

IENG314 / MANE314 Operations Research – II

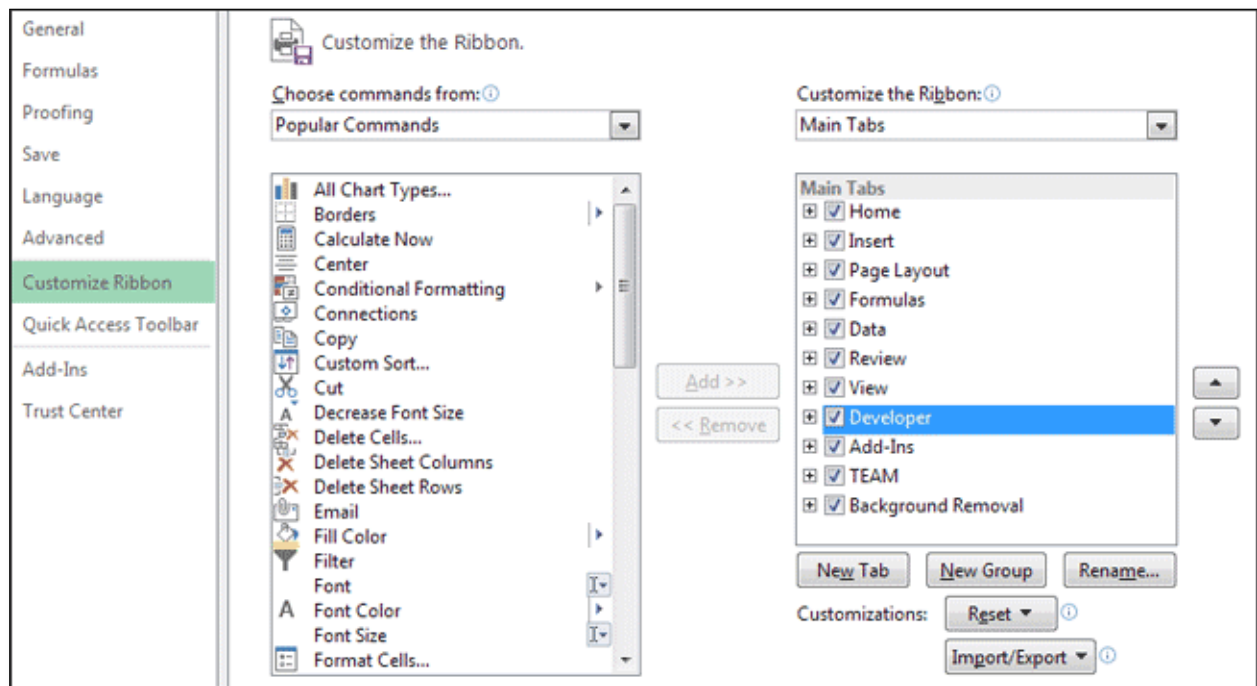
VBA –Session 1

Introduction to VBA

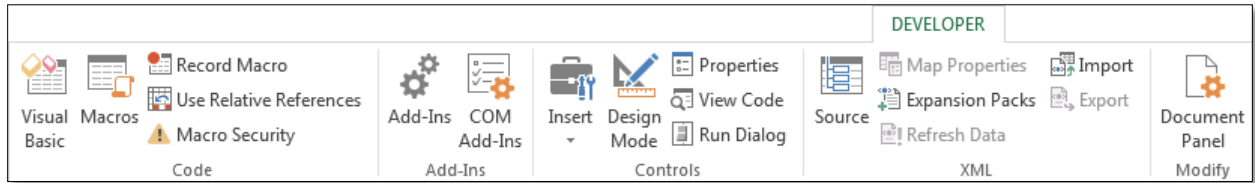
VBA stands for Visual Basic for Applications. It's a programming language that enables you to control everything in Excel. Learning Excel VBA will enable you to do a lot more with the software than you can via the normal spreadsheet view.

