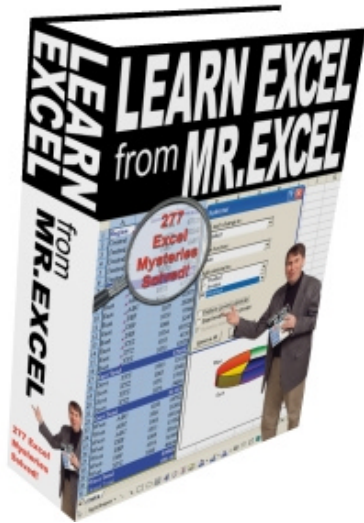




Free Preview – Week #35
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This week - 6 topics - 3 on Filters, one on
Data Tables, 2 on removing blanks.

QUICKLY FILTER A LIST TO CERTAIN RECORDS

Problem: You have 10,000 records, as shown in Fig. 641; you need to be able to quickly find records that match a criterion, such as all East ABC records.

	A	B	C	D	E	F
1	Region	Product	Date	Customer	Quantity	Revenue
2	East	XYZ	Jul-04	Nortel Networks	1000	25350
3	West	XYZ	May-04	Sun Life Financial	1000	25310
4	Central	XYZ	Feb-04	Wal-Mart	1000	25140
5	West	XYZ	Feb-04	General Motors	1000	25080
6	East	XYZ	Apr-04	Ford	1000	25060

Fig. 641

Strategy: Use the AutoFilter feature.

- 1) Make sure your data has a heading row. From the menu, select Data – Filter – AutoFilter. You will have a dropdown on each heading, as shown in Fig. 642.

	A	B	C	D	E	F
1	Regio▼	Produ▼	Date▼	Customer▼	Quant▼	Reveni▼
2	East	XYZ	Jul-04	Nortel Networks	1000	25350
3	West	XYZ	May-04	Sun Life Financial	1000	25310
4	Central	XYZ	Feb-04	Wal-Mart	1000	25140

Fig. 642

- 2) As shown in Fig. 643, use the dropdown to select East from the region dropdown.

	A	
1	Regio▼	Pr
	(All)	Y
	(Top 10...)	Y
	(Custom...)	Y
	Central	Y
	East	Y
	Government	Y
	Southeast	Y
	West	Y

Fig. 643

**Part
III**

- 3) As shown in Fig. 644, select ABC from the Product dropdown.

A	B	C
Regio▼	Produ▼	Date
East	(All)	Jul-
East	(Top 10...)	Apr-
East	(Custom...)	
East	ABC	Nov-
East	DEF	Jun-
East	XYZ	Oct-

Fig. 644

Result: You will see only sales of product ABC in the East region, as shown in Fig. 645. All of the other rows will be hidden.

	A	B	C	D	E	F
1	Regio▼	Produ▼	Date▼	Customer▼	Quant▼	Reveni▼
65	East	ABC	Apr-04	Sun Life Financial	1000	20310
74	East	ABC	Jun-04	Verizon	1000	19630
101	East	ABC	Jul-04	Wal-Mart	1000	18660
102	East	ABC	Oct-04	Nortel Networks	900	18576
114	East	ABC	Dec-04	Wal-Mart	900	18243
117	East	ABC	Jun-04	Molson, Inc	900	18072

Fig. 645

Caution: To copy just the filtered records, you will have to use *Edit – Go To – Special – Visible Cells Only* to select only the visible cells on the sheet.

Additional Information: There are three special choices at the top of each column.

- 1) Use (All) to “cancel” a filter on one column, as shown in Fig. 646.

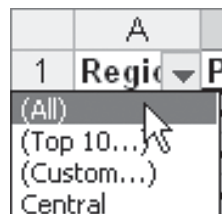


Fig. 646

- 2) As shown in Fig. 647, use Top 10... to see the top N records or the top n percent of the records.

