you have selected the menu option EDIT/COPY



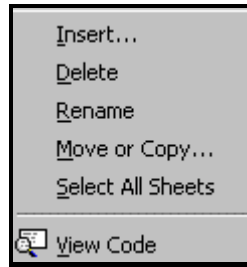
If the cell you have selected has an attached comment (see page 134), then the shortcut menu will change accordingly. The next figure illustrates this. Compare this dialog to the one for a cell that has no comment— see either of the previous two figures.

Figure 179: Shortcut menu for a cell that has a comment attached to it



If you right-click after choosing a sheet tab (the protruded part of an Excel sheet with the name “Sheet1,” the following options can be seen. These are relevant to actions you would do to worksheets as a whole. (For a pictorial reproduction of this, see the next figure)

Figure 180: Shortcut menu for a sheet. In Excel XP, you may see more options.



The same principle applies to all windows programs. The dynamic shortcut menus are very useful in Microsoft products.

11.4

F4 (REDO)

No, I am not hurling abuse! I am repeating the mantra of the biggest time saver in Microsoft Office— the “F4” key. (At the top of your keyboard, you will see keys labeled as “F1,” “F4,” ..., “F12.” These are the “Function keys.”)

11.4.A

WHAT DOES F4 DO?

The F4 key is the “Redo” or “repeat last action” key in Excel and Word. Hitting it repeats the last action you did. A few examples of the use of F4 demonstrate its utility as a major time saver.

Example 1:

Assume you want to italicize the data and text in some of the rows of your worksheet. Choose the first row where you want the italicization, follow the menu path **FORMAT/CELLS/FONT**, and choose the option “italics.” (Alternatively, click on the italics icon.)

Now if you choose another row that you want to italicize and press the F4 key! The last action will be repeated and this row will now be in italics. Click on any other row (or for that matter any row, column, cell or combination thereof) and press the F4 key— the text and data will be italicized. You can repeat F4 an infinite number of times.

Example 2:

Click on a cell, then select the option **FORMAT/CELLS** and change the formatting of the font, the data type, the background patterns, alignment,

and border style. Now go to another cell and press the F4 key. All the changes you made for the first cell will also be implemented in the second cell.

The use of F4 is not restricted to formatting. Any discrete action can be repeated an infinite number of times.

The action may be a simple “one-stroke” action like pasting or deleting, or one where you have to choose several options such as formatting a cells font & pattern & number type & alignment & borders. The more complex the action is the greater is the time saving produced by F4.

Please experiment with this feature and make it an integral part of your approach to Excel and other Microsoft Office applications.

Try these examples

1. Delete a column; click on another column and push down the F4 key.
2. Choose a column and make the background gray using FORMAT/CELL. Now, click on every alternate column and use F4 to make it gray patterned.
3. Choose two adjacent columns. Select the option INSERT/COLUMN. Now click on another column and press the F4 key. Observe how the column insertion is repeated.
4. Choose a column and choose the menu option FORMAT/COLUMN/HIDE. Choose another column and push down the F4 key to hide this column also.

Note:

The F4 feature can also be used in charts or with drawing tools like arrows and text-boxes. You can format one text-boxes font, pattern, border, alignment, and then go to another text-box and click on F4.

11.4.B

USING F4 ACROSS OBJECT OR SELECTION TYPES

Across selection types

Activate a cell and make the font bold.

- After that, select a cell on another worksheet and push down the F4 key.
- Highlight a range of cells and push down the F4 key.
- Choose some columns and push down the F4 key.
- Choose some rows and press the F4 key.

Each time the F4 key is used, the font of the active or chosen range is converted to bold.

The process may be continued an indefinite number of times.

Across worksheets

The F4 feature can be used across worksheets and — if applicable— with several object types even though the original action was on one type of object only.

Across objects

The following example also illustrates the way in which the feature works across objects. Choose a cell and make its font bold. Now go to a text-box and press the F4 key. Go to a chart title/axis/labels and click on F4. The font of any text in all these objects will become bold.

Note The F4 feature is also available in Word.

Try this Discover the power of F4 by using it often. It will save time everyday!

UNDO

The Undo icon will undo the last action you performed. You can Undo up to a 100 actions. If you want to conduct more than one Undo/Redo, then use the Undo/Redo icon. The Undo icon is reproduced in the next figure.

Figure 181: The Undo icon



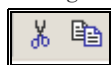
If you Undo too many, then you can Redo the ones that have been Undone.

OFFICE CLIPBOARD (ONLY AVAILABLE IN THE XP VERSION OF EXCEL)

The “Office Clipboard” is an extremely handy tool in Office XP. One of the more irritating tasks in any Office software is copying/cutting “one of several” non-adjacent ranges of material or copying/cutting and pasting a combination of several non-adjacent ranges of material. You have to copy/cut one range, paste it at one or more locations. The task has to be repeated for each range of material copied/cut and pasted. The Office Clipboard permits the copying/cutting and pasting of up to 24 ranges of material even if they are not (copied/cut-) from Excel.

Copy or cut the first range. You can use EDIT/COPY or EDIT/ CUT or the icons shown in the next figure.

Figure 182: Icons for cutting and copying, respectively



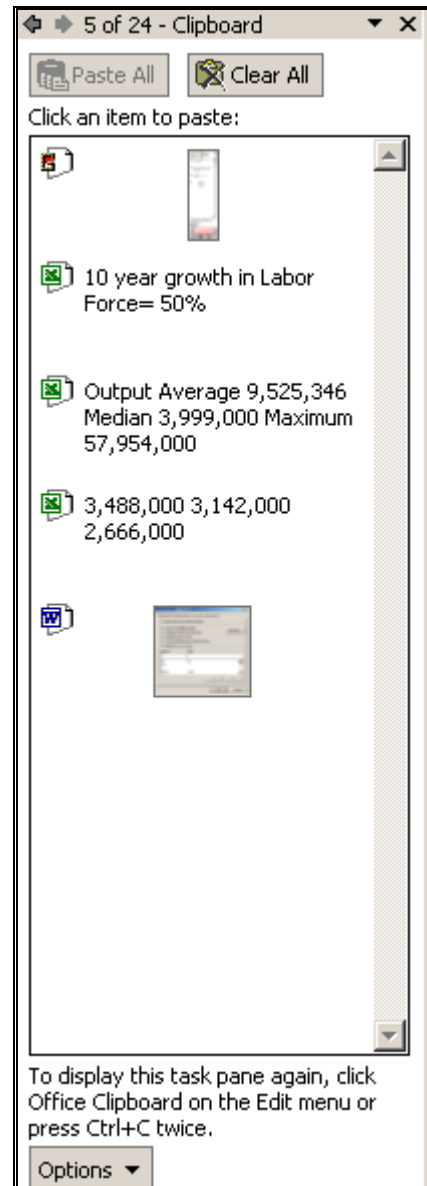
As you work in Excel or other software, each copied/cut material will be stored in memory (until a maximum of 24 ranges of material). You can view these ranges by choosing the option **EDIT/OFFICE CLIPBOARD**.

The pane for the Clipboard opens on the right side of the Excel window. The pane is shown in the next figure. The title of the pane shows how many items can be pasted (in the example shown here, the number is five).

The main body of the pane contains a short indicator for each item.

On the left of the indicator, Excel shows the software from which the material was copied/cut. Note that the 5th item is from Microsoft Word, the 2nd to 4th from Excel and the first from unknown software.

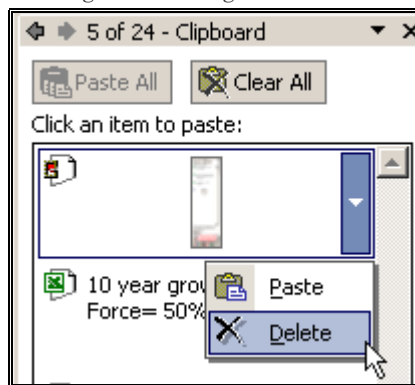
Figure 183: The Office Clipboard pane



You can paste any of the items by clicking at the right end of the item's indicator and selecting the option "Paste." The next figure Paste by just clicking anywhere on the indicator.

You can remove any of the items by clicking at the right end of the item's indicator and selecting the option "Delete."

Figure 184: Pasting or removing one item from the Clipboard



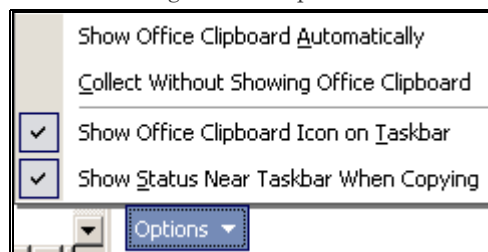
The icons at the top of the pane –shown in the next figure— permit the pasting or removal of all the items in the Clipboard memory.

Figure 185: Pasting or removing all the items in the Clipboard



The options for the Office Clipboard can be set by clicking on the button Options at the bottom of the pane and selecting the default options.

Figure 186: Options



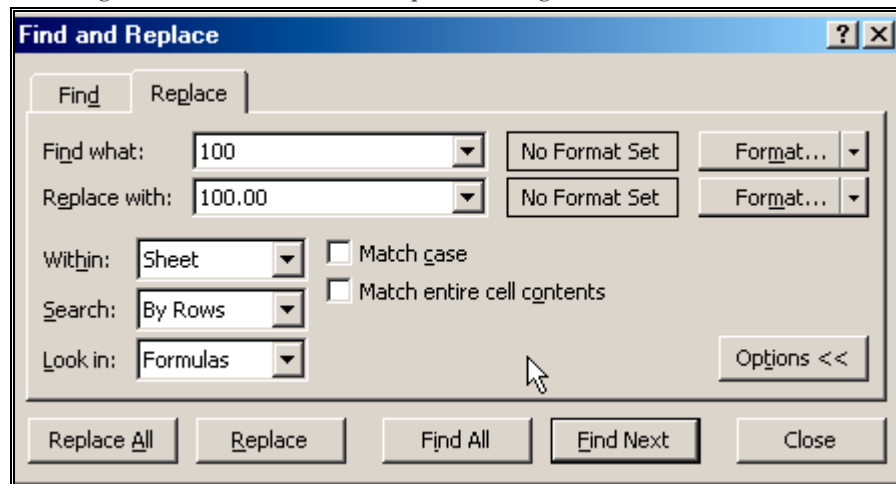
EDIT/FIND and EDIT/REPLACE permit the replacing of formats as well as text/data. The FIND also lists and provides hyperlinks to all the cells

that satisfy the find criteria.

The FIND and REPLACE tool has been improved dramatically in the XP version of Excel.

You can choose to find cells with specific data/text and/or formatting. In the “Found” cells, you can replace data/text and/or formatting.

Figure 187: “The Find and Replace” dialog in the XP version of Excel



Scope

This tool’s scope can be customized by selecting the appropriate option in the list boxes “Within.” The scopes are (Current) Sheet and Workbook.

Search Directions

Excel can search left-to-right, searching through all the cells in the first row in the selected range before moving to the next row. Alternatively, Excel can search top-to-bottom, searching through all the cells in the first

column in the selected range before moving to the next column. A search direction can be selected by choosing the appropriate option in the list box “Search.” The options are “By Rows” and “By Columns.”

Formula or formula results

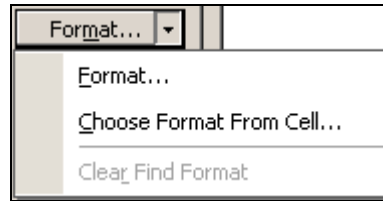
In cells containing a formula (for example, “=AVERAGE (“C2:C219”),” you can choose whether the tool searched for text strings in the written formula or in the resulting value of the cell. This choice is implemented by selecting the appropriate option in the list box “Look in.” The two options are Formulas and Values

If the formula and formula result are, respectively, AVERAGE(“C2:C219”) and 234,521, then selecting “Look in Formulas” will include the cell for a Find string “C2,” but will not include it if the Find string is “23.” This feature can be used to make changes to a large number of functions. For example, you can change the range in formulas from “C2:” to “C3:” by setting the Find string as “C2” and the Replace string as “C3.”

Format from existing cell

The Find and/or Replace formatting attributes can be chosen based on the formatting of an existing cell. Click on the “Format” button. Select the option “Choose Format From Cell.”

Figure 188: Choose Format from (Existing) Cell



The indicator shown in the next figure will hover over the sheet. The indicator moves with the mouse. Place the cursor on the cell that defines the format for Find/Replace and go back to the Find & Replace dialog.

Figure 189: The cursor changes into this indicator. Click on the cell whose formatting you want to use in the Find or Replace criteria



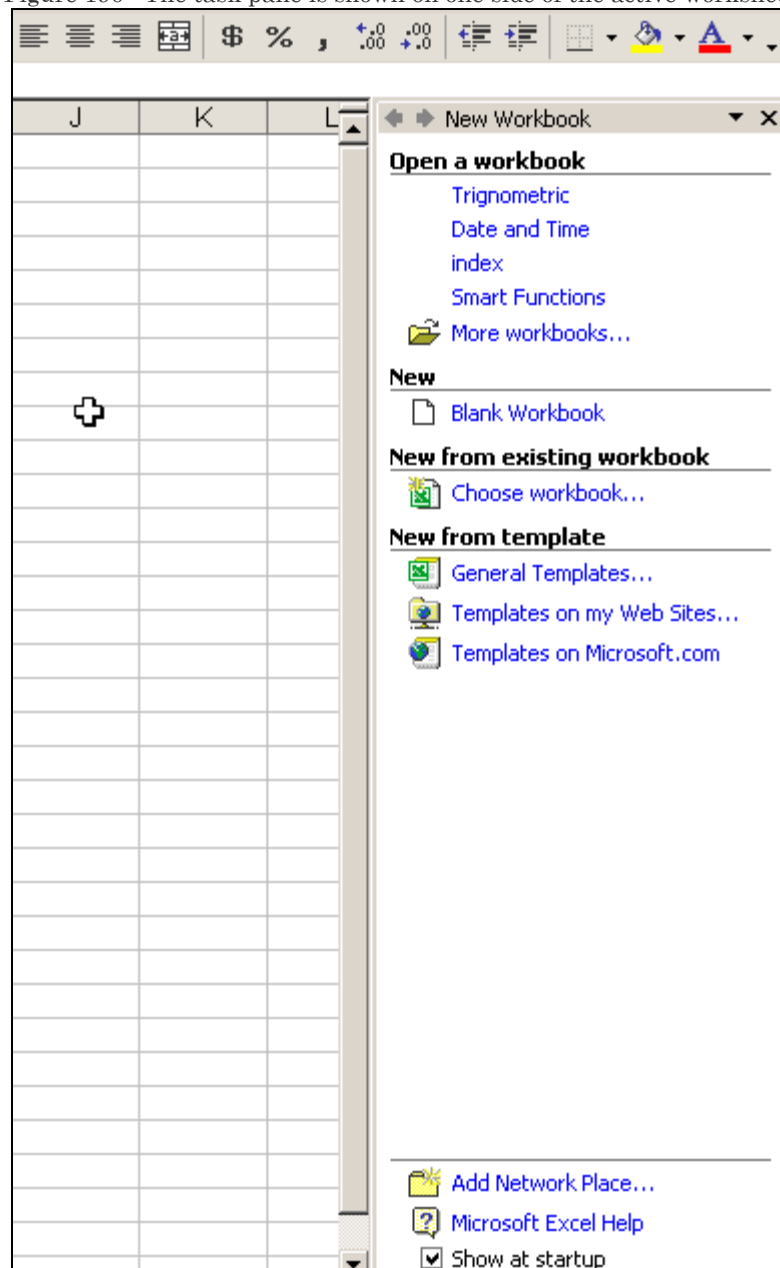
11.8

TASK PANES

The task pane is a window that has the length of the screen and around 15-20% of the width of the screen. The pane contains information relevant to the current work you are doing. The panes make the task of selecting between options much easier.

- When you open Excel, you may see the pane displaying the recently saved files, and options for opening a file or creating one anew. The pane is reproduced in the next figure.
- After a crash, the pane shows the recovered files.
- When using the Office Clipboard, the pane shows the last 24 ranges copied/cut.

Figure 190: The task pane is shown on one side of the active worksheet



You can make Excel always open a task pane. Simply select the menu option VIEW/TASK PANE.

The pane may itself be divided into functional categories. In the pane for “New Workbook,” the categories are:

-
- “Open a Workbook” which provides access to recently used files,
 - “New” which creates a new, blank workbook,
 - “New from existing workbook” which allows you to use any saved workbook as the model for a new file, or
 - “New from template” which provides access to pre-filled and formatted “base” workbooks.
 - The bottom of the pane provides ready access to Help, and allows you to choose whether to see this pane whenever you open Excel.

In Excel XP, you can search for files by using the menu option “FILE/SEARCH.” The pane for this option is shown in the next figure.

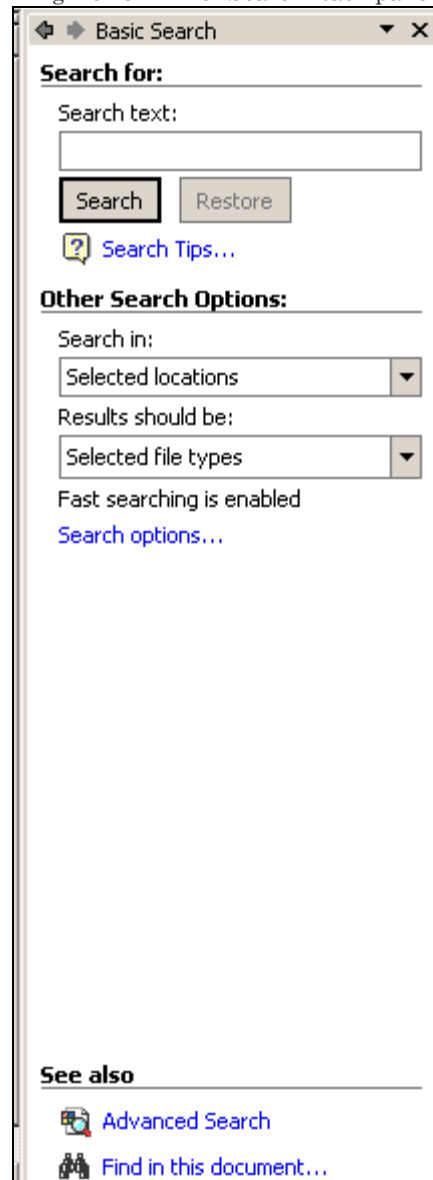
Excel provides several options for defining the search. You can Search in selected folders or paths, and restrict the search to certain file types.

Clicking on the text “Search options...” displays further options for refining the search.

If you desire a sophisticated search, one which uses information on several options, then click on the icon “Advance Search.”

You can search for text within the current document—using the icon “Find in this document.”