How to Add the Developer Toolbar to Excel

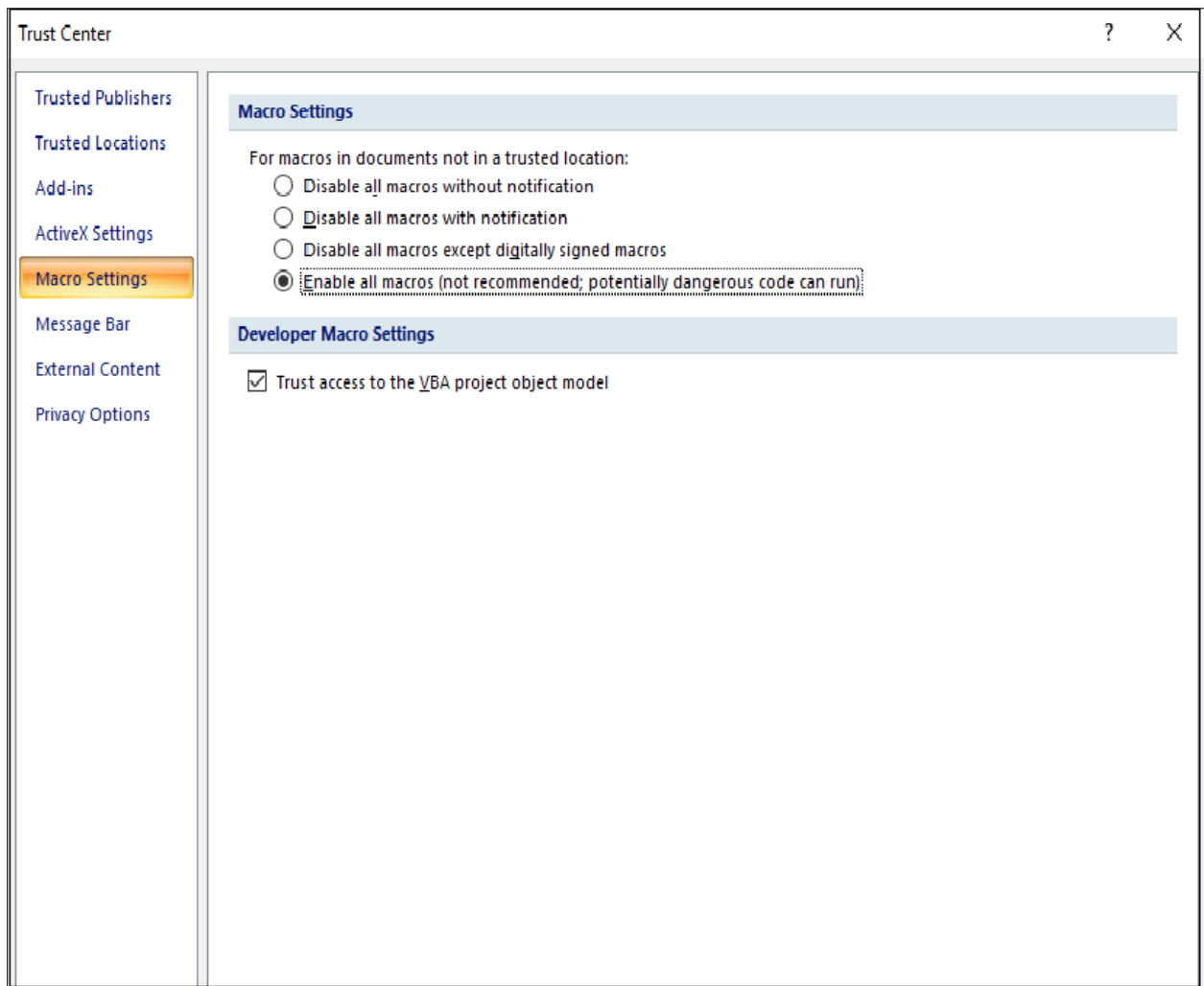
Click the **File** menu then select **Options**. From the dialogue box, click on **Customize Ribbon** on the left side. From the right hand side you'll then see an area called "Customize the Ribbon". Under "Main Tabs" check the box for **Developer**.