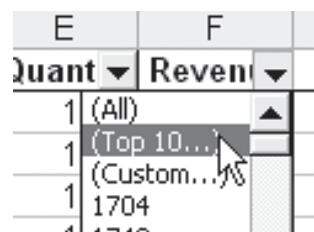


Fig. 647

- 3) After you select Top 10, the Top 10 AutoFilter dialog appears, as shown in Fig. 648. You can choose if you want the top 10 percent or the top 10 items, and also change the “10” to “5” or to any other number. This can also be used to show the bottom 10 records.

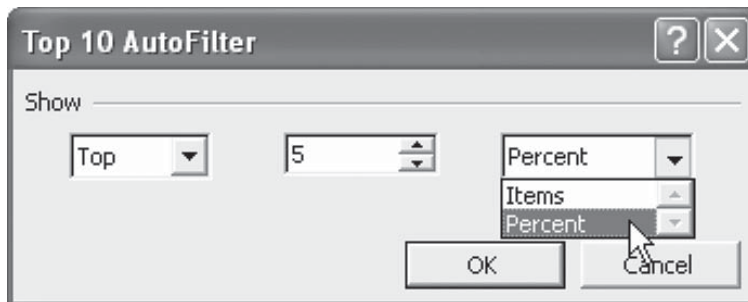


Fig. 648

- 4) As shown in Fig. 649, use Custom to build a criteria joined by AND or OR.

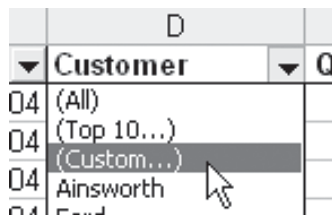


Fig. 649

- 5) In the Custom AutoFilter dialog box, you can choose two values and specify whether they should be joined by AND or OR, as shown in Fig. 650.

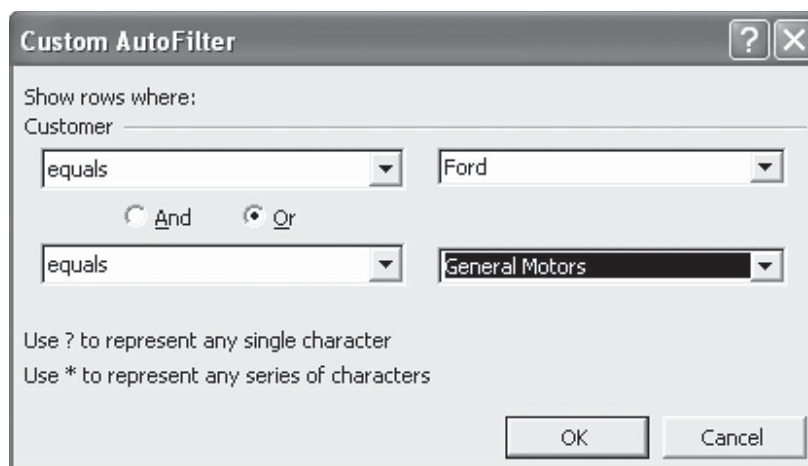


Fig. 650

- 6) To remove the AutoFilter dropdowns and show all records, go to the Data menu again and re-select AutoFilter. This will toggle the AutoFilter off.

Summary: Use Data – Filter – AutoFilter to have Excel show you data matching certain criteria in a column.

Commands Discussed: Data – Filter – AutoFilter

FIND THE UNIQUE VALUES IN A COLUMN

Problem: You have a large database, as shown in Fig. 651. Before you can produce a report for each customer, you need to identify the complete list of unique customers.

	A	B	C	D	E	F
1	Product	Jan	Feb	Mar	Q1	Customer
2	XYZ	93	94	85	272	406
3	DEF	99	79	87	265	403
4	GHI	79	67	98	244	403
5	XYZ	99	69	76	244	403
6	ABC	65	81	93	239	403
7	DEF	63	95	80	238	403
8	ABC	68	62	99	229	405
9	DEF	61	99	67	227	403
10	XYZ	36	96	94	226	403

Fig. 651

Strategy: There are many solutions to the Unique Customer problem. In this tip, you will use the Advanced Filter command on the data menu. Follow these steps.