Figure 191: The “Search” task pane



CHAPTER 12

USING FILL AND OTHER TOOLS TO SAVE ON TYPING TIME

This chapter teaches the following topics:

- MAKING EXCEL FILL IN NUMBERS AND DATES
- FILLING YEARS/INTEGERS
- FILLING IN EVERY ALTERNATE YEAR
- AUTO FILL — FILLING FROM PRE-DEFINED LISTS OF DAYS, MONTHS, OTHER
- CREATING A NEW “CUSTOM LIST”
- FILLING MISSING VALUES
- USING CONSTANT INCREASE IN VALUES
- USING CONSTANT GROWTH RATES
- FILLING FORMATS
- USING THE RIGHT MOUSE FOR QUICK-FILLING
- PLACING DATA ENTRY ICONS ONTO THE TOOLBAR

Please use an empty Excel worksheet to practice this and the next section.
Create a new Excel file to try the examples shown in this chapter.

12.1

MAKING EXCEL FILL IN NUMBERS AND DATES

Assume you want to type in the series of numbers (1991, 1992....1999) or (1991, 1993... 2003) on to consecutive cells in a row or column. One way of doing this would be to type in each number manually. A faster approach is to use EDIT/FILL. Section 12.1.a uses this approach.

In 12.2, I show how to “fill” months and weekdays.

In 12.3, I show how to define a “Custom Lists” of names. For each such defined list, you can use EDIT/FILL to save time and preclude the possibility of typos.

12.1.A

FILLING YEARS/INTEGERS

Open a new Excel file. Assume you want to use EDIT/FILL to type in the series of numbers (1991, 1992....1999) on to consecutive cells in a row or column. Type the first number in the series (for an illustration of this, see Figure 192).

Figure 192: Entering the start point for the Fill

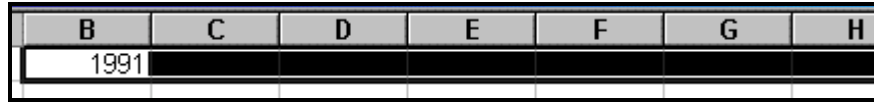
	A	B	C	D
1		1991		
2				

Click on the cell you just typed into (cell B1 in this example), and drag the mouse over the cells where you want to “fill” the series.

You can drag to the right or to the bottom. In the illustration in the next figure, I drag it to the right across a row. For a pictorial reproduction, see

Figure 193.

Figure 193: Use the mouse to drag over the cells you want to fill



Access the feature through the menu path EDIT/FILL/SERIES.

Figure 194: The menu option and sub-options for Fill. Choose the sub-menu “Series.”

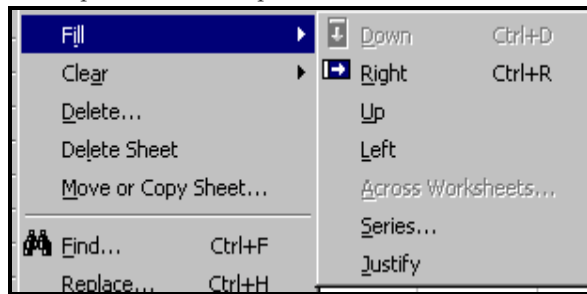
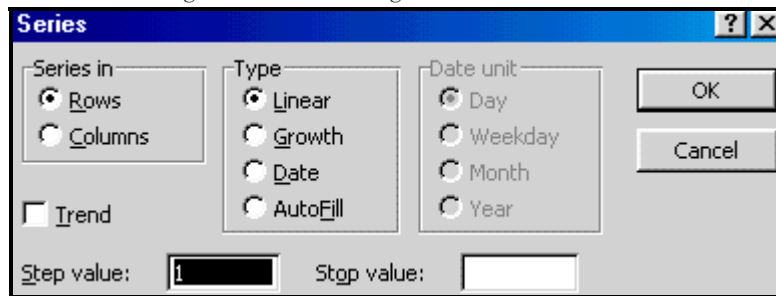


Figure 195 reproduces the dialog that opens. Excel has automatically detected that the “Series (is) in Rows.” (That is, that you want to fill the numbers on consecutive cells on a row.) Choose the option “Linear” in the area “Type.”

Figure 195: Choosing the basis for the Fill

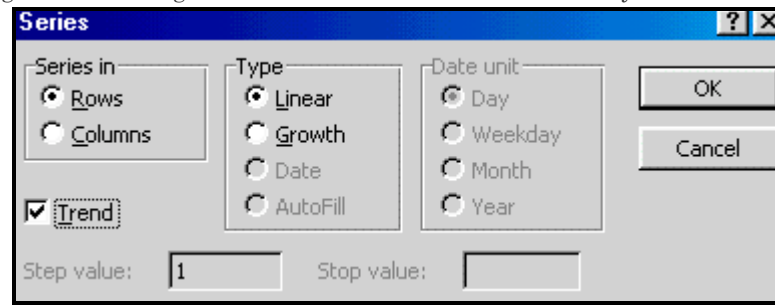


Note that Excel auto selects the “Step value” of 1. A step value of 1 implies that each consecutive cell will have a value that is “1 + the

preceding cells value.”

Select the option “Trend.” The next figure illustrates this.

Figure 196: Filling with a Linear Trend that increments by one for each cell



Execute the dialog by clicking on the button OK. Excel fills the series.

For a pictorial reproduction, see Figure 197.

Figure 197: The series is filled with a “Linear Trend of one”

B	C	D	E	F	G
1991	1992	1993	1994	1995	1996

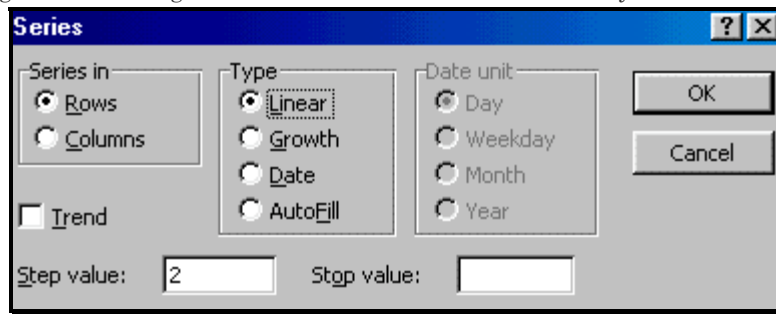
12.1.B

FILLING IN EVERY ALTERNATE YEAR

Assume you want to fill the series (1991, 1993, 1995...) — that is, every alternate year/integer.

The procedure is the same as in the previous example with one difference— choosing a “Step Value” of 2 as shown in Figure 198. (Compare this with the step value of one in the previous example.)

Figure 198: Filling with a Linear Trend that increments by two for each cell



Execute the dialog by clicking on the button OK. As you can observe in Figure 199, the fill now uses steps of 2.

Figure 199: The series is filled with a “Linear Trend of two”

B	C	D	E	F	G	H
1991	1993	1995	1997	1999	2001	2003

Use EDIT/FILL even if the desired series included text along with a number sequence (for example, a series like “yr91, yr92,..., yr99”).

AUTO FILL – FILLING FROM PRE-DEFINED LISTS OF DAYS, MONTHS, OTHER

Assume you want to fill the series of months.

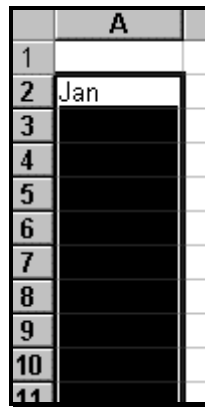
Go to the first cell you want in the series and type in the name of the month with which you want to start the series. (As shown in the next figure, I chose “Jan” but that need not be the case.)

Figure 200: Type the initial month for generating a sequential series. You can also type “Janu,” .., “January”



Click on the cell with the text “Jan” and lightly drag the mouse over the cells into which you want the series filled. As the next figure shows, I have dragged the mouse down over a column this time and not to the *right* across a row as in the examples above. You can Fill series in all four directions.

Figure 201: Select the range to Fill



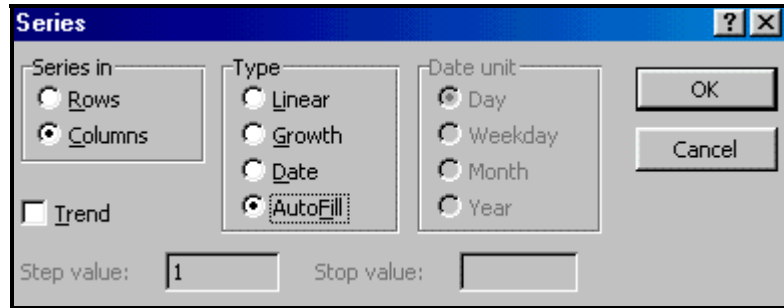
Using the mouse, select the menu path EDIT/FILL/SERIES.

The dialog (user-input form) that opens is shown in the next figure.

Note that Excel has automatically determined that the series are in a column because you dragged the mouse down.

Choose the option “AutoFill¹⁸.”

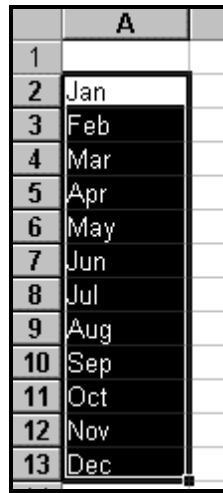
Figure 202: Using “Autofill” to Fill in the series of months



Execute the dialog by clicking on the button OK. Excel fills the list— the next figure shows the filled range.

¹⁸ Choose the option “Date if the cell's data is defined as “Data Type.” A detailed discussion of this is beyond the scope of this book.

Figure 203: The Filled series of months



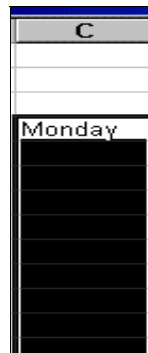
	A
1	
2	Jan
3	Feb
4	Mar
5	Apr
6	May
7	Jun
8	Jul
9	Aug
10	Sep
11	Oct
12	Nov
13	Dec

12.2.A

FILLING WEEKDAYS

Type in “Monday” or any other day and drag down or to the right. Follow the menu path **EDIT/FILL/SERIES**.

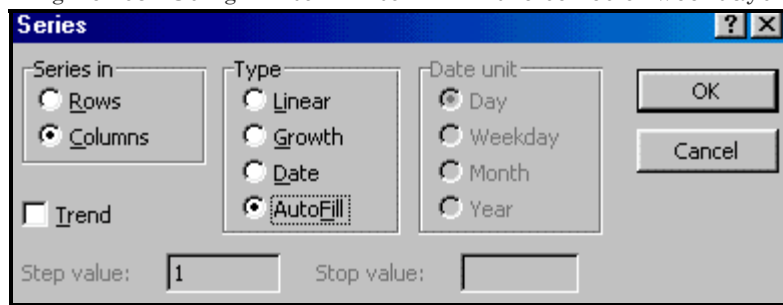
Figure 204: Type the initial weekday for generating a sequential series



C
Monday

Choose the option “AutoFill.” Execute the dialog by clicking on the button **OK**.

Figure 205: Using “AutoFill” to Fill in the series of weekdays



Excel fills the weekday series — the next figure shows the result.

Figure 206: The Filled series of weekdays



CREATING A NEW “CUSTOM LIST”

You can create new “lists” that Excel will fill in automatically. Assume you have three lists you work with often:

- Employee names (Seligman, Gupta, Smith, Snipes, Stallone, Ali, Kinnuken, Singh, Gunter, Mandela, Berger...)

-
- Client names (Nike, Adidas, Reebok, Old Navy, Bata...)
 - Account names (Citibank, Chase, UBS, American Express, 1st Capital...)

(Note: the client and account names are registered trademarks of the respective companies.)

You want the ability to type in only one word from a list (for example, the word “Nike”) and fill in the series with other words in the list “Client name” by using EDIT/FILL/SERIES.

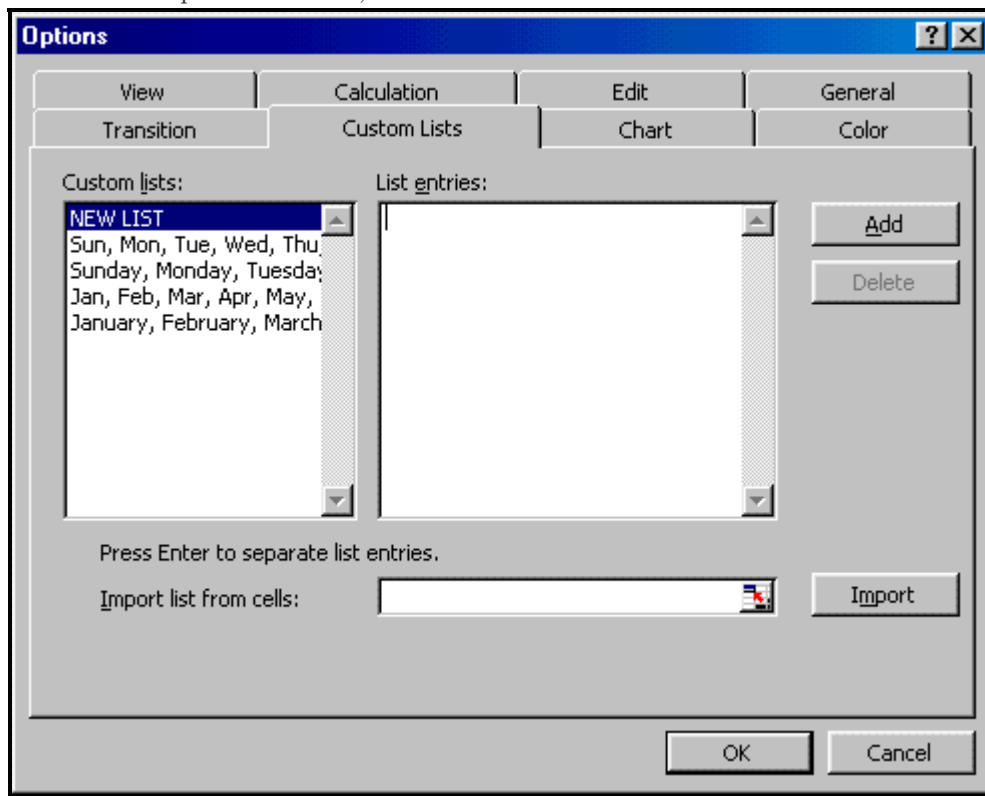
First, type the names of all members of each list onto a spreadsheet. (Use a different row for each list — as shown in Figure 207.)

Figure 207: Type the names of all members of each list onto a spreadsheet

	A	B	C	D	E	F	G	H	I	J	K
1											
2											
3	Nike	Adidas	Reebok	Old Navy	Bata	Asics	Lotto				
4	Seligman	Gupta	Smith	Snipes	Stallone	Ali	Kinnuken	Singh	Gunter	Mandela	Berger
5	Citibank	Chase	UBS	American Express	1st Capital	Riggs					

Now you have to inform Excel that these lists are to be included as lists for EDIT/FILL/SERIES/AUTOFILL. Select the menu path TOOLS/OPTIONS/CUSTOM LISTS (for an illustration of this, see Figure 208).

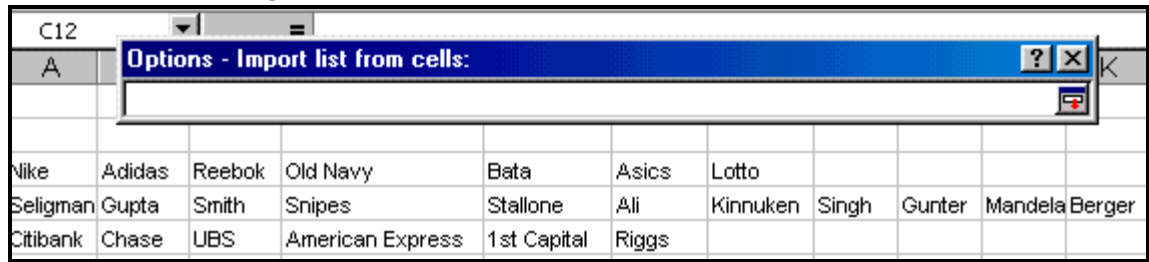
Figure 208: The tab “Custom Lists” in the dialog (user-input form) “TOOLS/OPTIONS.” Notice the lists for months and weekdays in the left half of the dialog. In the examples in the previous section, Excel used these lists to fill in the series.



In Figure 208, notice the lists for months and weekdays in the left half of the dialog. In the examples in 12.2, Excel used these lists to fill in the series.

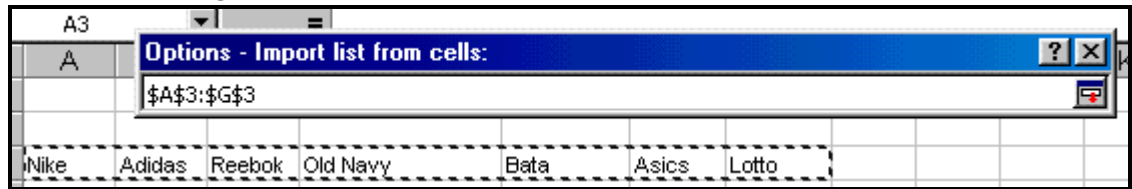
In Figure 208, focus on the area inside the dark-bordered rectangle. You want to “Import” lists from cells. Click on the area marked by the arrow in Figure 208. Choose the cells in the worksheet that has the lists as shown in Figure 209.

Figure 210: Choose the worksheet that has the lists



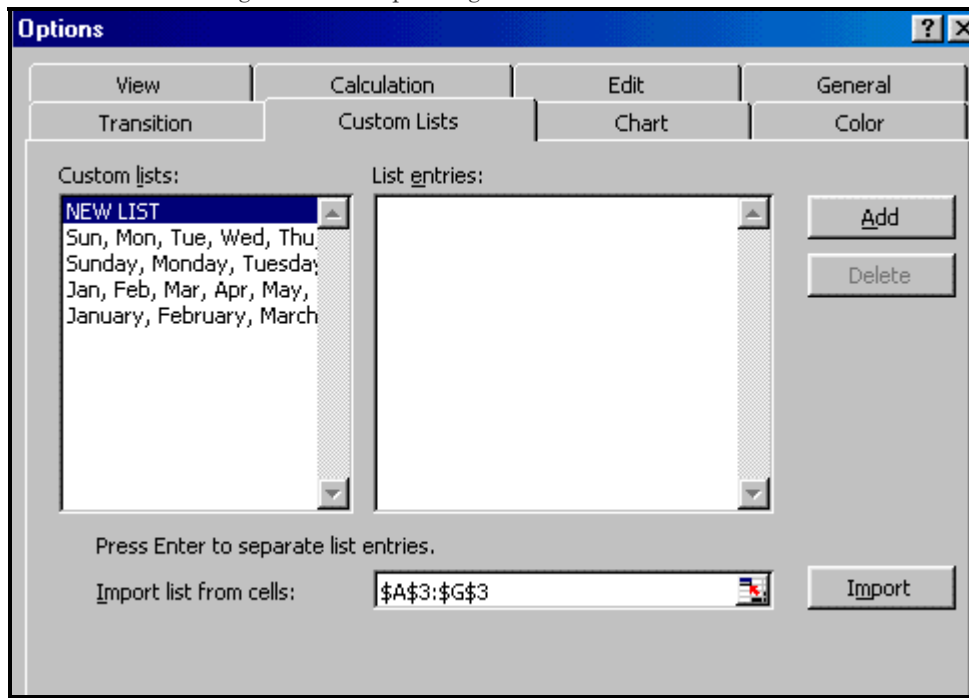
Choose the cells that have the list entries for one list (for example, the clients list.) See the next figure for an illustration.