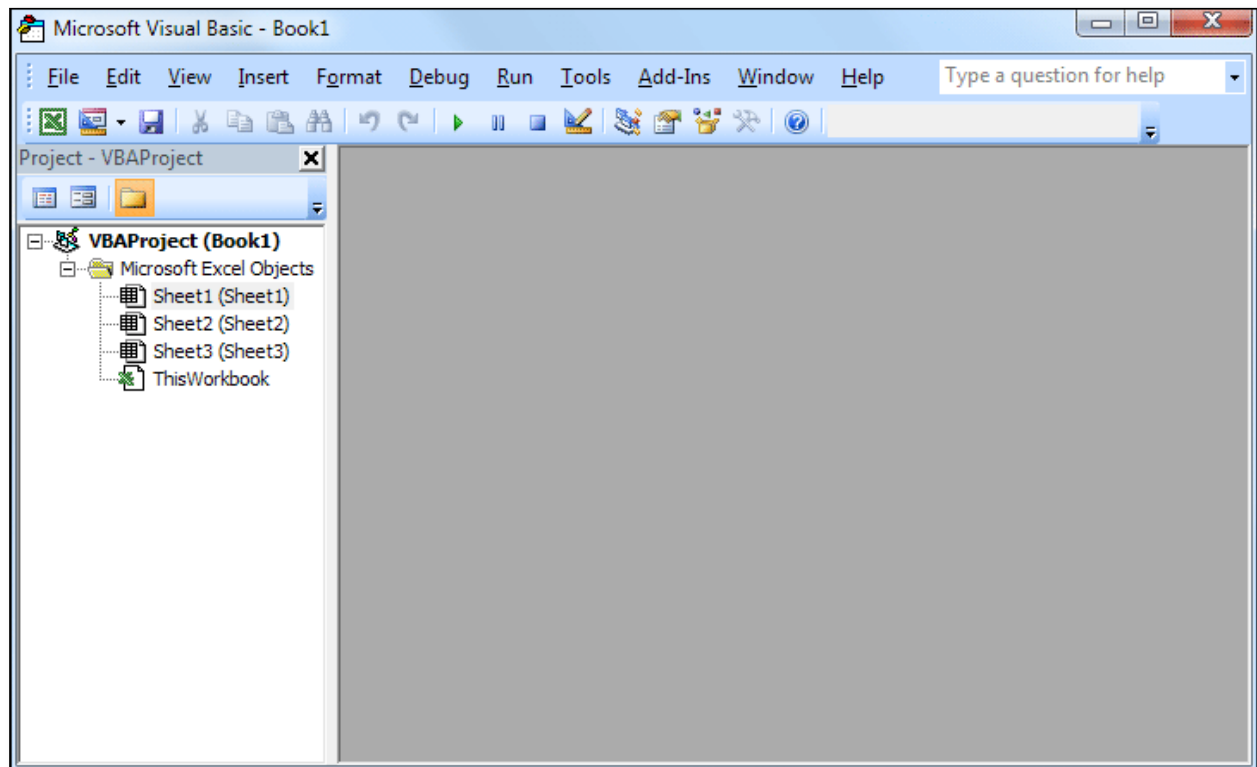
When you have the **Developer** toolbar, you'll see the following tab in the Ribbon.



In order to run macros without any annoying security warnings, click on **Macro Security**, on the **Code** panel. Select the option for **Enable all macros**. Then make sure that "Trust access to the VBA object model" is checked.

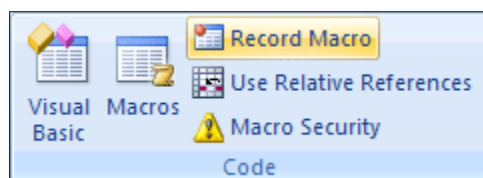


There are a few ways to open up the VBA Editor in Excel. From the **Developer** tab, on the **Code** panel, you can click the **Visual Basic** button. On the **Controls** panel of the **Developer** tab, you can click **View Code**.