- 1) First, copy the Customer heading from F1 to a blank area of the spreadsheet, as shown in Fig. 652.

	A	B	C	D	E	F	G	H
1	Product	Jan	Feb	Mar	Q1	Customer		Customer
2	XYZ	93	94	85	272	406		
3	DEF	99	79	87	265	403		

Fig. 652

- 2) Select a single cell in your data range. From the menu, select Data–Filter – Advanced Filter. The Advanced Filter dialog contains many powerful options. By default, it will look as shown in Fig. 653.

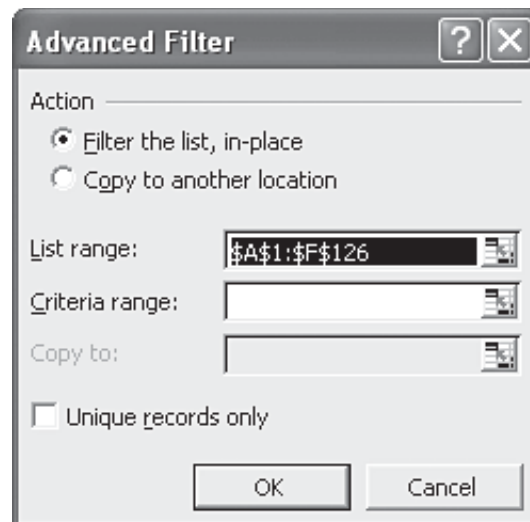


Fig. 653

Part
III

- 3) As shown in Fig. 654, choose the Unique Records Only checkbox. Change the Action section to Copy to Another Location. Selecting this action enables the Copy To range. Place the cursor in the Copy To dialog box and highlight the out-of-the-way copy of the Customer heading.

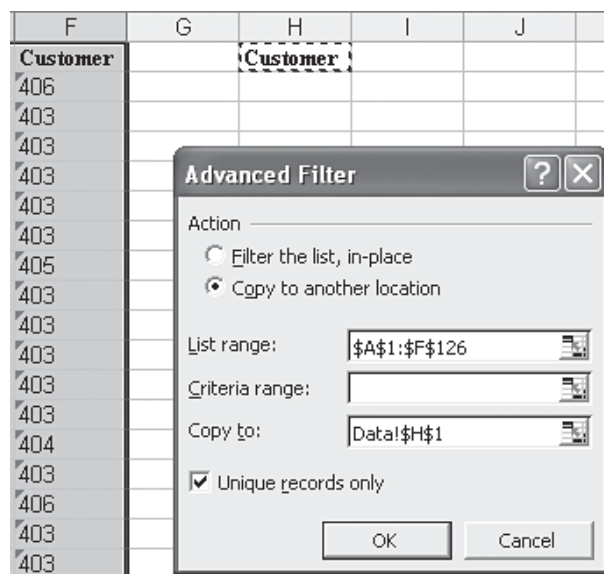


Fig. 654

- 4) Choose OK. Excel will find the unique customer numbers and copy them to the range you specified, as shown in Fig. 655.

H
Customer
406
403
405
404
402
401

Fig. 655

Gotcha: Any subsequent use of the Advanced Filter command during this Excel session will remember the List Range specified in the prior Advanced Filter.

Summary: One use of the Advanced Filter command is to generate a unique list of one particular field in a dataset.

Commands Discussed: Data – Advanced Filter

COPY MATCHING RECORDS TO A NEW WORKSHEET

Problem: From the dataset shown in Fig. 656, you want to copy records for one particular customer to a new worksheet.

	A	B	C	D	E	F
1	Product	Jan	Feb	Mar	Q1	Customer
2	XYZ	93	94	85	272	406
3	DEF	99	79	87	265	403
4	GHI	79	67	98	244	403
5	XYZ	99	69	76	244	403
6	ABC	65	81	93	239	403
7	DEF	63	95	80	238	403
8	ABC	68	62	99	229	405
9	DEF	61	99	67	227	403
10	XYZ	36	96	94	226	403

Fig. 656

Strategy: Use the Advanced Filter command with a Criteria range. Follow these steps.