Figure 211: Choose the cells that have the entries for one list



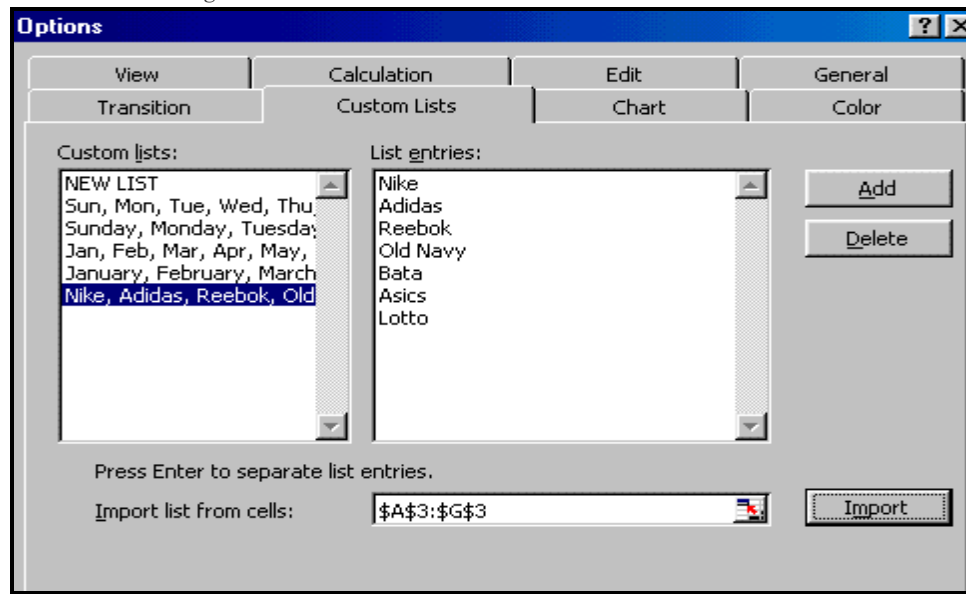
Click on the small box marked by the arrow in Figure 211.

Figure 212: Importing the new “Custom List”



Execute the dialog by clicking on the button “Import.” A new list is created as shown in Figure 213.

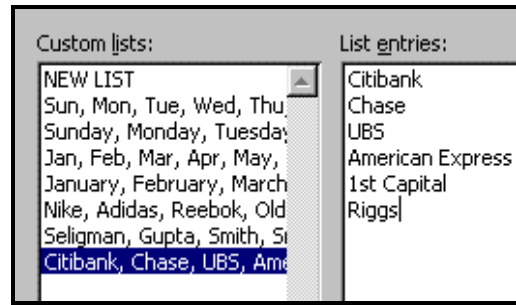
Figure 213: The new list is added to the “Custom Lists”



Repeat the above steps for the other two lists. Execute the dialog by clicking on the button OK.

In the future, you just have to type in one entry from the client list (for example, “Nike”) and use EDIT/FILL/SERIES to fill in the rest of the list.

Figure 214: After repeating the process for other lists, you will have created several “Custom Lists”



12.4

FILLING MISSING VALUES

FILL is also used for replacing/filling-in missing values from a numerical series. The methods available for filling in the missing data are:

- Linear Interpolation (Linear in Absolute Value)
- Constant Growth Interpolation (Linear in Growth Rate)

12.4.A

USING CONSTANT INCREASE IN VALUES

Assume your data has two series: x and y as shown in the picture below—Figure 215¹⁹. The series x is missing data for the years 1993 and 1994. You want to use Excel to fill the missing values using a simple mathematical algorithm for the fill.

¹⁹ On an empty Excel sheet, type in the data as shown in Figure 136 and work along with this book.

Figure 215: Type this sample data into an Excel worksheet

	A	B	C	D	E	F
1		1991	1992	1993	1994	1995
2	X	3	3.12			3.6
3	Y	2	2.1	1.9	2.11	2.2

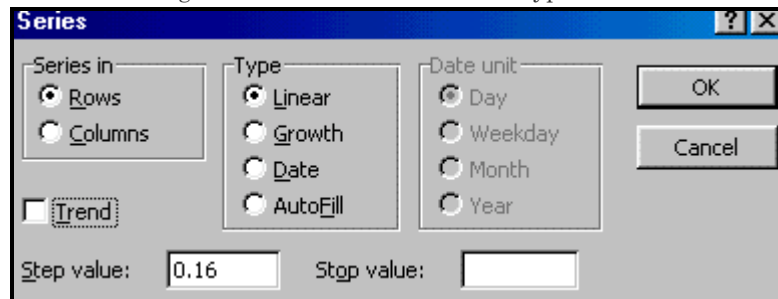
Highlight the cells with the missing data and the first non-missing data cell on each end. (For an illustration, see Figure 216.)

Figure 216: Highlight the two ends of the range with missing data

C	D	E	F
1992	1993	1994	1995
3.12			3.6

Follow the menu path EDIT/FILL/SERIES. Choose the options “Linear.” Excel automatically calculates the step value of 0.16²⁰. (For an illustration, see Figure 217.)

Figure 217: Choose the “Linear” type of Fill



The missing cells are filled (for an illustration of this, see Figure 218).

²⁰ The formula is: ((end value)-(start value)) / (number of missing values) = (3.6-3.12) / 3 = .16

The step value of “0.16” implies that Excel added 0.16 for each increment. (So, the data for 1993 equals the data for 1992 plus 0.16. The data for 1994 is the new value for 1993 plus 0.16. And so on for the following years.)

Figure 218: The missing data is filled with a linear trend

A	B	C	D	E	F
	1991	1992	1993	1994	1995
X	3	3.12	3.28	3.44	3.6
Y	2	2.1	1.9	2.11	2.2

12.4.B

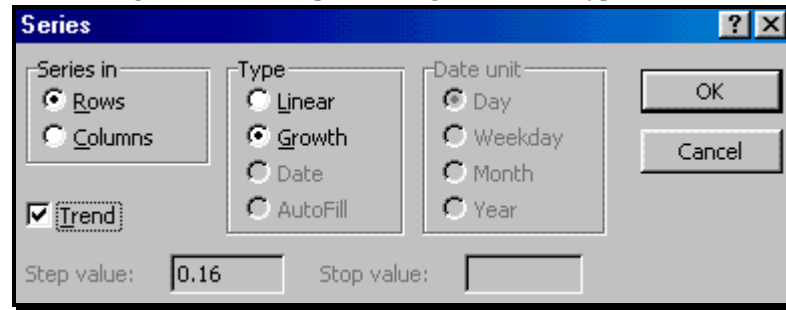
USING CONSTANT GROWTH RATES

A better method of filling in missing values is to use a constant growth rate. That is, instead of the above example in which every increment was the same absolute number, the increment will represent the same growth rate²¹ from year to year but not the same absolute values.

The implementation of the “constant growth” method follows the same steps as for the constant linear trend example described earlier. The only difference is that you choose the option “Growth” and check the option “Trend” as shown in Figure 219 (the number 0.16 is from the previous example and will not play a role here.)

²¹ Excel calculates and uses a constant growth rate “r” based on the compound growth (or “compound interest”) formula: $3.6 = 3.12 \cdot (1 + r)^3$

Figure 219: Example of using a “Growth” type of Fill



Excel fills the series. Figure 220 shows the result. Compare the numbers estimated using a constant growth trend with those obtained using a constant linear trend (shown in Figure 218).

Figure 220: The missing values are filled with numbers based upon a constant Growth rate

	A	B	C	D	E	F
1		1991	1992	1993	1994	1995
2	X	3	3.12	3.27	3.43	3.6
3	Y	2	2.1	1.9	2.11	2.2

12.5

FILLING FORMATS

Assume you want to copy the format of a cell to a range of adjacent cells in the same row or column. Select the active cell and the “target” range and choose the menu option EDIT/FILL/FORMATS.

12.6

COPYING THE ACTIVE CELL

Assume you want to copy a cell and paste onto to a range of adjacent cells in the same row or column. Select the active cell and the “target” range.

Select the option EDIT/FILL/COPY.

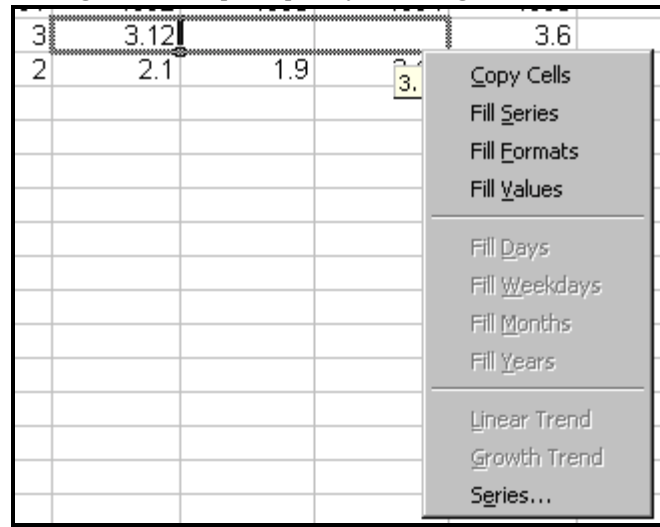
12.7

USING A RIGHT-CLICK-ON-MOUSE FOR QUICK-FILLING

You can access EDIT/FILL using the mouse.

Click on the first cell in the series. Follow this with clicking on the right-mouse at the location shown by the arrow and dragging the mouse over the other cells where you want to fill-in. Leave the mouse. You will see the options for EDIT/FILL. (For an illustration, see Figure 221.) Choose the option “Series” — the EDIT/FILL dialog opens. Follow the steps shown in the examples above.

Figure 221: Tip for quickly accessing the Fill menu



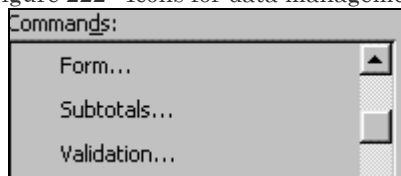
12.8

PLACING DATA ENTRY ICONS ONTO THE TOOLBAR

You can customize the set of icons shown on the toolbars at the top of the screen. This can save time by enabling you to place the often-used buttons onto the toolbar. Please refer to *Volume 3: Excel– Beyond The Basics* to learn how and why to customize toolbars and the icons shown in them.

Go to **VIEW/TOOLBARS/CUSTOMIZE**. Click on the category “Data” and you will see some icons for specific data management tasks. You can place these icons on the toolbar and use them as shortcuts to access data management features.

Figure 222: Icons for data management



12.9

“SPEECH TO TEXT”

The menu option TOOLS/SPEECH in the XP version of Excel does not function well. You need a high quality microphone, “correct” accent and diction, and the time to make the Speech Recognition software recognize your pronunciation.

Stand-alone speech recognition applications can be configured to work with earlier versions of Excel. Unless you are purchasing high-end Speech Recognition software, you will be disappointed with the tool. Such high-end software is used in the health industry. Nevertheless, even there, the recorded speech is transcribed into text by a human.

CHAPTER 13

DEFAULT OPTIONS

This chapter shows the following topics:

- THE BROAD SYSTEM OPTIONS
- ENSURING THAT THE USER IS PROMPTED TO PROVIDE SUMMARY INFORMATION FOR THE FILE.
- ENSURING THAT FILE/OPEN AND FILE/SAVE AS OPEN THE FOLDER YOU USE MOST OFTEN.
- CHOOSING THE NUMBER OF WORKSHEETS IN ANY NEW WORKBOOK
- SETTING THE WORKBOOK'S SUMMARY PROPERTIES
- DEFAULT SETTINGS FOR "CALCULATION"
- CUSTOMIZING WHAT ITEMS ARE SHOWN ON-SCREEN
- VIEWING THE FORMULAS IN THE CELLS OF A WORKSHEET
- DEFAULT SETTINGS FOR VIEWING COMMENTS
- CUSTOM LISTS
- AUTOCORRECT

Learning how to set the default environment will:

-
- Enhance your knowledge of and insight into the basic structure of Excel
 - Make you feel in control
 - Permit the choice of icons in the toolbar²²
 - Resolve some problems you may have had on files obtained from others or on certain computers. Alternatively, “Why does the new file have 16 empty worksheets and not only 6 like I prefer?”)
 - Enable the saving of time
 - Allow for better formatting
-

13.2

EDITING AND BASICS OF TYPING INTO CELLS

The most basic default settings are for simple editing. In its simplest form, editing involves simply typing data/text into a cell or pressing the ENTER key after working on a cell. Editing also includes cutting, copying, pasting, inserting, and dragging and dropping cells (that is, moving cells). I recommend sticking with the default options. These are reproduced in the next figure. Most of the options are self-explanatory.

Basic editing in a cell

If you want the cursor to the cell on the right after you press the ENTER key at the end of working on a cell, then select “Right” in the list box

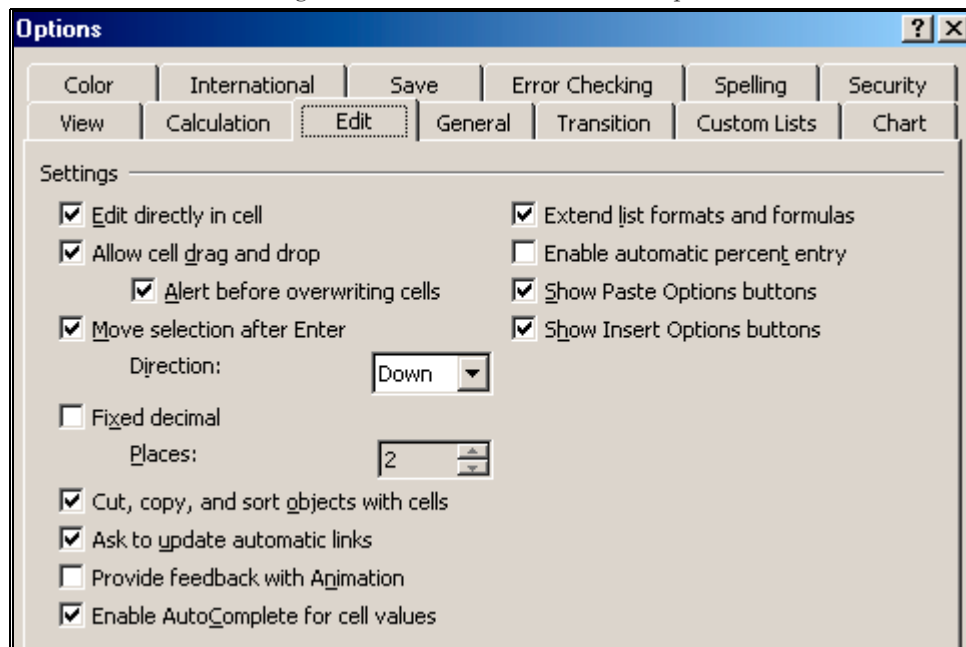
²² “Toolbar” refers to the set of *icons* you see at the top of the screen in any windows program. It is shown in Figure 259.

“Direction” below the option “Move selection after Enter.” The default decimals displayed for any new data entered into a cell can be set by selecting the option “Fixed decimal” and selecting the number of decimals in the box next to “Places.”

The option “Enable AutoComplete for cell values” activates the AutoComplete tool. Whenever you begin typing text into a cell, Excel may prompt you with optional “completed” strings. Just press the ENTER key to select the Excel suggestion. You can keep the AutoCompleted text or modify it.

In any case, you may save a lot of typing time and reduce the chances of typing errors. (In *Volume 4: Managing & Tabulating Data in Excel*, I discuss some tools that save typing time. Many generic shortcuts are taught in chapter 11)

Figure 223: The options for setting default editing options In Excel XP. The equivalent dialogs in earlier versions have fewer options.



Fill

The option “Extend list formats and formulas” facilitates the easy use of “Filling,” a technique taught in *Volume 4: Managing & Tabulating Data in Excel*.

Pasting and Inserting

Excel has several pasting and inserting options. You can choose to see these options on-screen after you have copied or cut a range. If you want to always see the options for pasting and inserting, select the options “Show Paste Options buttons,” and “Show Insert Options buttons,” respectively.

Objects

The insertion of objects is taught *Volume 3: Excel– Beyond The Basics*. Charts made on a worksheet are also objects. If you want the objects over a range of cells to move whenever the underlying cells are moved, then select “Cut, copy and sort objects with cells.”

Updating of links

Links are taught in *Volume 3: Excel– Beyond The Basics*. If you do not want to automatically update links, then select the option “Ask to update automatic links.”

THE BROAD SYSTEM OPTIONS

Access the feature through the menu path **TOOLS/OPTIONS**. The multi-tabbed dialog shown in Figure 224 opens. Each “tab” is itself a dialog and contains the options for setting the defaults for a specific topic — “View,” “Edit,” “Color,” etc. Click on the tab “General.”

