

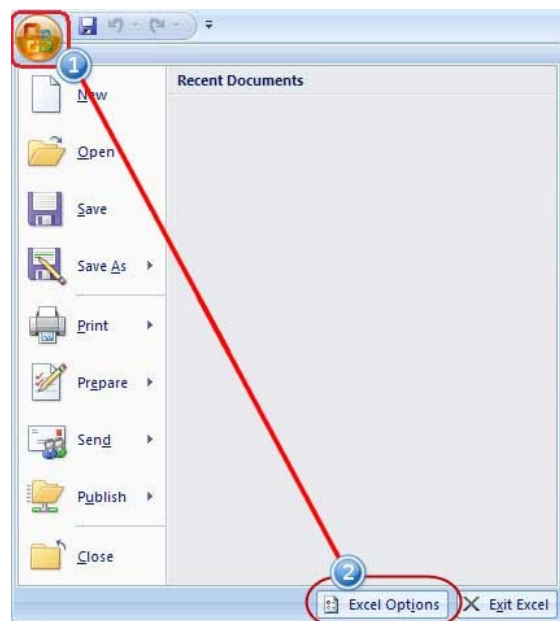
MS Excel allows us to create our own UDFs (user-defined functions). Using the help of VBA (Visual Basic Application), we can make formulas only once and use them any number of times in our Excel Sheets and workbooks. These UDFs can be applied just like any other built-in functions, which are already available in MS-Excel.

In this Post, we are going to see how to create a simple UDF.

Visual Basic Editor:

To create the UDF, we need to call up the Visual Basic Editor.

1. In MS-Excel 2003, It is located in the Tools > Macros Menu.
2. In MS-Excel 2007, to locate it, we have to follow the following steps.
 - a. Step 1: Enable the Developer Tab.
 - i. Click the Microsoft Office Button, and then click Excel Options.



- ii. In the categories pane, click Popular and select Show Developer tab in the ribbon.



iii. Click OK to close the Option dialog box.

2

b. Step 2: Open Visual Basic Editor

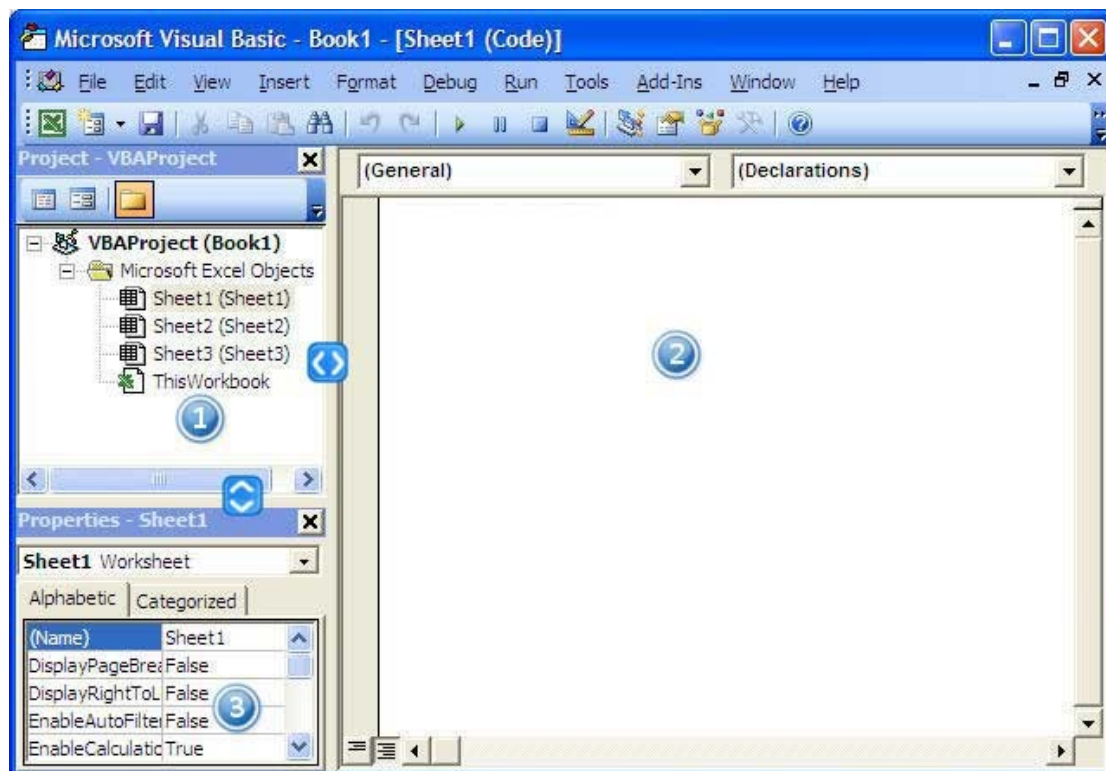
i. Click the Developer item on the main ribbon and then click Visual Basic item in the code panel.