- 1) First, copy the Customer heading from F1 to a blank area of the spreadsheet, as shown in Fig. 657. In this case, H1:H2 will be the criteria range for the filter.

	A	B	C	D	E	F	G	H	
1	Product	Jan	Feb	Mar	Q1	Customer		Customer	
2	XYZ	93	94	85	272	406			
3	DEF	99	79	87	265	403			

Fig. 657

- 2) In cell H2, enter the customer number that you want to extract. Make sure to use the same format in which the data exists in the database. In this case, 406 in F2 is a text value. If you want customer 406, copy cell F2 to H2 to ensure that they are in the same format.
- 3) Select a single cell in your data range. From the menu, select Data – Filter – Advanced Filter to display the Advanced Filter dialog, as shown in Fig. 658.

**Part
III**

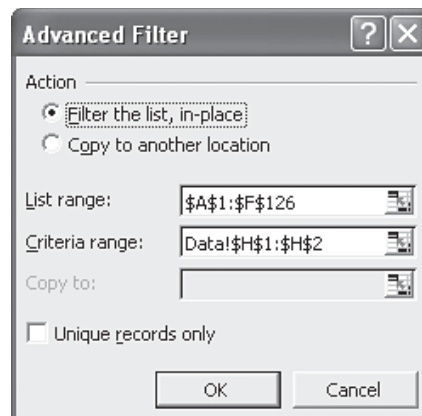


Fig. 658

- 4) The Action setting should remain as Filter the List, In-Place. Move the cursor to the Criteria Range column and highlight the criteria range of H1:H2 with the mouse. Click OK to perform the Advanced Filter.

Result: As shown in Fig. 659, Excel will hide all of the rows that do not match the criteria.

	A	B	C	D	E	F
1	Product	Jan	Feb	Mar	Q1	Customer
2	XYZ	93	94	85	272	406
16	GHI	79	80	55	214	406
21	GHI	49	74	84	207	406
36	XYZ	99	50	44	193	406
37	ABC	60	88	39	187	406
118	DEF	17	9	59	85	406
127						

Fig. 659

In order to copy these cells to a new worksheet, you must select the visible cells only.

- 1) Highlight the range A1:F118. From the menu, select Edit – Go To. In the lower left corner of the Go To dialog, choose the Special button. On the Go To Special dialog box, in the right column, select Visible cells only, as shown in Fig. 660.

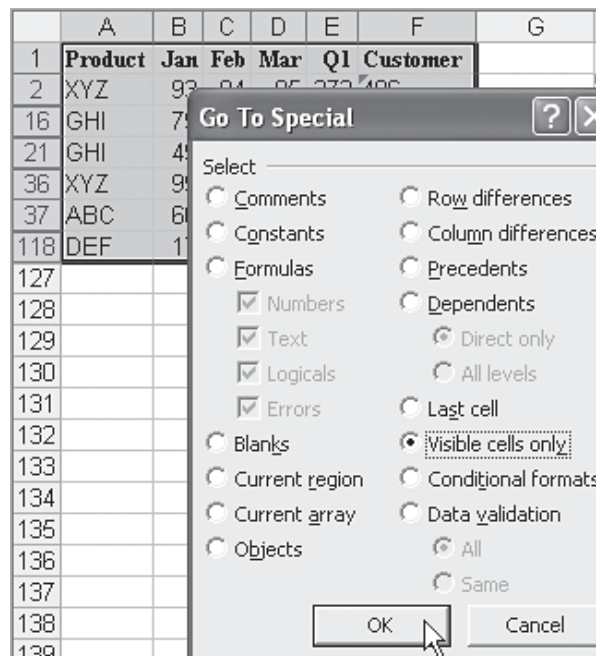


Fig. 660

- 2) When you click OK, the display barely changes. As shown in Fig. 661, you will notice bands of white in between the rows. Excel is indicating to you that there are hidden rows that are not included in the selection.