Figure 224: The dialog in Excel 97

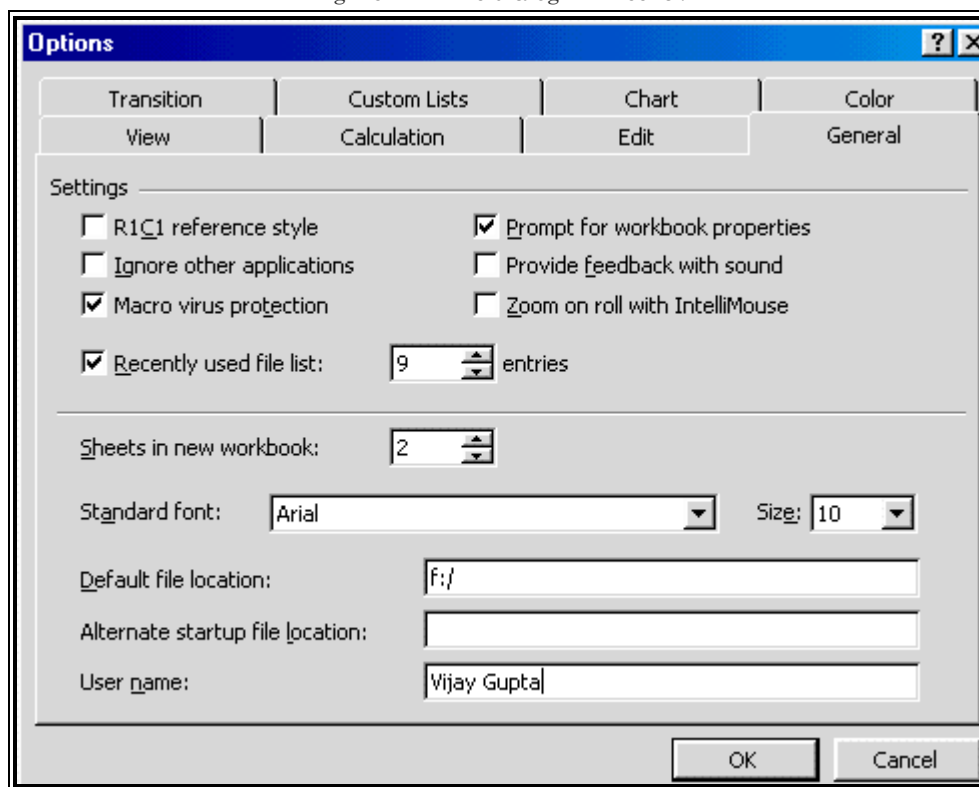
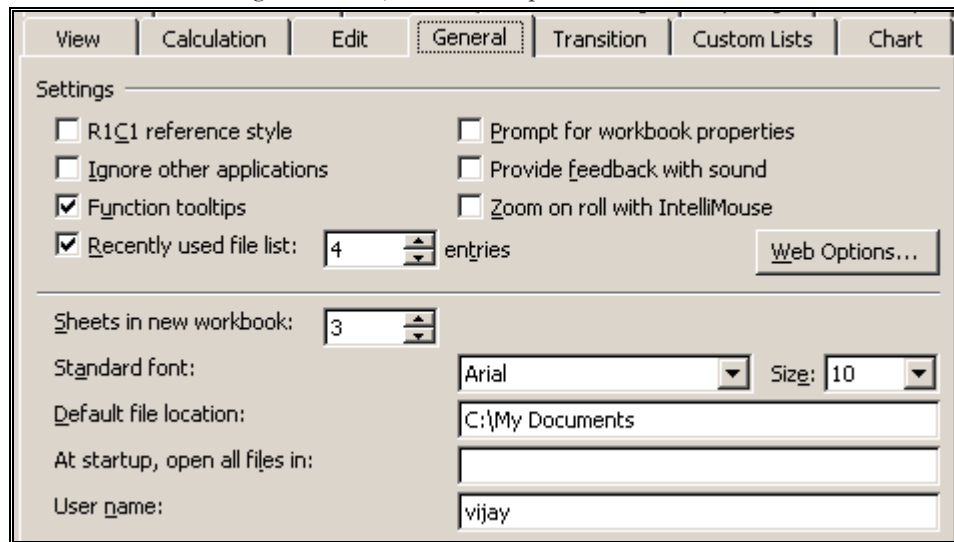


Figure 225: In Excel XP, the option “Macro virus protection” is now under a new tab “Security.” Two new options are added: the “Function tooltips” (which assist while writing functions or error-checking functions), and “Web Options” discussed a bit later in this chapter.



13.3.A

ENSURING THAT EXCEL PROMPTS FOR SUMMARY INFORMATION

Choose the option “Prompt for workbook properties.” This forces you into the good practice of writing a small summary on the contents of the file. Enter your name in the box “User name.” This will place your name in the “workbook properties.” (For more on using workbook properties, see the next page.)

13.3.B

ENSURING THAT OPEN AND SAVE OPEN THE MOST OFTEN USED FOLDER

In the box “Default file location,” enter the path you most often open files from or save files to” (like, for example, “f:\” or “m:\projects\consultant\gupta”). This is a great time saver— whenever you choose FILE/OPEN or FILE/SAVE AS you are taken to the path you

use most often.

13.3.C

CHOOSING THE NUMBER OF WORKSHEETS IN ANY NEW WORKBOOK

In the area “Worksheets in new workbook,” choose the number of worksheets you want in a new workbook. Typically, Excel has too many worksheets (16 is the Microsoft-set default) in a new workbook. You may prefer a smaller number²³.

13.3.D

RECENTLY OPENED FILES

In the FILE menu, the last few items are always the files you recently opened. The showing of this list permits easy access to these files. You can customize the number of files shown in this list by setting the number in the box next to the option “Recently used file list.”

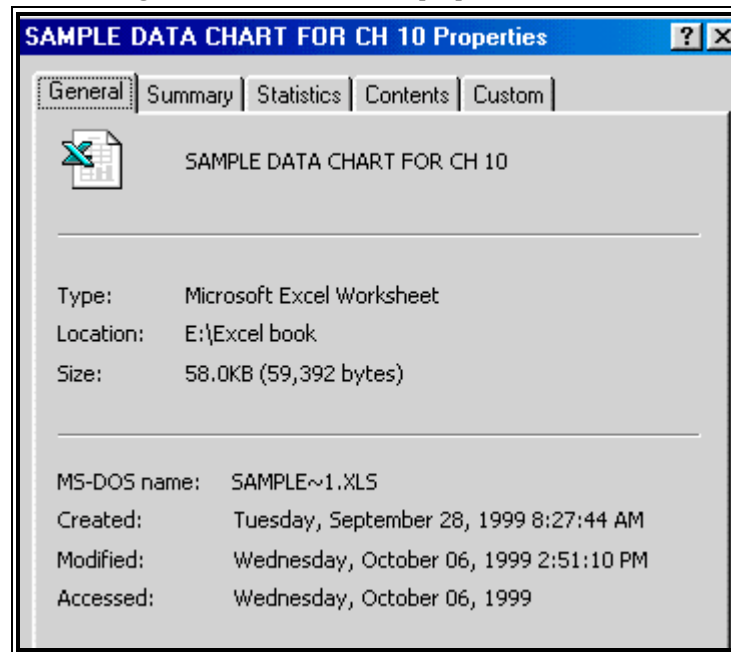
I recommend choosing the other options as shown in Figure 224.

²³ New worksheets can always be added later using the menu option INSERT / WORKSHEET.

SETTING THE WORKBOOK'S SUMMARY PROPERTIES

If you select the default option “Prompt for Summary Properties”²⁴ (refer to the previous figure and sub-section) then you will be prompted to enter the properties of the workbook any time a new workbook is saved. The “prompting” action is the opening of the dialog shown in Figure 226.

Figure 226: The “General” properties of the file



Click on the tab “Summary” and type in relevant information on the properties of the workbook. (I have done this for this particular workbook— see Figure 227.)

²⁴ For any single file, you can observe/write the properties by choosing the menu option FILE / PROPERTIES.

Figure 227: I recommend filling the text-boxes in the tab “Summary” as I have done for this file

The screenshot shows a dialog box titled "SAMPLE DATA CHART FOR CH 10 Properties" with a blue header bar. Below the header are five tabs: "General", "Summary", "Statistics", "Contents", and "Custom". The "Summary" tab is selected and highlighted. The form contains several text input fields with the following values:

- Title:** Sample data for ch 10 of "Excel for Professionals"
- Subject:** Making Charts in Excel
- Author:** Vijay Gupta
- Manager:** ,,
- Company:** VJINC
- Category:** Sample
- Keywords:** Sample, data, charts, book
- Comments:** Write comments here that pertain to the entire file. For comments on specific cells, use INSERT/COMMENTS
- Hyperlink base:** (empty field)

If you click on the tab “Statistics,” you will see some summary statistics about the workbook. (For a pictorial reproduction of this, see Figure 228.)

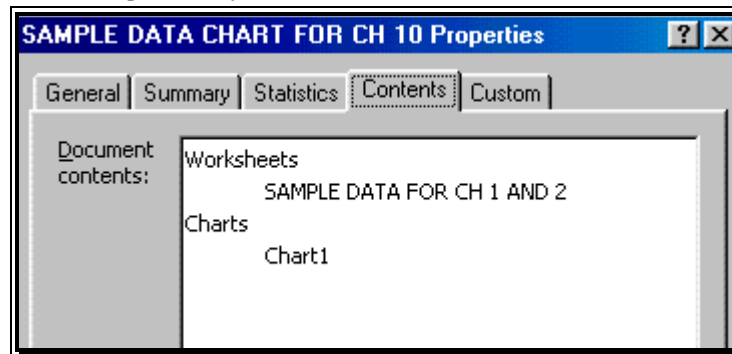
Figure 228: “Statistics” of the file

The screenshot shows the same dialog box, but with the "Statistics" tab selected and highlighted. The form displays the following summary statistics:

- Created:** Sunday, September 05, 1999 7:15:34 PM
- Modified:** Wednesday, October 06, 1999 2:51:10 PM
- Accessed:** Wednesday, October 06, 1999
- Printed:** (empty field)
- Last saved by:** Vijay
- Revision number:** (empty field)
- Total editing time:** (empty field)

If you click on the tab “Contents,” you will see information on all the worksheets, charts, and other objects in the workbook. (For a pictorial reproduction of this, see Figure 229.)

Figure 229: The top level objects in the file. Worksheets and Charts will be listed.

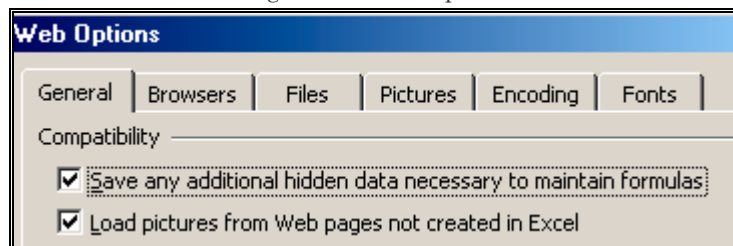


13.5

WEB (ONLY AVAILABLE IN THE XP VERSION OF EXCEL)

The web options are accessed through
TOOLS/OPTIONS/GENERAL/WEB OPTIONS.

Figure 230: Web options



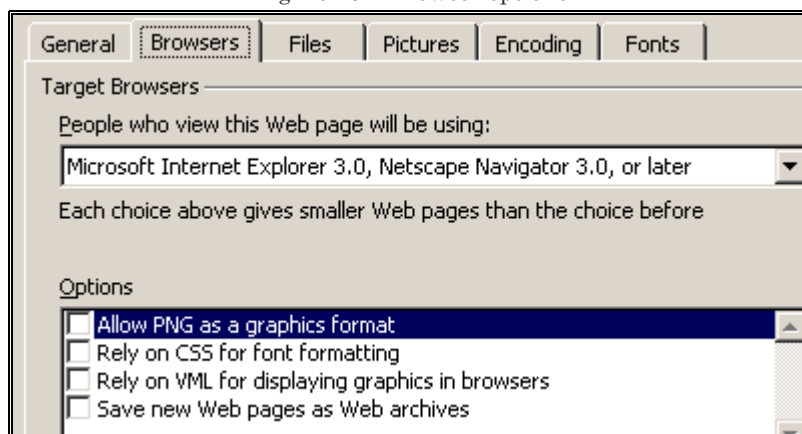
If the Excel file will be placed on the web (as an Excel or web file), you can optimize the file so that it is compatible with the browser you select. Most of the topics in this section may be incomprehensible if you do not work in web development

Furthermore, you can choose to save pictures within an Excel file in the new PNG format, and make Excel save a CSS style sheet for saving formatting features.

The new VML mode can be used for displaying graphics.

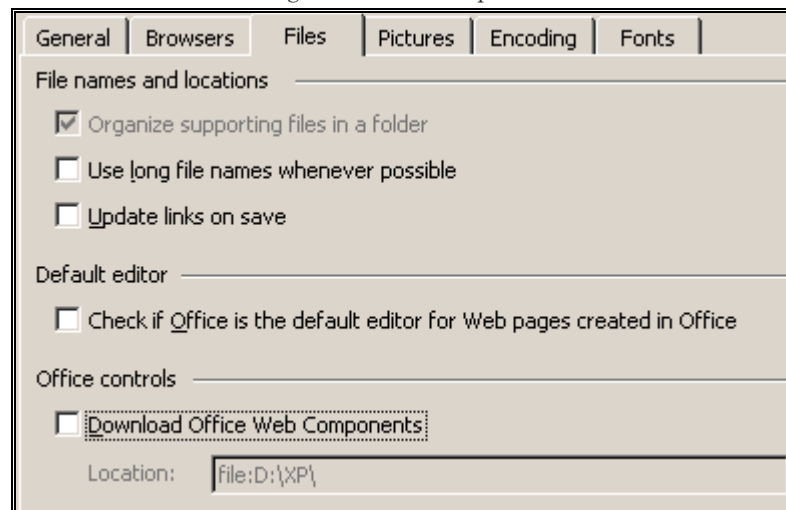
Saving as a web archive saves all aspects of the Excel file as one web archive file.

Figure 231: Browser options



The options under the “files” tab are beyond the scope of this book.

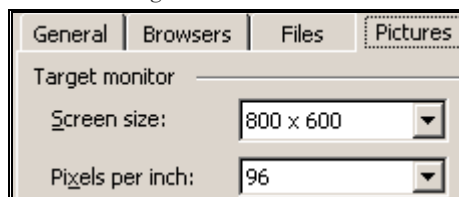
Figure 232: Files options



The screenshot shows a settings dialog with tabs: General, Browsers, Files, Pictures, Encoding, and Fonts. The 'Files' tab is selected. It contains three sections: 'File names and locations' with three checkboxes ('Organize supporting files in a folder' is checked, 'Use long file names whenever possible' and 'Update links on save' are unchecked), 'Default editor' with one checkbox ('Check if Office is the default editor for Web pages created in Office' is unchecked), and 'Office controls' with one checkbox ('Download Office Web Components' is unchecked). Below this is a 'Location:' label and a text box containing 'file:D:\XP\'. The dialog has a light beige background and a dark border.

Select the resolution for which the web file should attempt optimality.

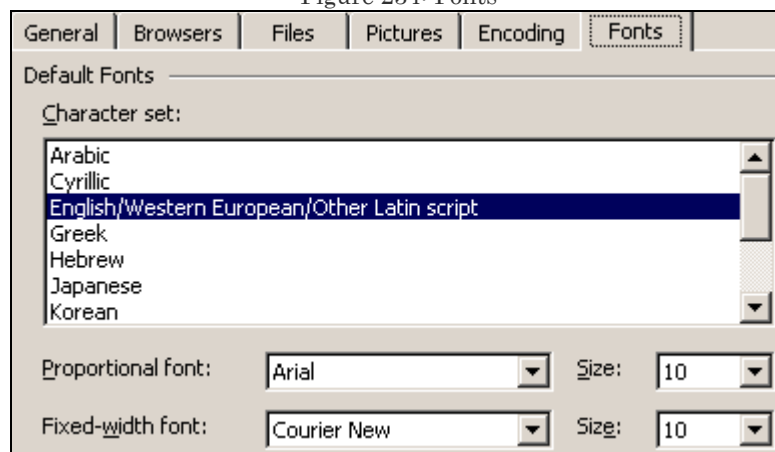
Figure 233: Pictures



The screenshot shows the 'Pictures' tab selected in the same settings dialog. It contains a 'Target monitor' section with two dropdown menus: 'Screen size' set to '800 x 600' and 'Pixels per inch' set to '96'. The dialog has a light beige background and a dark border.

Select the default fonts.

Figure 234: Fonts



13.6

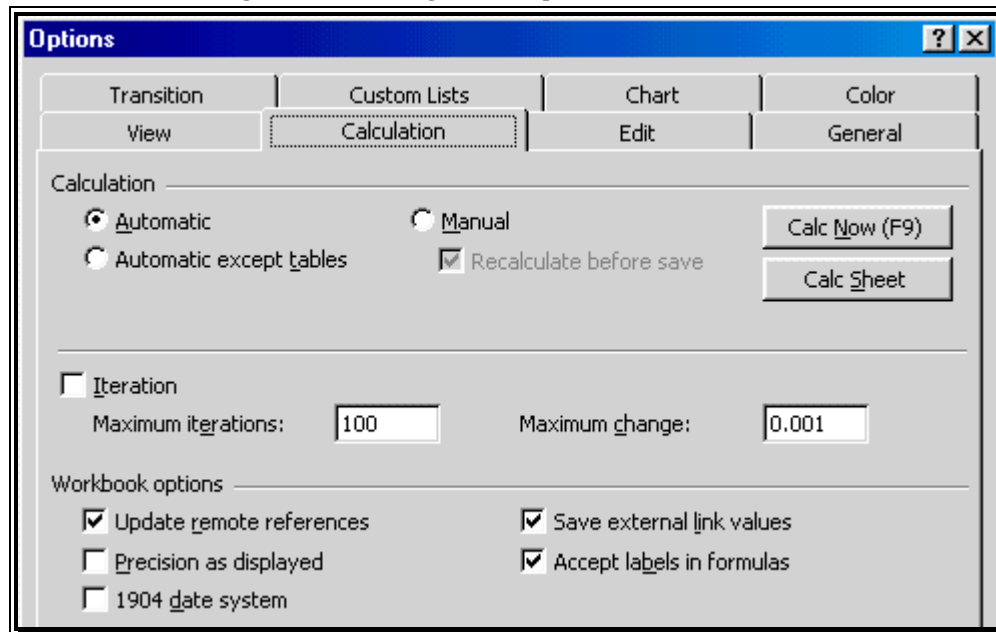
DEFAULT SETTINGS FOR “CALCULATION”

Return to **TOOLS/OPTIONS**— the same dialog as in Figure 224 on page 246. Let us set the default options for calculations— to access the relevant dialog click on the tab “Calculation.”

Choose the options as shown in Figure 235. Make sure the option “Automatic” is chosen in the area “Calculation²⁵.”

²⁵ If you are working on a workbook in which the numbers do not change even after you change the formula, then, most probably, the option “Manual” has been chosen. Click on the button “Calculate Now” and choose the option “Automatic.”

Figure 235: Setting default options for “Calculation”



Under some circumstances, the setting “manual” is preferable. If you are working on a worksheet that has a lot of formulas (and specially if you are entering data that will be used in the formulae) then automatic calculation will:

- (a) slow down Excel’s response, and
- (b) come up with errors in formula cells whose reference cells have still not been filled.

In such a situation, choose the setting “manual.” When you want “manually” calculation:

- (i) press the SHIFT key and then the F9 key to run the calculations for the worksheet you are working on.
- (ii) press only on the F9 key to run calculations for all worksheets in the file.

CUSTOMIZING WHAT ITEMS ARE SHOWN ON-SCREEN

Let us set the default options for views— to access the relevant dialog click on the tab “View.” This tab has options that allow you to customize how worksheets look on screen and in some cases when printed (see Figure 236). The best way to learn how to use these options is to make changes and see the impact of each change.

In the area “Show,” select the options “Formula Bar” and “Status Bar.”