Shortcut key to open the Visual Basic Editor

Alt+F11

VBE will open with three windows inside the VBE environment. They are,

1. The Project Window,
2. The Code Window (2), and
3. The Properties Window (3).



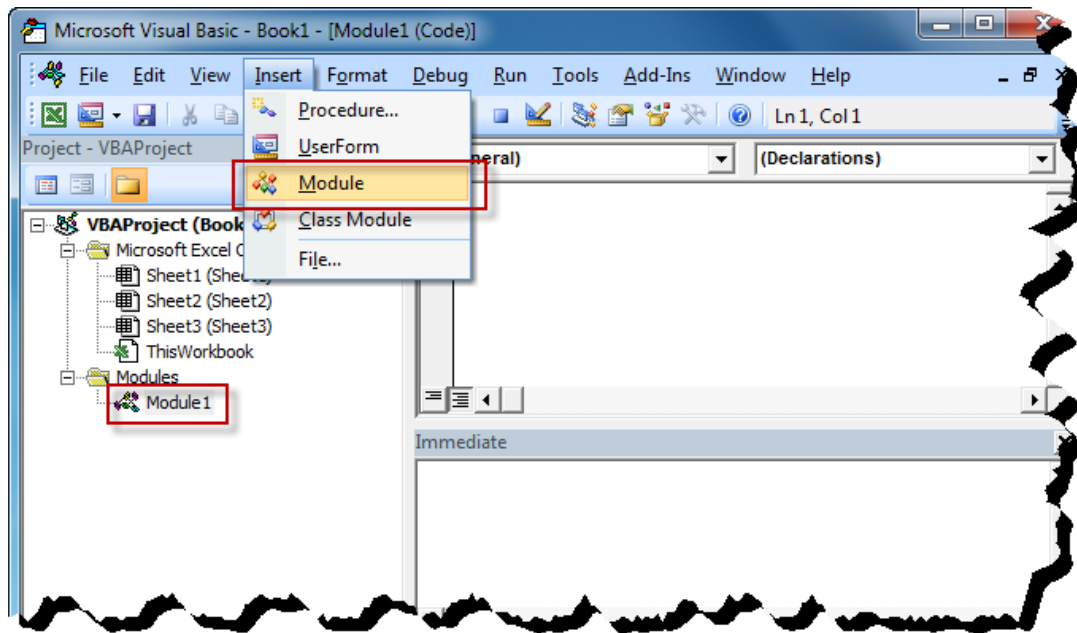
We can resize the windows by left-clicking where the resize icons, holding and moving sideways or up and down.

User Defined Function

To create a UDF, we need to insert a module.

Click Insert > Module.

The VBE creates a New Module (Module1) inside the project (See Project window).



Note: If we record any macro, the macro will be stored inside the module only.

Every custom function (UDF) begins with the key word '**Function**' followed by the name of the function and parentheses. It ends with the key word '**End Function**'.

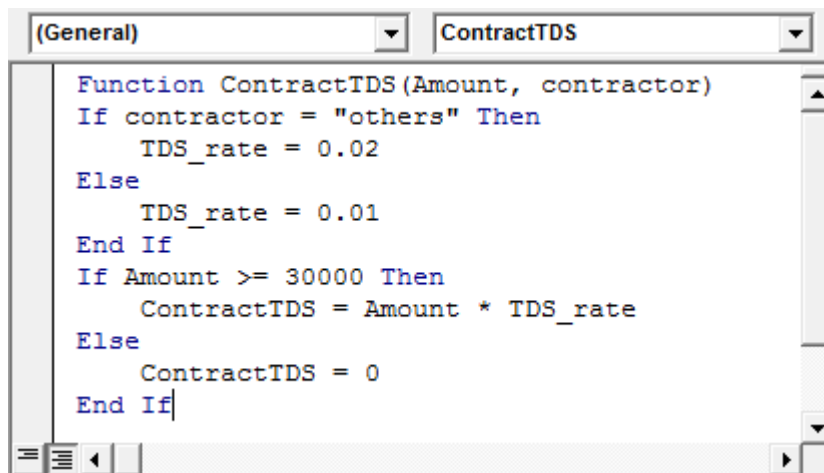
VBE will automatically insert this End Function key word, once we hit the enter key after typing the function, function name and the parentheses.

Now we are going to create a UDF to compute 194C Contract TDS.

When we make single payment to the Contractor, if the contract payment is Rs.30000 or more and the type of the contract is Individual/HUF, 1% on the Contract Payment will be deducted as TDS (if the contractor is other than individual/HUF, then 2% on the contract payment will be deducted as TDS). If the single payment is less than Rs. 30000, no TDS will be deducted on the contract payment.

Type the code inside the code windows as given in the below picture.

4



```
Function ContractTDS(Amount, contractor)
If contractor = "others" Then
    TDS_rate = 0.02
Else
    TDS_rate = 0.01
End If
If Amount >= 30000 Then
    ContractTDS = Amount * TDS_rate
Else
    ContractTDS = 0
End If
```

Explanation

1. ContractTDS is the name of the function
2. Amount & Contractor are called variables
3. First step, we need to identify the type of the contractor. If the user enters the type of the contractor as 'others', our function will pick the TDS Rate as 2%. Otherwise, it will pick 1% as rate of TDS.
4. Second step, we need to identify whether the single payment amount is less than 30000 or not. If the user enters amount as 30000 or more, system will apply TDS rate on the Payment amount. Otherwise, it will consider ContractTDS as Nil.
5. Finally, the function will return the result.

Verification:

1. Close the VBE window. Go to the excel and select any worksheet.
2. Select B1 and type 'others'
3. Select B2 and type '35000'
4. Enter our formula as given in the below picture.

	A	B	C
1	Contractor Type	others	
2	Amount paid	35000	
3	TDS	=ContractTDS(B2,B1)	
4	Net Amount	34300	

5. Function will return '700' as TDS. (i.e. 2% on 35000, because amount is not less than 30000 and the contractor type is others)
6. Change your inputs and see the result.