	A	B	C	D	E	F
1	Product	Jan	Feb	Mar	Q1	Customer
2	XYZ	93	94	85	272	406
16	GHI	79	80	55	214	406
21	GHI	49	74	84	207	406
36	XYZ	99	50	44	193	406
37	ABC	60	88	39	187	406
118	DEF	17	9	59	85	406
127						

Fig. 661

- 3) You can now copy those rows with Ctrl+C and paste to a new worksheet.

Result: Only the matching rows are copied, as shown in Fig. 662.

**Part
III**

	A	B	C	D	E	F
1	Product	Jan	Feb	Mar	Q1	Customer
2	XYZ	93	94	85	272	406
3	GHI	79	80	55	214	406
4	GHI	49	74	84	207	406
5	XYZ	99	50	44	193	406
6	ABC	60	88	39	187	406
7	DEF	17	9	59	85	406

Fig. 662

Additional Details: On the original sheet, to clear the Advanced Filter and show all of the rows again, choose Data – Filter – Show All, as shown in Fig. 663.

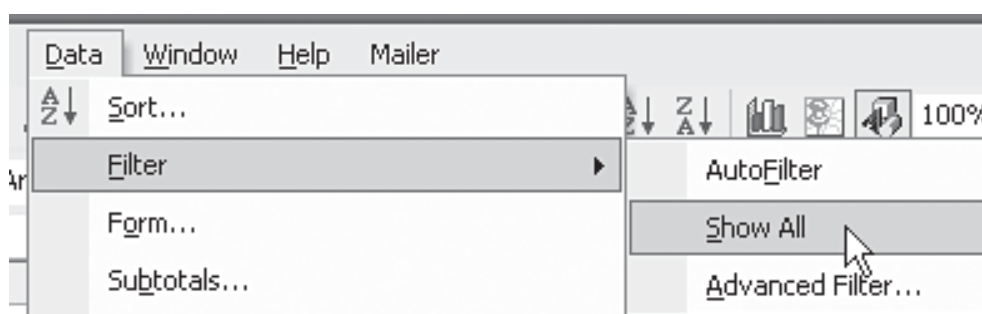


Fig. 663

Summary: One use of the Advanced Filter command is to extract a certain customer from a dataset.

Commands Discussed: Data – Filter – Advanced Filter; Edit – Go To – Special – Visible Cells Only; Data – Filter – Show All

HOW TO DO 40 DIFFERENT WHAT-IF ANALYSES QUICKLY

Part III

Problem: You want to buy a car. You want to compare eight price points and four loan terms to calculate the monthly payment amount.

Strategy: There are two methods. The cool method is to use a data table. As shown in Fig. 764, set up the worksheet as follows:

- 1) Enter one price in cell B2.
- 2) Enter one term in cell B3.
- 3) Enter the current annual interest rate in B4.
- 4) In cell B5, enter a formula to calculate a monthly payment:
`=PMT(B4/12,B3,B2)`

Cell B5 is going to be the magic corner cell of your data table.

		B5		fx	=PMT(B4/12,B3,B2)
	A	B	C	D	E
1					
2	Price	29995			
3	Term	48			
4	Interest	5.40%			
5	Payment	\$696.21			

Fig. 764

- 5) In cells B6:B9, enter the four possible terms that you would like to compare. In cells C5:L5, enter the possible prices that you hope to negotiate to, as shown in Fig. 765.
- 6) Select the rectangular range of B5:L9. As shown in Fig. 765, the upper left corner of this range contains the formula to calculate your monthly payment.

B5		fx =PMT(B4/12,B3,B2)										
	A	B	C	D	E	F	G	H	I	J	K	L
1												
2	Price	29995										
3	Term	48										
4	Interest	5.40%										
5	Payment	\$696.21	29995	28995	28495	27995	27495	26995	26495	25995	25495	24995
6		36										
7		48										
8		60										
9		72										
10												

Fig. 765

- 7) From the menu, select Data – Table. Excel will ask you to specify a row input cell. In other words, Excel will take each cell in the top row of the table and substitute it for this cell. Because these cells contain prices, choose cell B2 as the row input cell, as shown in Fig. 766.