Figure 236: Choosing what you see on-screen

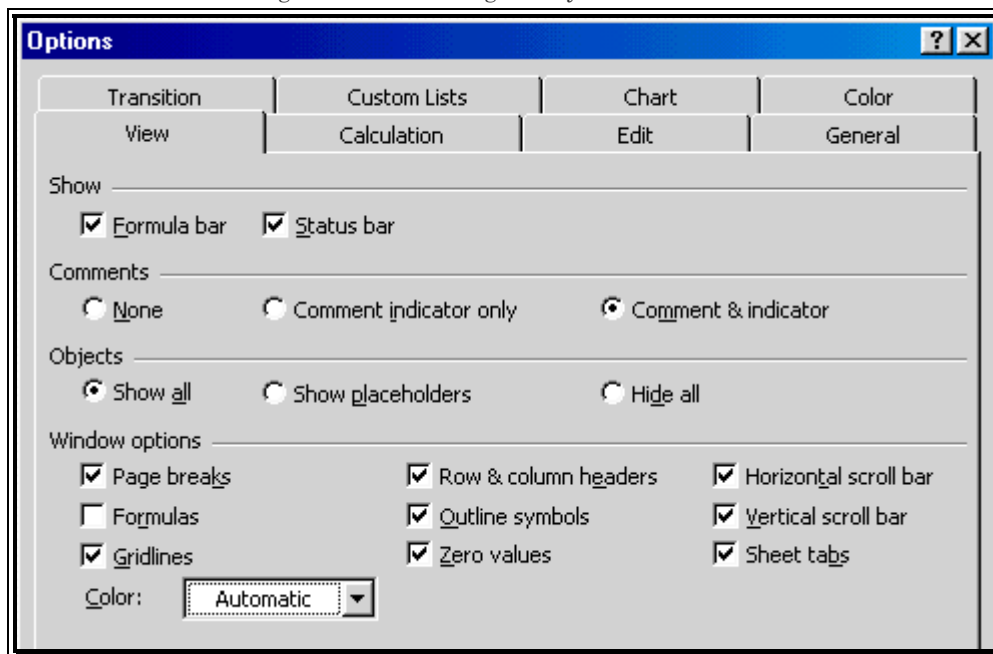
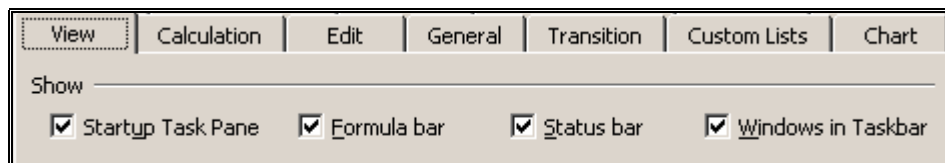


Figure 237: In Excel XP, you have the additional options for seeing the “Startup Task Pane” and “Windows in Taskbar.” Earlier versions of Excel did not have Task Panes.



For a worksheet with tables that will be placed into a report, I advise deselecting the option “Gridlines” in the area “Window options.” Without gridlines, you can format table borders much better by using **FORMAT/CELL/BORDERS** or **FORMAT/AUTOFORMAT**. (For a pictorial reproduction of this, see page 197.)

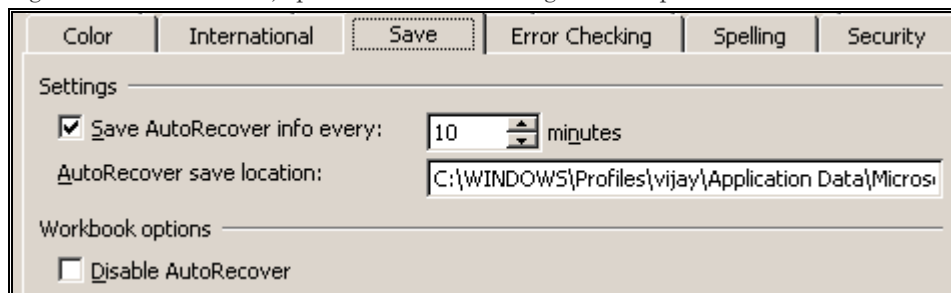
13.8

SAVING (ONLY AVAILABLE IN THE XP VERSION OF EXCEL)

In Excel XP, options related to saving files are placed within their own tab. (The options “Save AutoRecover info every,” and “AutoRecover save location” were under the tabs “General” and “File Locations,” respectively, in earlier versions of Excel.)

The AutoRecover option is a new feature.

Figure 238: In Excel XP, options related to saving files are placed within their own tab



13.9

VIEWING THE FORMULAS IN THE CELLS OF A WORKSHEET

The option “Formulas” is useful if you want to see the formulas instead of

the results. So, when you choose this option, a cell with the formula “=2*34” will show the formula “=2*34” instead of the result (“68”). This is useful when you want to read/check the formulas in the worksheet. I will show this to you on page 284.²⁶

13.10

DEFAULT SETTINGS FOR VIEWING COMMENTS

The options under the area “Comments” discussed in *Volume 3: Excel–Beyond The Basics*.

13.11

CUSTOM LISTS

The options under the tab “Custom Lists” are discussed in *Volume 3: Excel–Beyond The Basics*.

13.12

AUTOCORRECT (ONLY AVAILABLE IN THE XP VERSION OF EXCEL)

Microsoft has added a limited version of the “AutoCorrect” feature from Microsoft Word into Excel XP.

²⁶ Try it out— write some formulas onto an Excel sheet and then choose to see the “Formulas”. See its usefulness?

Pick the menu option **TOOLS/AUTOCORRECT OPTIONS**. The relevant dialog is shown in the next figure. You can choose to make Excel automatically correct (as you type):

- Two initial capitals (for example, “AMerica” will be corrected to “America”)
- Capitalize the first letter of each sentence
- Correct the accidental use of the Caps Lock key (for example, “AMERICA IS GREAT” will be corrected to “America is great” if Excel “senses” that the use of the Caps Lock key was accidental)

Excel will “Replace specific text strings as you type” if you choose the option “Replace text as you type.” The “incorrect” text and its auto-replacement text are defined in the list at the bottom of the dialog. In the next figure, see “incorrect-replacement” pairs like “abbout — about.”

Removing an AutoCorrected pair

If Excel is replacing text that you do not want auto-corrected, then find and remove the pair from the list in this dialog.

Excel has predefined pairs of commonly made spelling errors and inappropriate representation. (An example of the latter is the “(tm) - TM” pair in the previous figure.)

Figure 239: The AutoCorrect dialog

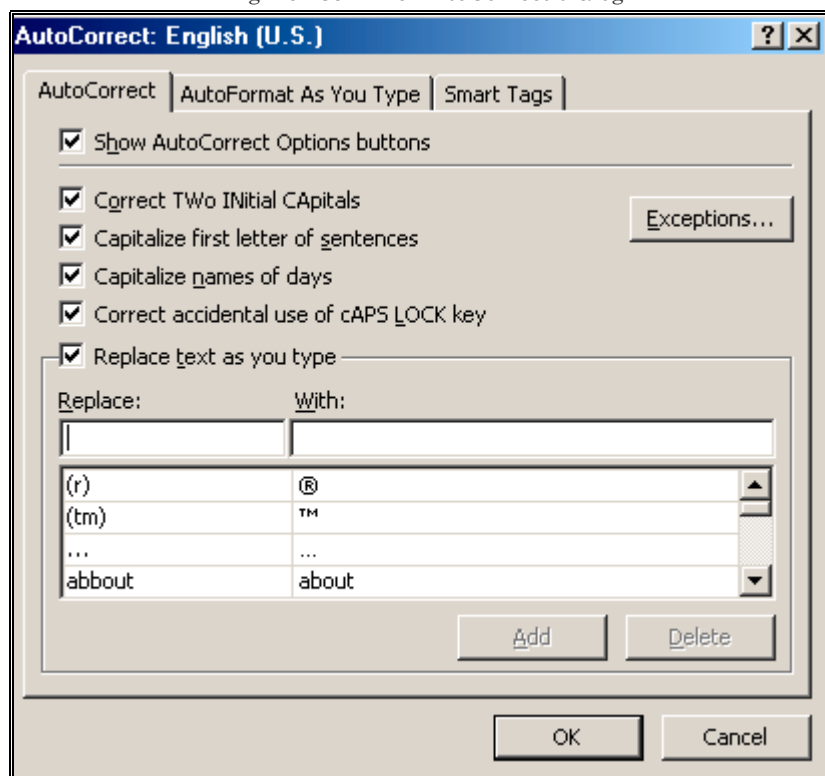
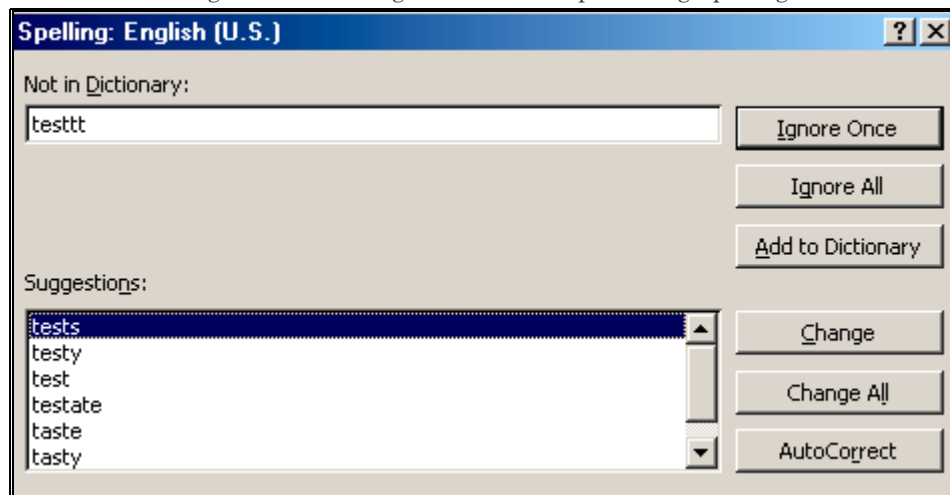


Figure 240: Adding an autocorrect pair using Spelling



You can add new pairs either by:

- (a) Typing the pair into the dialog, or,
- (b) Clicking on the “AutoCorrect” button while performing a spell check using TOOLS/SPELLING. The button is at the right-bottom of the spelling dialog as the next figure illustrates. In the example shown below, the pair that that will be added to AutoCorrect is “test — tests.”

Using AutoCorrect to save on typing time

AutoCorrect saves on time by reducing the chances of spelling errors. In addition, you can define pairs that AutoCorrect an abbreviation with the full form of the abbreviated text. For example, you can define a pair “USA-United States of America” so that you just have to type “USA” to obtain the text “United States of America.”

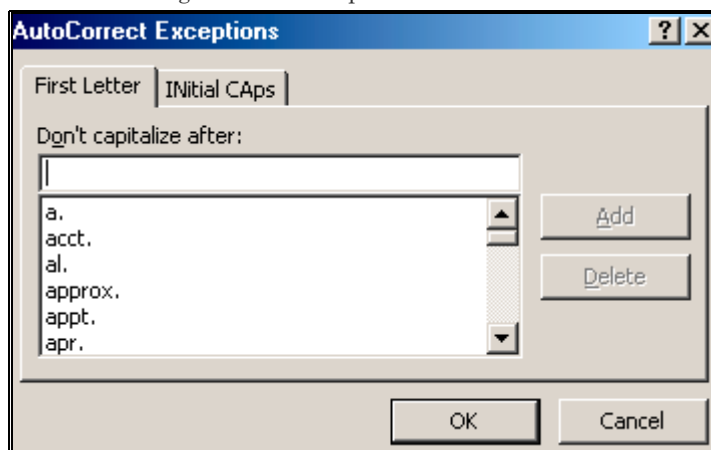
Exceptions to AutoCorrect rules like “AutoCorrect two initial capitals” and “Capitalize the first letter of each sentence”

Some text strings end in a period even though the period is not supposed to signify the end of a sentence. For example, when using alphabetical numbering of points, the strings “a.” and “b.” end with periods but they are just being used as numberings for points. You may not want to capitalize after the period.

Other examples where periods do not signify the end of a sentence are shown in the next figure. (The dialog is accessed by clicking on the button

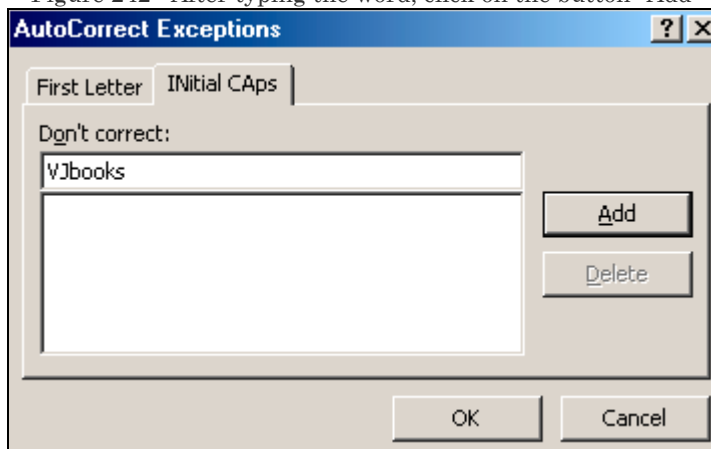
“Exceptions” in the AutoCorrect dialog displayed two figures above.) You can add/remove strings from this list.

Figure 241: Exceptions to autocorrect



You can also direct Excel not to autocorrect two — or more — initial capitals in certain words. An example is shown in the next figure.

Figure 242: After typing the word, click on the button “Add”



Auto-Hyperlinking

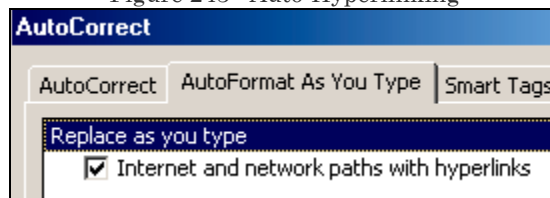
If you want to convert all web URLs and email addresses into hyperlinks

to the URLs or emails, respectively, then select the option “Internet and network paths with hyperlinks” in the tab “AutoFormat as you type” in the AutoCorrect dialog.

If you want to convert all web URLs and email addresses into hyperlinks to the URLs or emails, respectively, then select the option “Internet and network paths with hyperlinks” in the tab “AutoFormat as you type” in the AutoCorrect dialog.

On the other hand, if you want to remove the automatic hyperlinking, then deselect this option.

Figure 243: Auto-Hyperlinking



13.13

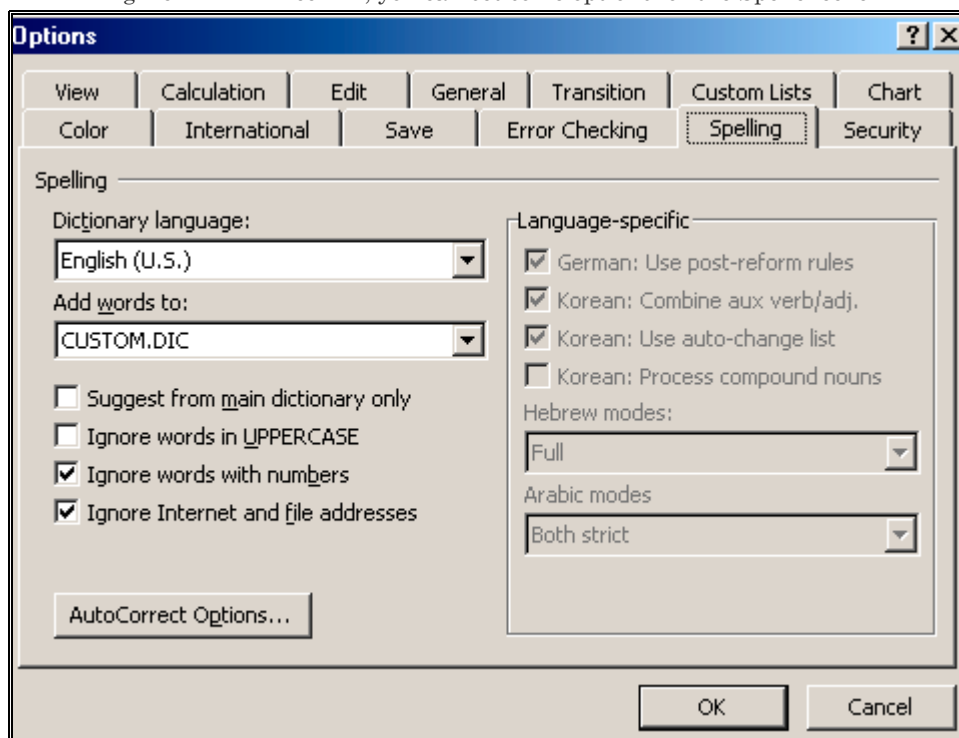
DEFAULT SETTINGS FOR SPELLINGS (ONLY AVAILABLE IN THE XP VERSION OF EXCEL)

The Spellchecker tool can be accessed through the menu option TOOLS/SPELLING.

A few spellchecking options can be set. I recommend sticking with the defaults.

Make changes or additions to AutoCorrect options using methods taught in the previous section.

Figure 244: In Excel XP, you can set some options for the Spellchecker



13.14

DEFAULT SETTINGS FOR ERROR CHECKING (ONLY AVAILABLE IN THE XP VERSION OF EXCEL)

The options are listed in *Volume 3: Excel– Beyond The Basics*.

CHAPTER 14

USING THE HELP AND OFFICE ASSISTANT

This chapter briefly teaches the following topics:

- OPTIONS FOR OFFICE ASSISTANT AND HELP
- USING THE HELP
- USING “CONTENTS”
- USING “INDEX”
- USING “ANSWER WIZARD”
- QUICK HELP: USING F1, THE RIGHT MOUSE AND “WHAT’S THIS”?

Although newer versions of Excel (and Microsoft Office) have a wider range of facilities available through the HELP menu, these facilities are not presented in a consistent manner. Sometimes — and on some PCs — when you open Excel or try to perform an action in Excel, the Office Assistant or “Tips” ‘balloon/cartoon’ pops up with the assistance/tips it ‘senses’ you need. Other times nothing pops up. You would benefit from knowing [a] how to enable/disable the Help/assistant/ pop-ups and/or [b] how to use the facilities efficiently.

Options For Office Assistant And Help are shown in 14.1 on page 267.

OPTIONS FOR OFFICE ASSISTANT AND HELP

Go to the menu **HELP/SHOW OFFICE ASSISTANT**. The next figure illustrates this. This makes the Office Assistant (a Help tool) visible and available for your use.

Note

If the Office Assistant is already enabled then you may not see the menu option **SHOW the OFFICE ASSISTANT**.

Figure 245: The HELP menu

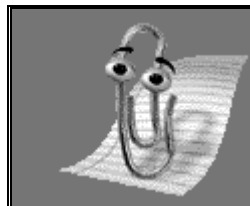


Office Assistant icon

A large icon/picture/cartoon will pop-up. This is the *Office Assistant* icon.

The exact picture you see on the icon will depend on the settings in your copy of Excel. The next figure shows the icon that opened on my machine.

Figure 246: The icon for Office Assistant



Place the cursor over the Office Assistant icon and then click on the right half of the mouse. A sub-menu will pop-up next to the Office Assistant icon. This sub-menu is shown in the next figure.

Choosing the option “Hide” will hide the Office Assistant. The option “Animate” will change the icon to an animation of the icon.

Figure 247: The shortcut menu for the Office Assistant



Options

Refer to the previous figure – choose “Options.” The relevant dialog is shown in the next figure.

Click on the tab “Gallery.” Clicking on the buttons “Back or Next,” permits browsing available icons/animations for the Office Assistant. In the next figure, you are shown the icon for the Office Assistant “Genius.”

Note

The choice among different icons/animations is also available through the option “Choose Assistant” on the pop-up menu shown in the previous figure.

Figure 248: The Office Assistant dialog

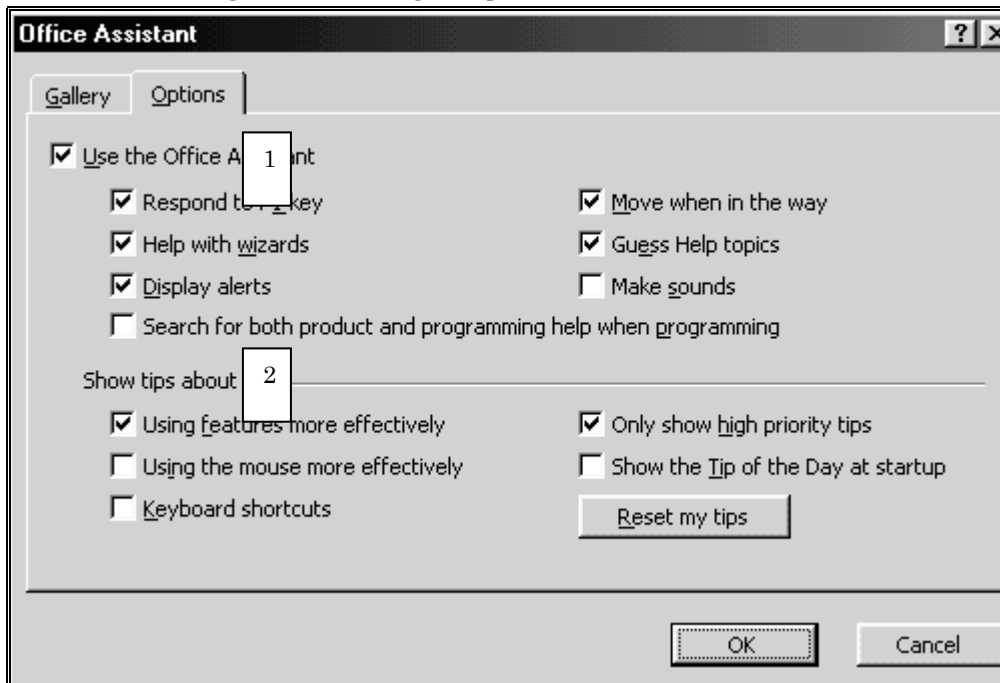


14.1.A

OPTIONS FOR THE OFFICE ASSISTANT

Click on the tab *Options*.

Figure 249: Setting the options for the Office Assistant



Check the options in area 1 of the Office Assistant options dialog (shown in the previous figure.) I recommend choosing the options as shown in the figure. A brief explanation of each option follows:

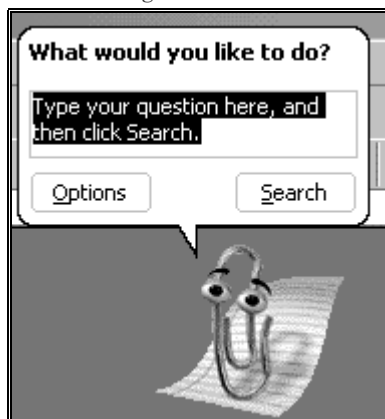
- “Use the Office Assistant”: deselecting this option will ensure that the Office Assistant icon does not pop-up at any time. Selecting this option will make the Office Assistant pop-up when the help facility is accessed from the menu or using the F1 key (refer to the next point).
- “Respond to F1 key”: in most software applications, the F1 key provides assistance on whatever objects/dialogs/other you have currently selected. If you select this option, then the Office Assistant is shown when you press the F1 key. If you deselect the option then the Help topic associated with the object/dialog/other. (You will learn later about the difference between the Office Assistant and the Help facility.)
- “Help with Wizards”: a wizard is a sequence of dialogs that together

provide all the options for an Excel feature. For example, when you make a chart, you have to fill in four dialogs. (You complete the first one and then click on the *Next* button. Complete the second dialog and click on the *Next* button. Except for the first dialog, all the dialogs have a “Back” button. When you reach the last dialog in the sequence, you will see the button *Finish*. Clicking on this will create the chart.) Selecting the “Help with Wizards” option may be useful if you need a sequenced tutorial to pop-up when you are working on the wizard.

- “Display Alerts”: after you choose this option then, depending on your current action, the Office Assistant will provide an alert if it senses that you need such an alert with respect to your current action in Excel.
- “Move when the way”: always select this option. This removes the annoyance of the Office Assistant covering the screen area where your typing or other action is causing changes. In addition, if you do not use the Office Assistant for five minutes, the assistant is shrunk and minimized by Excel.
- “Guess Help topics”: choose this option if you want the Office Assistant to ‘guess’ the Help topics you need. The guess is made on the basis on your current context of work in Excel.

Now that you have set up the assistant, let us use its power. If the assistant icon is not visible, choose the menu option **HELP/SHOW OFFICE ASSISTANT**. The icon will ‘pop-up’. Click on the icon with the left mouse. The assistant will provide an area for typing in a question or a keyword with which you want assistance. This is shown in the next figure.

Figure 250: Launching the Office Assistant Query Box



Assume you want assistance on “decimals.”

Key-in: “decimals” into the text-box within the assistant dialog. The next figure illustrates this.

Figure 251: Type in a question or keyword(s) — that is, a “Search String”

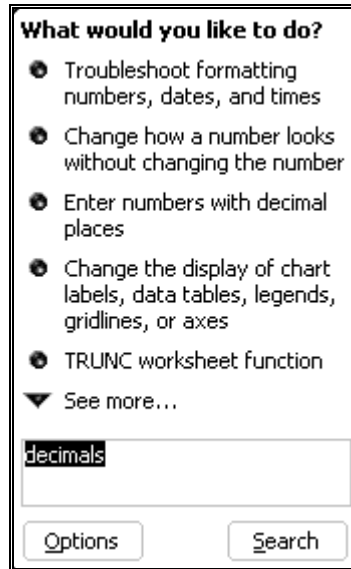


Click on the button “Search.”

The assistant will show you a list of Help topics that contain the term you searched for — “decimals.”

The next figure shows a picture of how the Office Assistant will look.

Figure 252: The Office Assistant shows some topics that relate to the text you entered in the Query box.



If the assistant finds more Help topic headings than it can display on the dialog of the assistant, then an option “See more” preceded by a “down” arrow will be shown.

When you click on the arrow more Help topics found by the assistant will be shown— see the next figure.

Figure 253: If the number of related topics is large, the Assistant may have the topic names on more than one dialog



Scrolling to the top of the list of

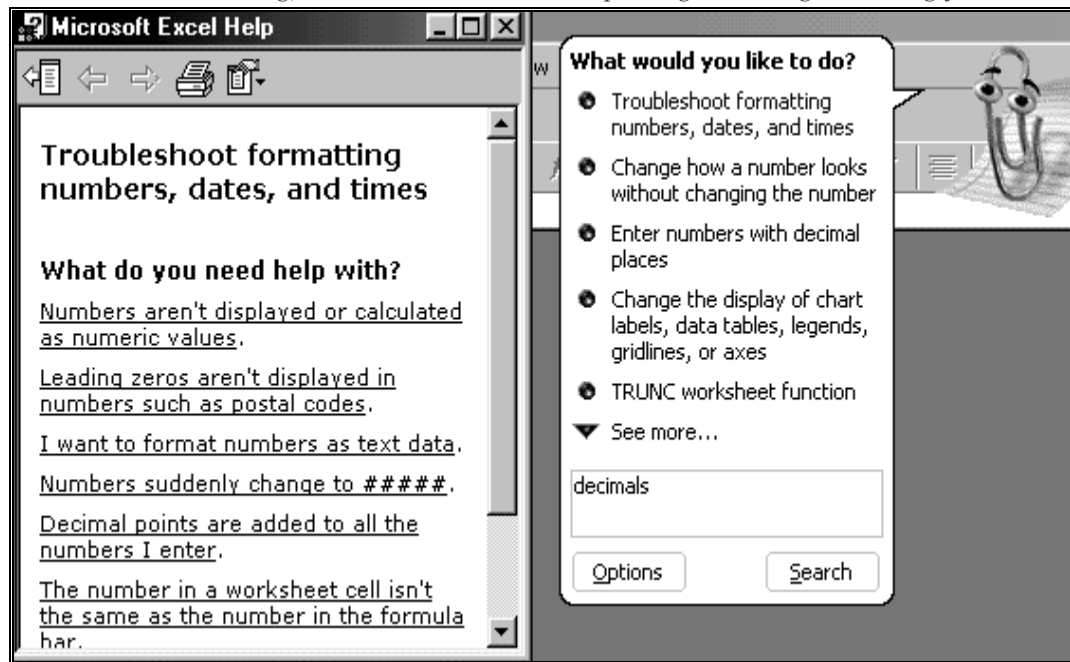
Click on the “up” arrow next to the label “See previous.”

If you click on the labels of any of the Help topics, the “Help” facility opens.

Therefore, *the assistant, in essence, is assisting in collecting Help topics relevant to your search question or keyword.*

The actual Help text is contained within the “Help” facility.

Figure 254: When you click on any one of the topics shown in the Office Assistant answer dialog, the Help dialog opens with several topic labels. If you click on another topic in the Assistant dialog, then the content in the Help dialog will change accordingly.



Viewing the Help topic associated with a “found” item

Access the window “Excel Help,” and click on the label of the item . The Help topic text will be visible as is shown in the next figure.

Office Assistant and the Help Window

While using the assistant, two windows will always remain open— the Office Assistant dialog and the Help window.

Help Icons

The Help window also has some icons that assist in navigating through the Help facility. The actions associated with the buttons are listed

below.

Figure 255: After you select a topic in the Help dialog, then its text will be shown

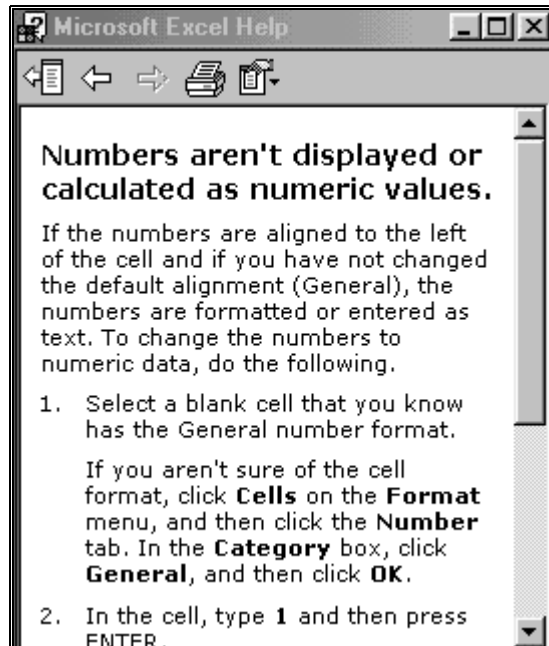


Figure 256: The icons are located at the top of the Help dialog



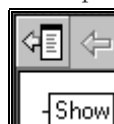
Figure 257: The “Back arrow” icon will return you to the previous Help topic you were on



Figure 258: The “Next arrow” icon will return you to the next Help topic if the current Help topic on display was reached by using the “Back” icon shown in the previous figure.



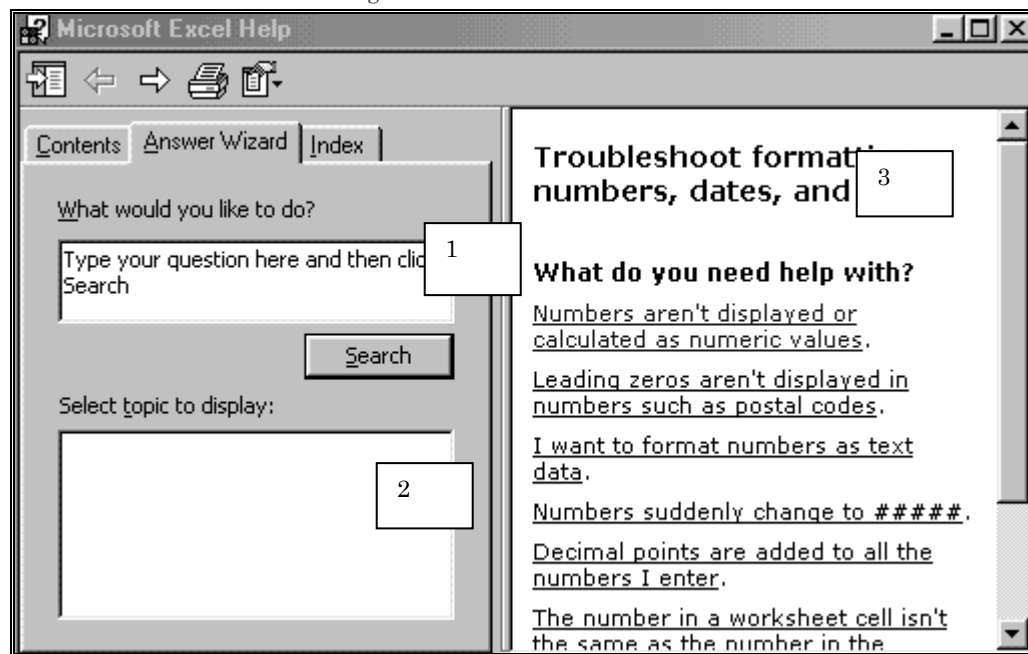
Figure 259: The “Show” icon displays the entire Help facility.



USING THE HELP

The complete Help facility is shown in the next figure.

Figure 260: The Answer Wizard



The complete help facility is shown in the next figure. The window has three areas. The top-left area (labeled as area “1” in the next figure) is where you look/search for help on a keyword/question. After you search, the results of the search are displayed (as topic headings, with links to the topic text) in the bottom-left area (labeled as area “2” in the next figure). When you click on a shown topic in this area, the text associated with the topic is shown in the right area where the topic text is displayed (labeled as area “3 in the next figure).

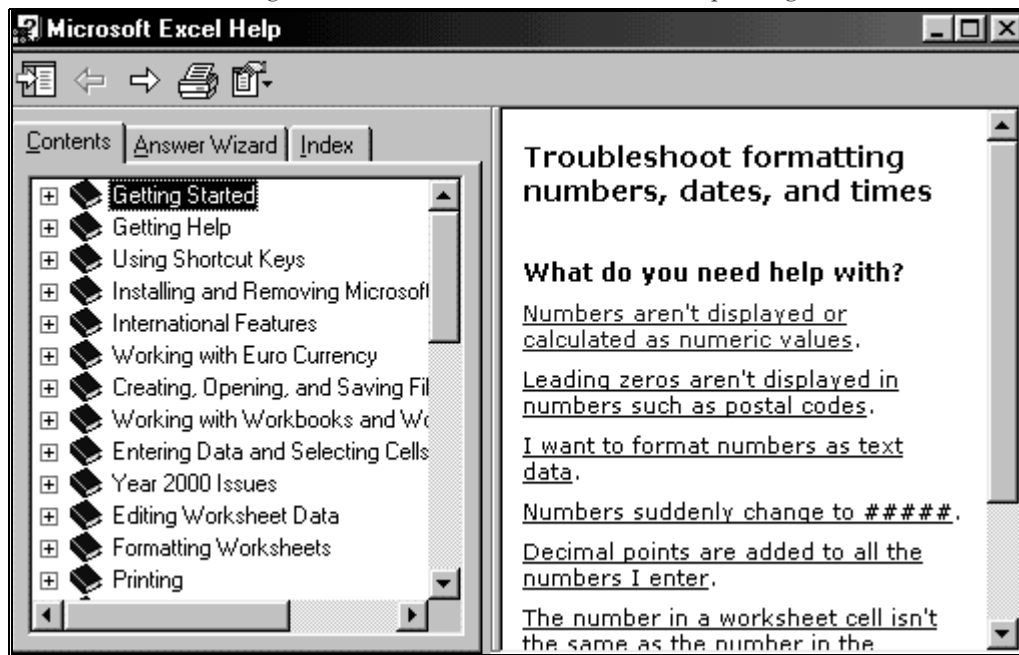
The Help facility provides three avenues to look for a Help topic: “Contents,” “Answer Wizard,” and “Index.” (The dialogs for these three are launched by clicking on the relevant table in area 1 of the Help facility figure shown above.)

14.3.A

USING “CONTENTS”

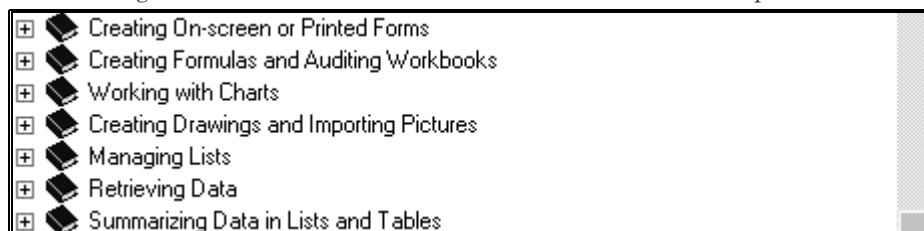
Choose the menu option **HELP/Excel Help**.” (If the Answer Wizard comes up, then right-click on the icon for the wizard and chose the option “Show wizard in response to F1 key.”)

Figure 261: The “Contents” tab of the Help dialog



The “Contents” tab provides information on many topics. You can “browse” through the topic headings (in the left half of the dialog) and Excel will, in the right half of the dialog, show you the Help pages related to the browsed topic. The previous and next figures show some of the topics on who Help is available.

Figure 262: The contents are like a book with several chapters...



Click on a topic title in the left half of the dialog. If the topic title has a plus sign to its left, then several sub-topic titles will be visible. The next figure illustrates this.

Any topic title that is prefixed with a question-mark icon provides a direct link to relevant Help text. Keep opening the “Book” icons until you reach the question-mark icons.