	A	B	C	D	E	F	G	H	I
1									
2	Price	29995							
3	Term	48							
4	Interest	5.40%							
5	Payment	\$696.21	29995	28995	28495	27995	27495	26995	26495
6		36							
7		48							
8		60							
9		72							
10									
11									
12									
13									

Table

Row input cell:

Column input cell:

OK Cancel

Fig. 766

- 8) Next, Excel wants to know where the cells in the first column should be used. Because B6:B9 contains terms, specify cell B3, as shown in Fig. 767. Choose OK.

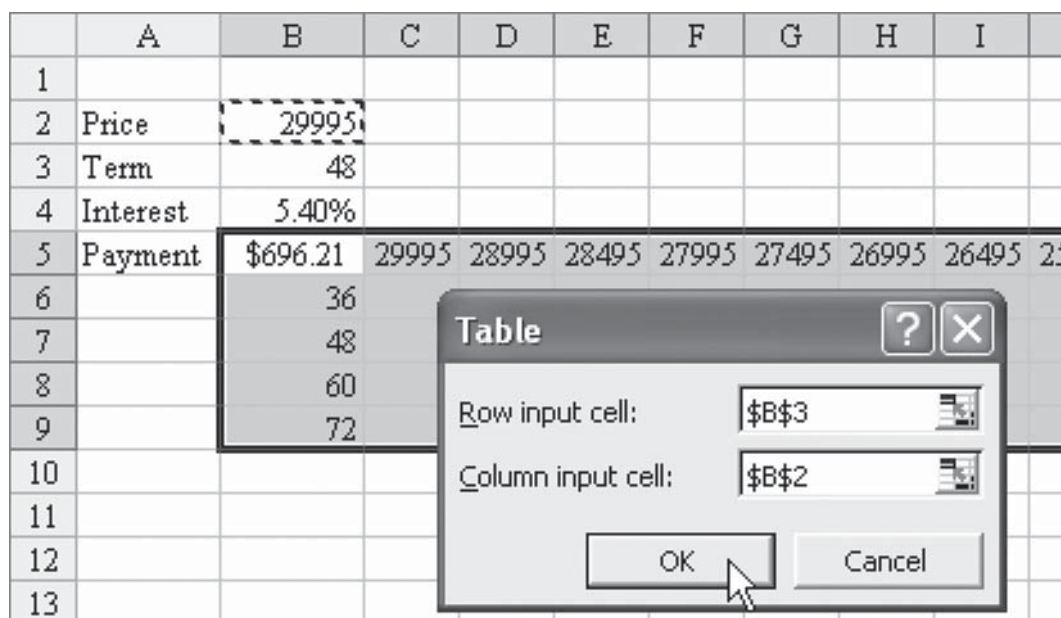


Fig. 767

Excel enters an array formula for you. You can see the monthly prices for many combinations of terms and price points, as shown in Fig. 768.

	A	B	C	D	E	F	G	H	I	J	K	L
1												
2	Price	29995										
3	Term	48										
4	Interest	5.40%										
5	Payment	\$696.21	29995	28995	28495	27995	27495	26995	26495	25995	25495	24995
6		36	904.4	874.2	859.1	844.1	829	813.9	798.8	783.8	768.7	753.6
7		48	696.2	673	661.4	649.8	638.2	626.6	615	603.4	591.8	580.2
8		60	571.6	552.5	543	533.4	523.9	514.4	504.9	495.3	485.8	476.3
9		72	488.7	472.4	464.2	456.1	447.9	439.8	431.6	423.5	415.3	407.2
10												

Fig. 768

If you are looking for a monthly payment of \$495, you will have to either negotiate down to a price of \$25,995 with a 60-month loan, or choose a 72-month loan, as shown in Fig. 769.