Figure 263: when you click on any of the “chapters,” you will see several other sub-chapters (those with a book icon) and several topics (those with a question-mark icon)

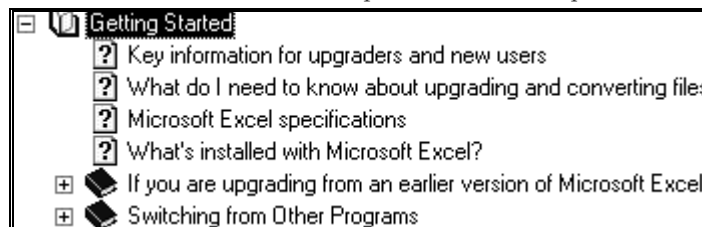
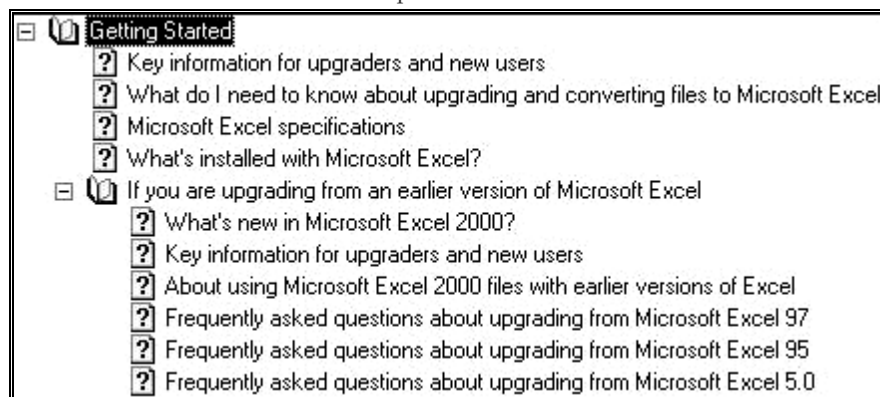


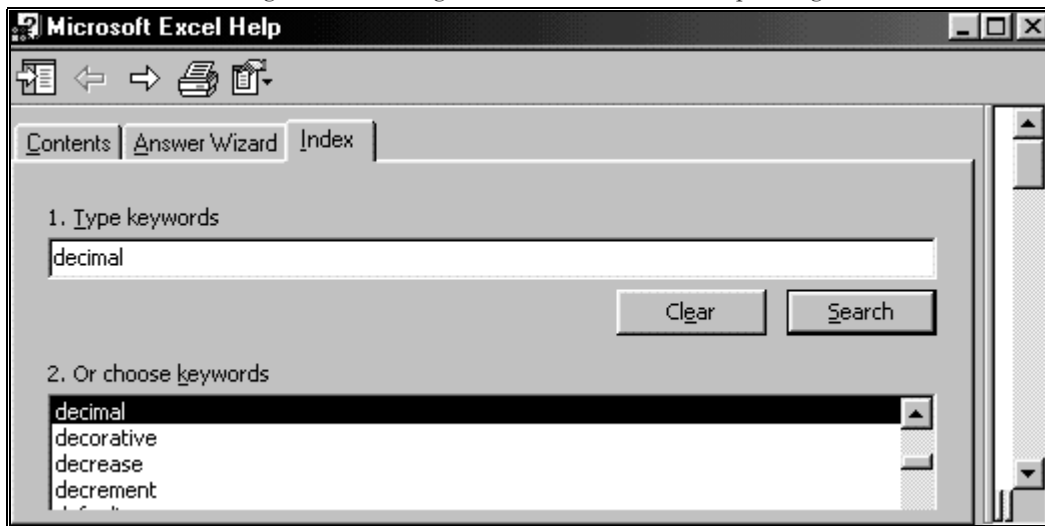
Figure 264: You may have to open chapter, sub-chapter, and so on until you reach a topic whose Help text can be viewed



The Index is an index list constituted from all the Help files that constitute the Excel Help system.

You can browse the index using the scrollbars to the right of the box “2... Or Choose keywords.” The browsing may be speeded if you type the first letter or more of the Index topics you want to see. For example, if you click the mouse once anywhere in the second box in the dialog, and type “D,” the box will auto-browse and show the first Index keyword that starts with “D.”.

Figure 265: Using the “Index” tab of the Help dialog



You can also search within the index using a keyword or phrase. The Index Help facility will show you the closest entries (on an alphabetic basis) in the Help index.

The answer wizard is equivalent to the Answer Wizard that accompanies the Office Assistant.

QUICK HELP: USING F1, THE RIGHT-CLICK-ON-MOUSE AND “WHAT’S THIS”?

Quick Help is provided when you right-click over an option in a dialog, or choose the option on **HELP**/"WHAT'S THIS." The F1 key is a shortcut used in most software to show Help on the currently active item or to bring up the Help facility.

Figure 266: The “What’s This” quick Help facility

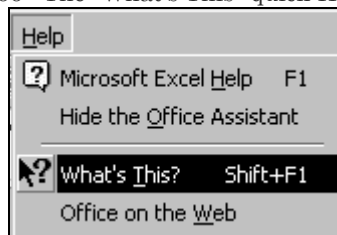
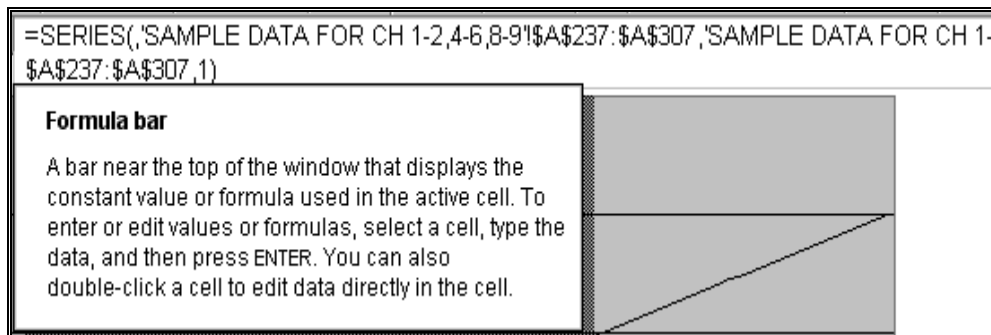


Figure 267: The use of “What’s This” or the F1 key will show a small text-box with Helpful text



CHAPTER 15

WRITING FORMULAS

This chapter discusses the following topics:

- THE BASICS OF WRITING FORMULAE
- TOOL FOR USING THIS CHAPTER EFFECTIVELY: VIEWING THE FORMULA INSTEAD OF THE END RESULT
- The A1 VS THE R1C1 STYLE OF CELL REFERENCES
- TYPES OF REFERENCES ALLOWED IN A FORMULA
- REFERENCING CELLS FROM ANOTHER WORKSHEET
- REFERENCING A BLOCK OF CELLS
- REFERENCING NON-ADJACENT CELLS
- REFERENCING ENTIRE ROWS
- REFERENCING ENTIRE COLUMNS
- REFERENCING CORRESPONDING BLOCKS OF CELLS/ROWS/COLUMNS FROM A SET OF WORKSHEETS

The most important functionality offered by a spreadsheet application is the ease and flexibility of writing formulae. In this chapter, I start by showing how to write simple formula and then build up the level of complexity of the formulae.

Within the sections of this chapter, you will find tips and notes on commonly encountered problems or issues in formula writing.

15.1

THE BASICS OF WRITING FORMULAE

This section teaches the basics of writing functions.

15.1.A

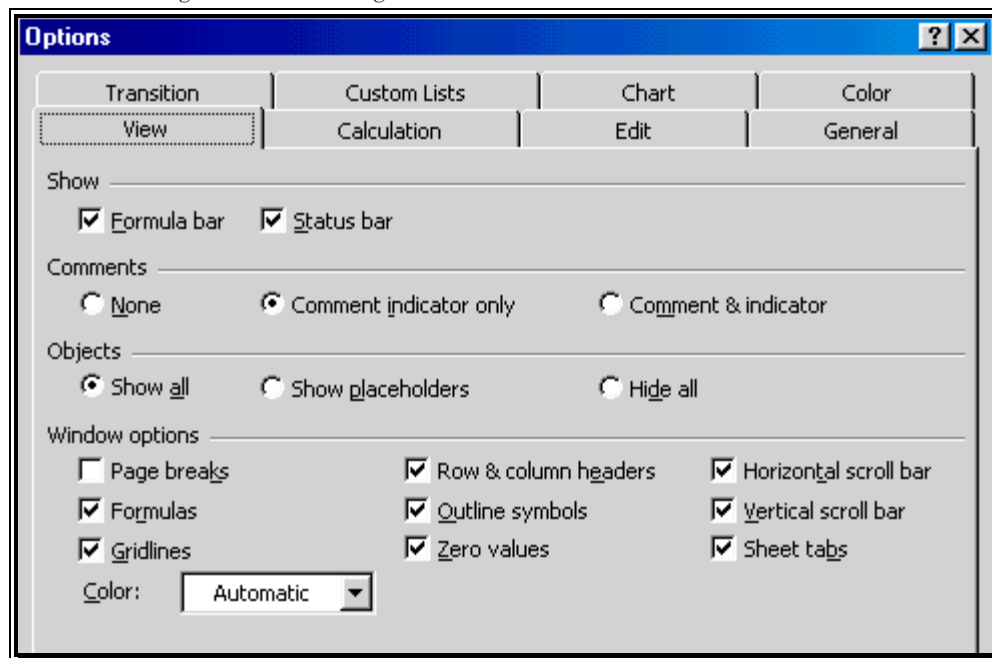
TOOL FOR USING THIS CHAPTER EFFECTIVELY: VIEWING THE FORMULA INSTEAD OF THE END RESULT

For ease of understanding this chapter, I suggest you use a viewing option that shows, in each cell on a worksheet, the formula instead of the result. Follow the menu path **TOOLS/OPTIONS/VIEW**. In the area “Window Options” select the option “Formulas” as shown in Figure 268.

Execute the dialog by clicking on the button **OK**. Go back to the worksheet. The formula will be shown instead of the calculated value.

Eventually you will want to return to the default of seeing the results instead of the formula. Deselect “formula” in the area “Windows Options” in **TOOLS/OPTIONS/VIEW**.

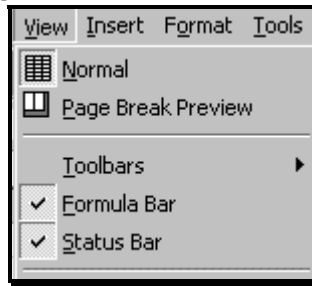
Figure 268: Viewing the formulas instead of the formula result



The effect is only cosmetic; the results will not change. As you shall see later, what you have just done will facilitate the understanding of functions.

In addition, leave the option VIEW/ FORMULA BAR selected as shown in Figure 269.

Figure 269: Select “Formula Bar”



15.1.B

THE “A1” VS. THE “R1C1” STYLE OF CELL REFERENCES

The next figure shows a simple formula. The formula is written into cell G15. The formula multiplies the values inside cells F8 and F6.

Figure 270: A1-style cell referencing

=F8*F6

This style of referencing is called the “A1” style or “absolute” referencing. The exact location of the referenced cells is written. (The cells are those in the 6th and 8th rows of column F.) One typically works with this style.

However, there is another style for referencing the cells in a formula. This style is called the “R1C1” style or “relative” referencing. The same formula as in the previous figure but in R1C1 style is shown in the next figure.

Figure 271: The same formula as in the previous figure, but in R1C1 (Offset-) style cell referencing while the previous figure showed A1 (Absolute-) style cell referencing

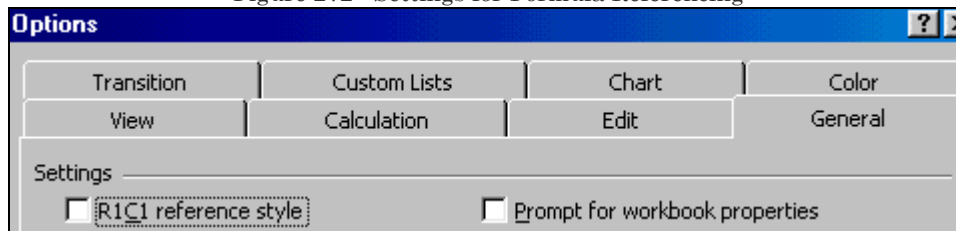
=R[-7]C[-1]*R[-9]C[-1]

Does not this formula look different? This style uses relative referencing. So, the first cell (F8) is referenced relative to its position in reference to

the cell that contains the formula (cell G15). Row 8 is 7 rows below row 15 and column F is 1 column before column G. Therefore, the cell reference is “minus seven rows, minus 1 column” or “R[— 7]C[— 1].”

If you see a file or worksheet with such relative referencing, you can switch all the formulas back to absolute “A1” style referencing by going to **TOOLS/OPTIONS/GENERAL** and deselecting the option “R1C1 reference style.”

Figure 272: Settings for Formula Referencing



15.1.C

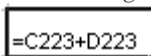
WRITING A SIMPLE FORMULA THAT REFERENCES CELLS

Open the sample file “File3.xls” and choose the worksheet “main.” Assume you want to write add the values in cells C223²⁷ and D223 (that is, to calculate “C223 + D223”) and place the result into cell F223.

Click on cell F223. Key-in “=” and then write the formula by clicking on the cell C223, typing in “+” then clicking on cell “D223.”

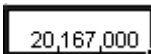
²⁷ Cell C223 is the cell in column C and row 223.

Figure 273: Writing a formula

=C223+D223

After writing in the formula, press the key ENTER. The cell F223 will contain the result for the formula contained in it.

Figure 274: The result is shown in the cell on which you wrote the formula

20,167,000

15.2

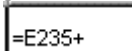
TYPES OF REFERENCES ALLOWED IN A FORMULA

15.2.A

REFERENCING CELLS FROM ANOTHER WORKSHEET

You can reference cells from another worksheet. Choose cell H235 on the worksheet “main.” In the chosen cell, type the text shown in the next figure. (Do not press the ENTER key; the formula is incomplete and you will get an error message if you press ENTER.)

Figure 275: Writing or choosing the reference to the first referenced range

=E235+

Then select the worksheet “second” and click on cell D235. Now press the ENTER key. The formula in cell H235 of worksheet “main” references the cell D235 from the worksheet “second”. The next figure illustrates this.

Figure 276: Writing or choosing the reference to the second referenced range which is not on the worksheet on which you are writing the formula

	H
235	=E235 + second!D235

In this formula, the part “second!” informs Excel that the range referenced is from the sheet “second.”

15.2.B

REFERENCING A BLOCK OF CELLS

Select the worksheet “main.” Choose cell H236. In the chosen cell, type the text shown in the next figure.

Figure 277: This formula requires a block of cells as a reference

	H
236	=SUM(

Use the mouse to highlight the block of cells “E223 to E235.” Type in a closing parenthesis and press the ENTER key. The resulting function is shown in the next figure.

Figure 278: Formula with a block of cells as the reference

	H
236	=SUM(E223:E235)

15.2.C

REFERENCING NON-ADJACENT CELLS

Choose cell H237. Click in the cell and type the text shown in the next

figure.

Figure 279: The core function is typed first

	H
237	=SUM(

As in the previous example, choose cells E223 to E235 by highlighting them— the formula should look like the one shown in the next figure.

Figure 280: The first block of cells is referenced

	H
237	=SUM(E223:E235

Type a comma. The resulting formula should look like that shown in the next figure.

Figure 281: Getting the formula ready for the second block of cells

	H
237	=SUM(E223:E235,

Highlight the block of cells “E210 to E222.” Key-in a closing parenthesis and press the ENTER key.

Figure 282: The formula with references to two non-adjacent blocks of cells

	H
237	=SUM(E223:E235,E210:E222)

15.2.D

REFERENCING ENTIRE ROWS

Choose cell H238. In this cell, type the text shown in the next figure.

Using the mouse, highlight the rows 197 to 209. Type in a closing parenthesis and press the ENTER key. The resulting formula is shown in the next figure.

Figure 283: Referencing entire rows

	H
238	=SUM(197:209)

15.2.E

REFERENCING ENTIRE COLUMNS

Choose cell H239. In this cell, type the text shown in the next figure.

Using the mouse, highlight the columns C and D. Key-in a closing parenthesis and press the ENTER key.

Figure 284: Referencing entire columns

	H
239	=SUM(C:D)

15.2.F

REFERENCING CORRESPONDING BLOCKS OF CELLS/ROWS/COLUMNS FROM A SET OF WORKSHEETS

Assume you have a workbook with six worksheets on similar data from six clients. You want to sum cells “C4 to F56” across all six worksheets.

One way to do this would be to create a formula in each worksheet to sum for that worksheet’s data and then a formula to add the results of the other six formulae.

Another way is using “3–D references.” The row and column make the first two dimensions; the worksheet set is the third dimension. You can use only one formula that references all six worksheets that the relevant cells within them.

While typing the formula,

- Type the “=” sign,
- Write the formula (for example, “Sum”),
- Place an opening parenthesis “(,” then
- Select the six worksheets by clicking at the name tab of the first one and then pressing down SHIFT and clicking on the name tab of the sixth worksheet, and then
- Highlight the relevant cell range on any one of them,
- Type in the closing parenthesis “)”
- And press the ENTER key to get the formula:

```
=SUM(Sheet1:Sheet6!"C4:F56")
```


CHAPTER 16

COPYING/CUTTING AND PASTING FORMULAE

This chapter teaches the following topics:

- COPYING AND PASTING A FORMULA TO OTHER CELLS IN THE SAME COLUMN
- COPYING AND PASTING A FORMULA TO OTHER CELLS IN THE SAME ROW
- COPYING AND PASTING A FORMULA TO OTHER CELLS IN A DIFFERENT ROW AND COLUMN
- CONTROLLING CELL REFERENCE BEHAVIOR WHEN COPYING AND PASTING FORMULAE (USE OF THE “\$” KEY)
- USING THE “\$” SIGN IN DIFFERENT PERMUTATIONS AND COMPUTATIONS IN A FORMULA.
- COPYING AND PASTING FORMULAS FROM ONE WORKSHEET TO ANOTHER
- SPECIAL PASTE OPTIONS
- PASTING ONLY THE FORMULA (BUT NOT THE FORMATTING AND COMMENTS)
- PASTING THE RESULT OF A FORMULA, BUT NOT THE FORMULA ITSELF
- CUTTING AND PASTING FORMULAE

-
- THE DIFFERENCE BETWEEN “COPYING AND PASTING”
FORMULAS AND “CUTTING AND PASTING” FORMULAS
 - SAVING TIME BY WRITING, COPYING AND PASTING
FORMULAS ON SEVERAL WORKSHEETS
SIMULTANEOUSLY

16.1

COPYING AND PASTING A FORMULA TO OTHER CELLS IN THE SAME COLUMN

Often one wants to write analogous formulae for several cases. For example, assume you want to write a formula analogous to the formula in F223 into each of the cells F224 to F235²⁸. The quick way to do this is to:

- Click on the “copied from” cell F223.
- Select the option EDIT/COPY. (The menu can also be accessed by right-clicking on the mouse or by clicking on the COPY icon.)
- Highlight the “pasted on” cells F224 to F235 and
- Choose the menu option EDIT/PASTE. (The menu can also be accessed by right-clicking on the mouse or by clicking on the PASTE icon.)
- Press the ENTER key.

²⁸ The formula in F223 adds the values in cells that are 3 and 2 columns to the left (that is, cells in columns in C and D.)

-
- The formula is pasted onto the cells F224 to F235 and the cell references within each formula are adjusted²⁹ for the location difference between the “pasted on” cells and the “copied from” cell.

Figure 285: Pasting a formula

	C	D	E	F
223	9133000	11034000	15223000	=C223+D223
224	1626000	1852000	2818000	=C224+D224
225	1417000	1600000	2255000	=C225+D225
226	1202000	1389000	1802000	=C226+D226
227	976000	1176000	1550000	=C227+D227
228	607000	951000	1339000	=C228+D228
229	464000	589000	1124000	=C229+D229
230	396000	447000	897000	=C230+D230
231	331000	375000	544000	=C231+D231
232	279000	307000	400000	=C232+D232
233	221000	250000	319000	=C233+D233

COPYING AND PASTING A FORMULA TO OTHER CELLS IN THE SAME ROW

Select the range F223— F235 (which you just created in the previous subsection). Select the option EDIT/COPY. Choose the range G223— G235 (that is, one column to the right) and choose the menu option

²⁹ The formula in the “copied cell” F223 is “C223 + D223” while the formula in the “pasted on” cell F225 is “C225 + D225.” (Click on cell F225 to confirm this.) The cell F225 is two rows below the cell F223, and the copying-and-pasting process accounts for that.