	A	B	C	D	E	F	G	H	I	J	K	L
1												
2	Price	29995										
3	Term	48										
4	Interest	5.40%										
5	Payment	\$696.21	29995	28995	28495	27995	27495	26995	26495	25995	25495	24995
6		36	904.4	874.2	859.1	844.1	829	813.9	798.8	783.8	768.7	753.6
7		48	696.2	673	661.4	649.8	638.2	626.6	615	603.4	591.8	580.2
8		60	571.6	552.5	543	533.4	523.9	514.4	504.9	495	485.8	476.3
9		72	489	472.4	464.2	456.1	447.9	439.8	431.6	423.5	415.3	407.2
10												
11												

Fig. 769

The formulas in the table are live. As shown in Fig. 770, you can re-enter new values in the first column and row of the table in order to zoom in on possible scenarios.

\$696.21	29995	29295	28795	28195	27695	27095	26595	25995	25495	24995
60	571.6	558.2	548.7	537.3	527.7	516.3	506.8	495	485.8	476.3
63	547.8	535.1	525.9	515	505.8	495	485.7	474.8	465.7	456.5
66	526.3	514	505.3	495	486	475.4	466.7	456.1	447.3	438.6
69	506.7	495	486.4	476.3	467.8	457.7	449.2	439.1	430.6	422.2

Fig. 770

Additional information: You can also change the formula in B5 and the table will update.

Summary: The Data Table command is a powerful command for comparing several what-if scenarios.

Commands Discussed: Data – Table

REMOVE BLANKS FROM A RANGE

Problem: Someone has given you data pasted from Word. As shown in Fig. 771, there are a number of blank cells in the list. You want to eliminate the blank rows.

Strategy: If the sequence is not important, sort the entire data range. Excel will move all blank cells to the bottom of the sort range.

- 1) Move the cell pointer to A1. While holding down the Shift key, hit the End key and then the Home key. This should select the entire range of data in the spreadsheet.
- 2) From the menu, select Data – Sort. As shown in Fig. 772, indicate that your data does not have a header row in the Sort dialog box. Choose OK.

	A
1	H
2	He
3	
4	Li
5	Be
6	B
7	C
8	N
9	O
10	F
11	Ne
12	
13	Na
14	Mg

**Part
III**

Fig. 771

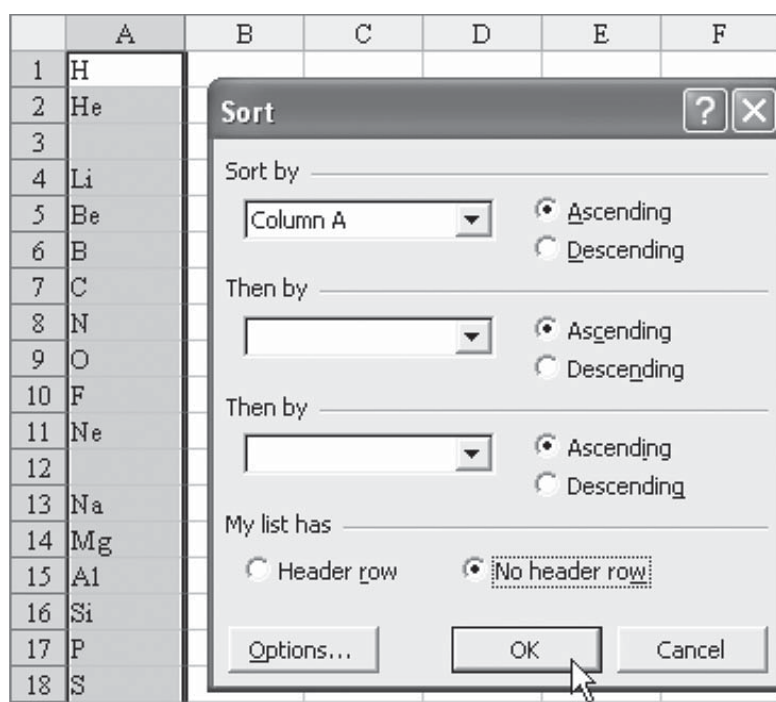


Fig. 772

Result: The blanks will be removed from the list, as shown in Fig. 773.

	A
1	Ac
2	Ag
3	Al
4	Am
5	Ar
6	As
7	At
8	Au
9	B
10	Ba
11	Be
12	Bh
13	Bi
14	Bk
15	Br
16	C
17	Ca

Fig. 773

Summary: Excel's Sort feature always moves blank cells to the end of the sort. Sorting a column with blanks is a quick way to remove the blanks from the data.

Commands Discussed: Data – Sort

REMOVE BLANKS FROM A RANGE WHILE KEEPING THE ORIGINAL SEQUENCE

Problem: Someone has given you data pasted from Word, as shown in Fig. 774. There are a number of blank cells in the list. You want to eliminate the blank rows but need to keep the data in the original sequence.

	A
1	H
2	He
3	
4	Li
5	Be
6	B
7	C
8	N
9	O
10	F
11	Ne
12	
13	Na
14	Mg

Fig. 774

Strategy: The previous trick of sorting data to move the blanks to the end is effective, but it destroys the original sequence of the range. Before sorting, add a temporary column with the original sequence numbers so that the data can be sorted back. Follow these steps.

- 1) Insert a new row 1. Place the cell pointer in cell A1 and from the menu, select Insert – Rows. Since you have only one cell selected, only one row will be inserted.
- 2) In A1, enter a heading such as Symbol. In cell B1, enter a heading such as Sequence. Make both headings bold with Ctrl+B.
- 3) In cell B2, enter the number 1. In cell B3, enter the number 2. Select cells B2:B3, as shown in Fig. 775.

	A	B
1	Symbol	Sequence
2	H	1
3	He	2
4		

Fig. 775

- 4) Grab the Fill handle and drag down to the last row with data. The series of 1, 2, 3 will extend down to 129 in row 130, as shown in Fig. 776.

126	Uuq	125
127	Uup	126
128	Uuh	127
129	Uus	128
130	Uuo	129

Fig. 776

- 5) Next, sort the data by column A. Select a single cell in column A and hit the AZ button in the Standard toolbar.
- 6) Hit the End key and then the Down Arrow key to ride the range down to the last cell in A with data. You will want to delete the rows below this last cell. These are the blank cells. It is important to delete the sequence numbers from B for the blank cells so that they do not sort back into the data in the next step. One way to delete these rows is to highlight the row numbers, right-click, and choose Delete, as shown in Fig. 777.

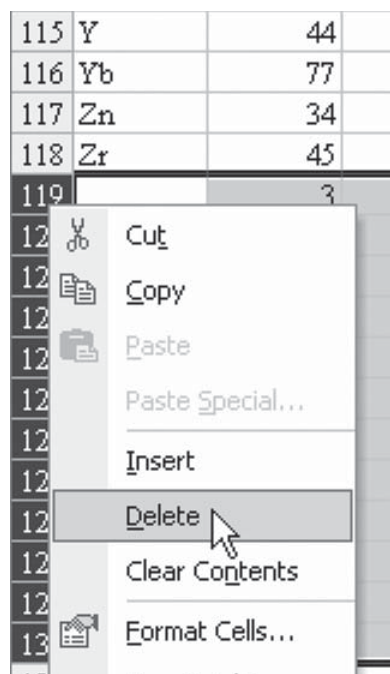


Fig. 777

- 7) Move the cell pointer to B2. Choose the AZ button in the Standard toolbar to sort the data into the original sequence without the blanks, as shown in Fig. 778.
- 8) You can now delete the temporary column B. From the menu, select Edit – Delete – Entire Column.
- 9) You can also delete the temporary row 1. Move to A1. From the menu, select Edit – Delete – Entire Row.

	A	B
1	Symbol	Sequence
2	H	1
3	He	2
4	Li	4
5	Be	5
6	B	6

Fig. 778

Result: The blanks will be removed from the list and the list will retain the original sequence.

Summary: To remove blanks while keeping the original sequence, add a temporary column with sequence numbers to allow the list to return to the original sequence.

Commands Discussed: Data – Sort