EDIT/PASTE. Now click on any cell in the range G223— G235 and see how the column reference has adjusted automatically. The formula in G223 is “D223 + E223” while the formula in F223 was “C223 + D223”.

The next figure illustrates this. Because you pasted one column to the right, the cell references automatically shifted one column to the right. So:

- The reference “C” became “D,” and
- The reference “D” became “E.”

Figure 286: Cell reference changes when a formula is copied and pasted

	F	G
223	=C223+D223	=D223+E223
224	=C224+D224	=D224+E224
225	=C225+D225	=D225+E225
226	=C226+D226	=D226+E226
227	=C227+D227	=D227+E227
228	=C228+D228	=D228+E228
229	=C229+D229	=D229+E229
230	=C230+D230	=D230+E230

The examples in 16.1 on page 295 and 16.2 on page 296 show the use of “Copy and Paste” to quickly replicate formula in a manner that maintains referential parallelism.

16.3

COPYING AND PASTING A FORMULA TO OTHER CELLS IN A DIFFERENT ROW AND COLUMN

Select the cell F223. Select the option EDIT/COPY. Choose the range H224 (that is, two columns to the right and one row down from the copied cell) and choose the menu option EDIT/PASTE. Observe how the column and row references have changed automatically—the formula in H224 is “E224 + F224” while the formula in F223 was “C223 + D223”.

The next figure illustrates this. Because you pasted two columns to the right and one row down, the cell references automatically shifted two columns to the right and one row down. So:

- The reference “C” became “E” (that is, two columns to the right)
- The reference “D” became “F” (that is, two columns to the right)
- The references “223” became “224” (that is, one row down)

Figure 287: Copying and pasting a formula

F	G	H
=C223+D223	=D223+E223	
=C224+D224	=D224+E224	=E224+F224

16.4

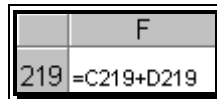
CONTROLLING CELL REFERENCE BEHAVIOR WHEN COPYING AND PASTING FORMULAE (USE OF THE “\$” KEY)

The use of the dollar key “\$” (typed by holding down SHIFT and choosing the key “4”) allows you to have control over the change of cell references in the “Copy and Paste” process. The use of this feature is best shown with

some examples.

- The steps in copy and pasting a formula from one range to another:
- Click on the “copied from” cell F223.
- Select the option EDIT/COPY. (The menu can also be accessed by right-clicking on the mouse or by clicking on the COPY icon.)
- Choose the “pasted on” cell F219 by clicking on it, and
- Select the menu option EDIT/PASTE. (The menu can also be accessed by right-clicking on the mouse or by clicking on the PASTE icon.)
- Press the ENTER key.
- The formula “C219 + D219” will be pasted onto cell F219. (For a pictorial reproduction of this, see Figure 288.)

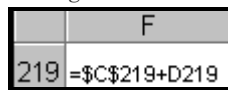
Figure 288: The “pasted-on” cell



	F
219	=C219+D219

Change the formula by typing the dollar signs as shown Figure 289.

Figure 289: Inserting dollar signs in order to influence cell referencing



	F
219	=\$C\$219+D219

Copy cell F219. Paste into G220 (that is, one column to the right and one row down). The dollar signs will ensure that the cell reference is not adjusted for the row or column differential for the parts of the formula

that have the dollar sign before them³⁰— see the formula in cell F220 (reproduced in Figure 290).

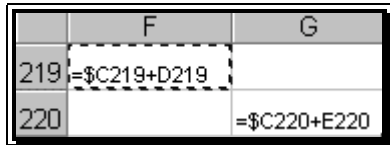
Figure 290: The “copied-from” and “pasted-on” cells with the use of the dollar sign

	F	G
219	= \$C\$219 +D219	
220		= \$C\$219 +E220

For the parts of the cell that do not have the dollar sign before them, the cell references adjust to maintain referential integrity³¹.

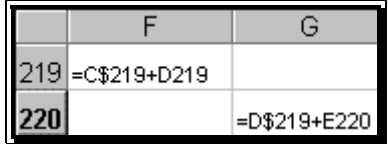
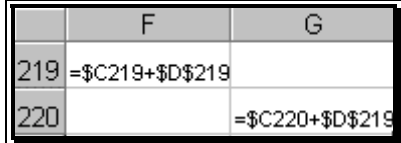
16.4.A

USING THE “\$” SIGN IN DIFFERENT PERMUTATIONS AND COMPUTATIONS IN A FORMULA

<i>The dollar sign in the “copied from” cell</i>	<i>The copy & paste action</i>	<i>The cell references in the “pasted on” cell depend on the location of the dollar signs in the formula in the original, “copied from” cell</i>
Reference behavior with a dollar sign before one of the column references Original cell: F219 = \$C219 + D219	Copy F219 and paste into G220.	Figure: 291: Only the reference to “C” does not adjust because only “C” has a dollar prefix 

³⁰ In this example, the parts are the “C” reference and “219” reference in “\$C\$219” part of the formula.

³¹ The part “D219” adjusts to “E220” to adjust for the fact that the “pasted on” cell is one column to the right (so “D→E”) and one row below (so “219→220”).

<i>The dollar sign in the “copied from” cell</i>	<i>The copy & paste action</i>	<i>The cell references in the “pasted on” cell depend on the location of the dollar signs in the formula in the original, “copied from” cell</i>
Reference behavior with a dollar sign before one of the row references Original cell: F219 = C\$219 + D219	Copy F219 and paste into G220.	Figure 292: Only the reference to “219” (in the formula part “C\$219”) does not adjust because only that “219” has a dollar prefix 
Reference behavior with a dollar sign before all but one of the row/column references Original cell: F219 = \$C219 + \$D\$219	Copy F219 and paste into G220.	Figure 293: the references to “C,” “D” and to “219” (in the formula part “\$D\$219”) do not adjust because they all have a dollar prefix 
Original cell: F219 = \$C\$219 + \$D\$219	Copy F219 and paste into G220.	Try it... G220 = \$C\$219 + \$D\$219
Original cell: F219 = \$C219 + \$D219	Copy F219 and paste into G220.	Try it... G220 = \$C220 + \$D220
Original cell: F219 = C219 + \$D\$219	Copy F219 and paste into G220.	Try it... G220 = D220 + \$D\$219

COPYING AND PASTING FORMULAS FROM ONE WORKSHEET TO ANOTHER

The worksheet “second” in the sample data file has the same data as the worksheet you are currently on (“main.”) In the worksheet main, select

the cell F219 and choose the menu option EDIT/COPY. Select the worksheet “second” and paste the formula into cell F219. Notice that the formula is duplicated.

16.6

PASTING ONE FORMULA TO MANY CELLS, COLUMNS, ROWS

Copy the formula. Select the range for pasting and paste or “Paste Special” the formula.

16.7

PASTING SEVERAL FORMULAS TO A SYMMETRIC BUT LARGER RANGE

Assume you have different formulas in cells G2, H2, and I2. You want to paste the formula:

— In G2 to G3:G289

— In H2 to H3:H289

— In I2 to I3:I289

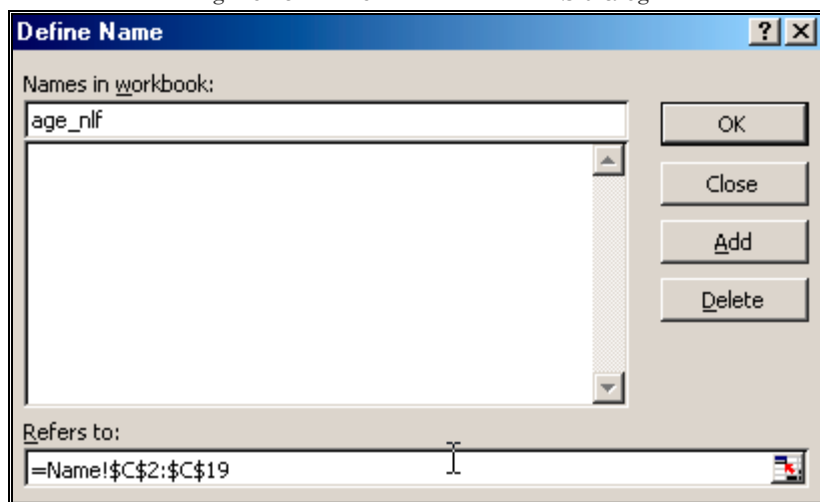
Select the range G2:I2. Pick the menu option EDIT/COPY. Highlight the range G3:I289. (Shortcut: select G3. Scroll down to I289 without touching the sheet. Depress the SHIFT key and click on cell I289.) Pick the menu option EDIT/PASTE.

DEFINING AND REFERENCING A “NAMED RANGE”

You can use range names as references instead of exact cell references. Named ranges are easier to use if the names chosen are explanatory.

First, you have to define named ranges. This process involves informing Excel that the name, for example, “age_nlf,” refers to the range “C2:C19.” Pick the menu option “INSERT/NAME/DEFINE.” The dialog (user-input form) that opens is shown in the next figure. Type the name of the range into the text-box “Names in workbook” and the “Cell References” in the box “Refers to:” See the next figure for an example.

Figure 294: The DEFINE NAMES dialog



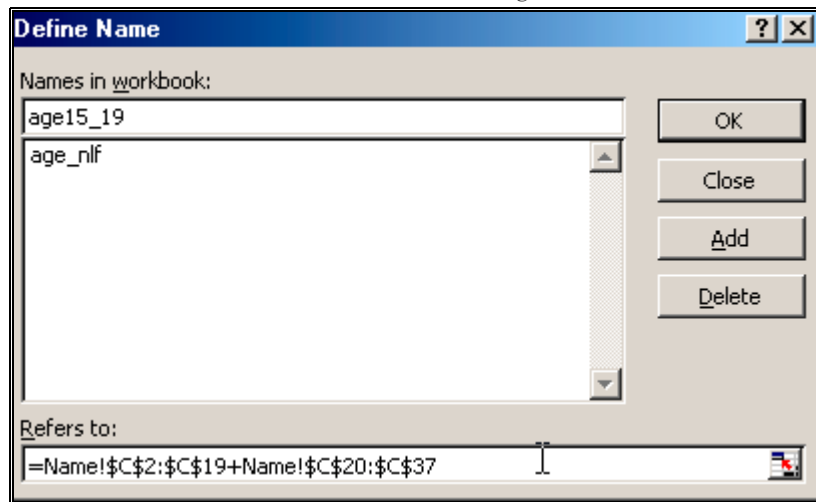
Click on the button “Add.” The named range is defined. The name of a defined range is displayed in the large text-box in the dialog. The next figure illustrates this text.

Figure 295: Once added, the defined named range’s name can be seen in the large text-box



Several named ranges can be defined. A named range can represent multiple blocks of cells.

Figure 296: Defining a second named range. On clicking “Add,” the named range is defined, as shown in the next figure.



You can view the ranges represent by any name. Just click on the name in the central text-box and the range represented by the name will be displayed in the bottom box.

Figure 297: Two named ranges are defined

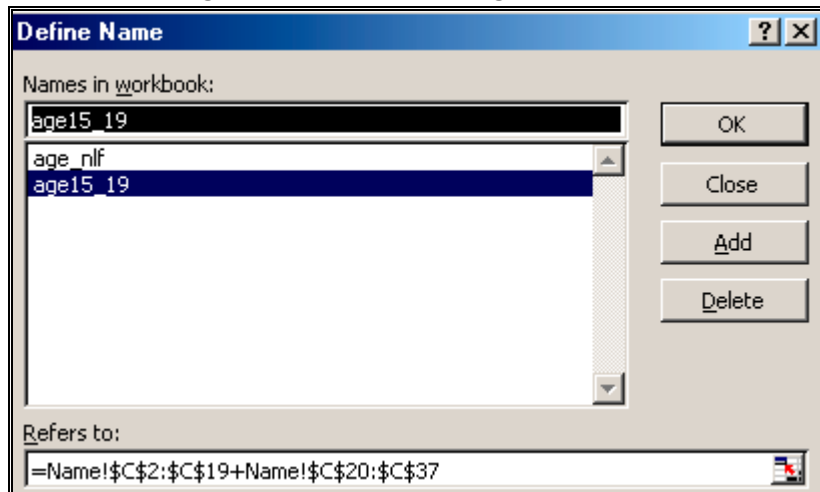
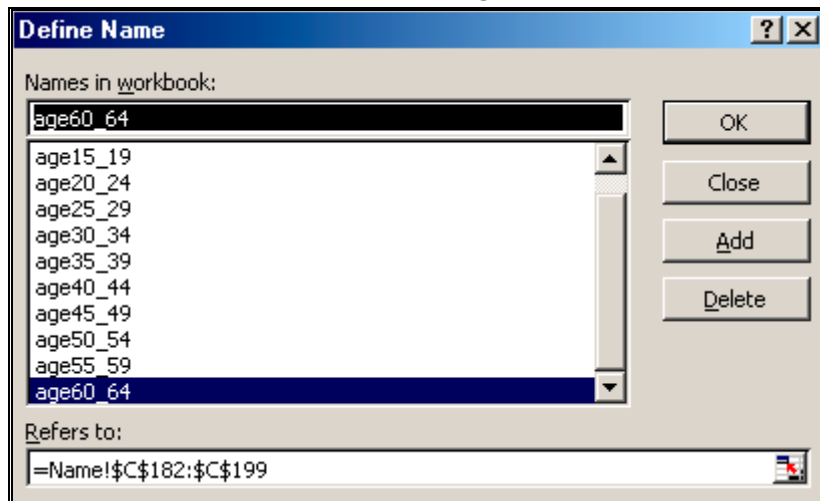


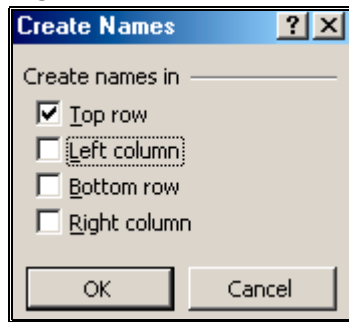
Figure 298: You can define many ranges. Just make sure that the names are explanatory and not confusing.



Adding several named ranges in one step

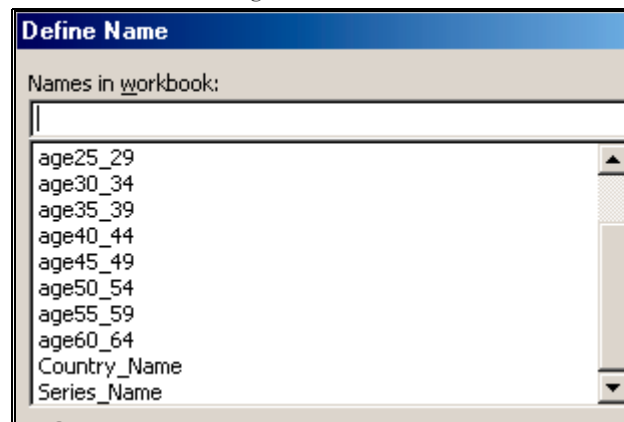
If the first/last row/column in your ranges has the labels for the range, then you can define names for all the ranges using the menu option INSERT/NAMES/CREATE. The dialog is reproduced in the next figure.

Figure 299: CREATE NAMES



In our sample data set, I selected columns “A” and “B” and created the names from the labels in the first row.

Figure 300: The named ranges “Country_Name,” and “Series_Name” were defined in one step using “Create Names”



Using a named range

Named ranges are typically used to make formulas easier to read. The named ranges could also be used in other procedures

Assume you want to sum several of the ranges defined above. One way to sum them would be to select them one-by-one from the worksheet.

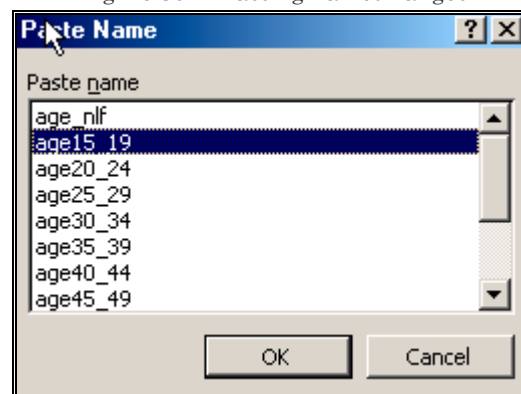
=SUM(

Another way is to use the menu option INSERT/NAME/PASTE to select and paste the names of the ranges. The names are explanatory and reduce the chances of errors in cell referencing.

A reference to the named range is pasted onto the formula as shown below.

`=SUM(age15_19)`

Figure 301: Pasting named ranges



16.10

SPECIAL PASTE OPTIONS

16.10.A

**PASTING ONLY THE FORMULA (BUT NOT THE FORMATTING
AND COMMENTS)**

Refer to *Volume 3: Excel– Beyond The Basics*.

16.10.B

**PASTING THE RESULT OF A FORMULA, BUT NOT THE
FORMULA ITSELF**

Refer to *Volume 3: Excel– Beyond The Basics*.

16.11

CUTTING AND PASTING FORMULAE

16.11.A

**THE DIFFERENCE BETWEEN “COPYING AND PASTING”
FORMULAS AND “CUTTING AND PASTING” FORMULAS**

Click on cell F223, select the option EDIT/CUT, click on cell H224 and choose the menu option EDIT/PASTE. The formula in the “pasted on” cell is the same as was in the “cut from” cell. (The formula “=C223 + D223.”) Therefore, there is no change in the cell references after cutting–and–pasting. While copy–and–paste automatically adjusts for cell reference differentials, cut–and–paste does not.

If you had used copy and paste, the formula in H224 would be “=D224 + E224.”

Figure 302: Cut from cell F223

	F	G	H
223	=C223+D223	=D223+E223	
224	=C224+D224	=D224+E224	

Figure 303: Paste into cell H223. Note that the cell references do not adjust.

	F	G	H
223		=D223+E223	
224	=C224+D224	=D224+E224	=C223+D223

After doing this, select the option EDIT/UNDO because I want to maintain the formulas in F223— F235 (and not because it is required for a cut and paste operation).

16.12

CREATING A TABLE OF FORMULAS USING DATA/TABLE

The menu option DATA/TABLE supposedly offers a tool for creating an X-Y table of formula results. However, the method needs so much data arrangement that it is no better than using a simple copy and paste operation on cells!

16.13

SAVING TIME BY WRITING, COPYING AND PASTING FORMULAS ON SEVERAL WORKSHEETS SIMULTANEOUSLY

Refer to page 88 to learn how to work with multiple worksheets. The section will request you to follow our example of writing a formula for

several worksheets together.

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