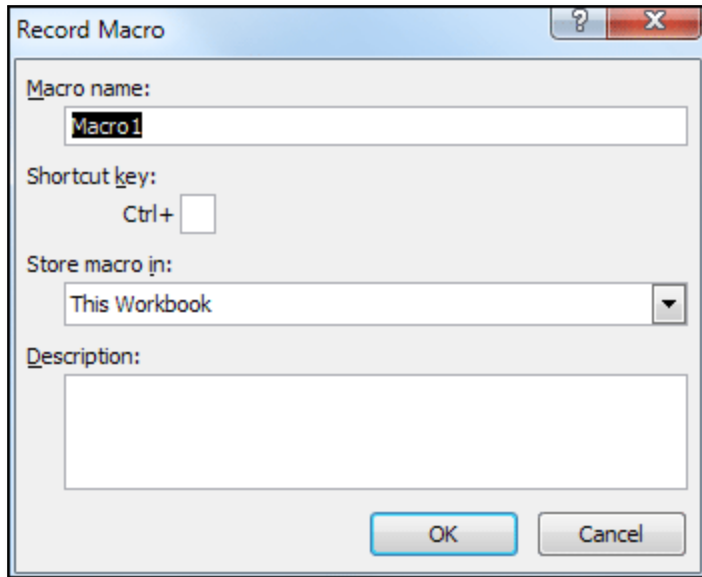


Recording Macros and Manipulating Them:

On the **Developer** tab, locate the **Code** panel and click **Record Macro**:



The **Record Macro** dialogue box should appear:



For the **Macro Name**, type the name that you want to save our macro by it

In the **Shortcut Key**, type the shortcut key that you want to invoke the macro by it.

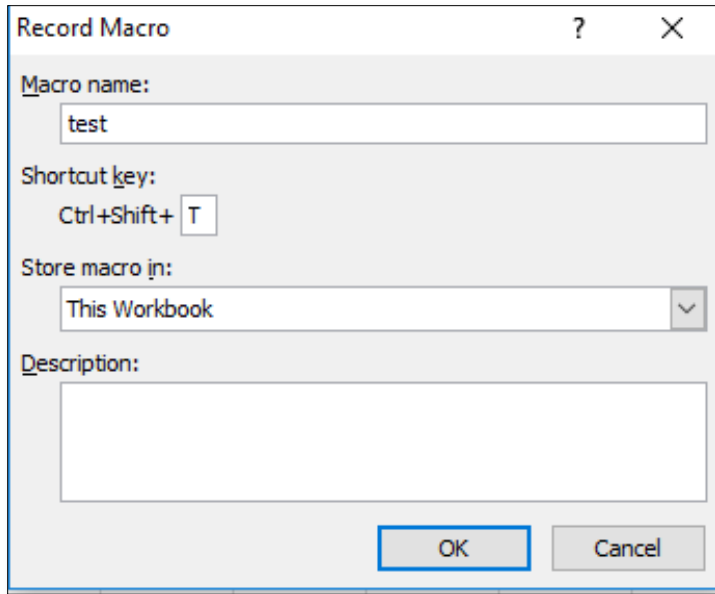
You can also add **Description** for the macro.

Be aware that as soon as pressing **Ok** button in the previous dialog box two things happen: first **Record Macro** button changes to **Stop Recording**, second excel starts looking for your action and will record all actions that you do in excel sheet.

Close the window and go back to our Excel normal screen.

As an example record a macro that changes the cell color.

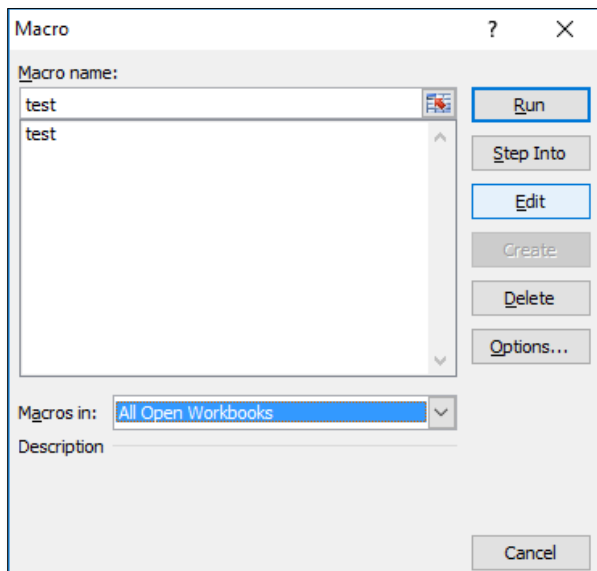
Click on the **Developer** tab again, and click **Record Macro** on the **Code** panel. You should see the Record Macro dialogue box appear. Type the name as **test**. Define a shortcut key as **ctrl+shift+ T**. Click **OK**.



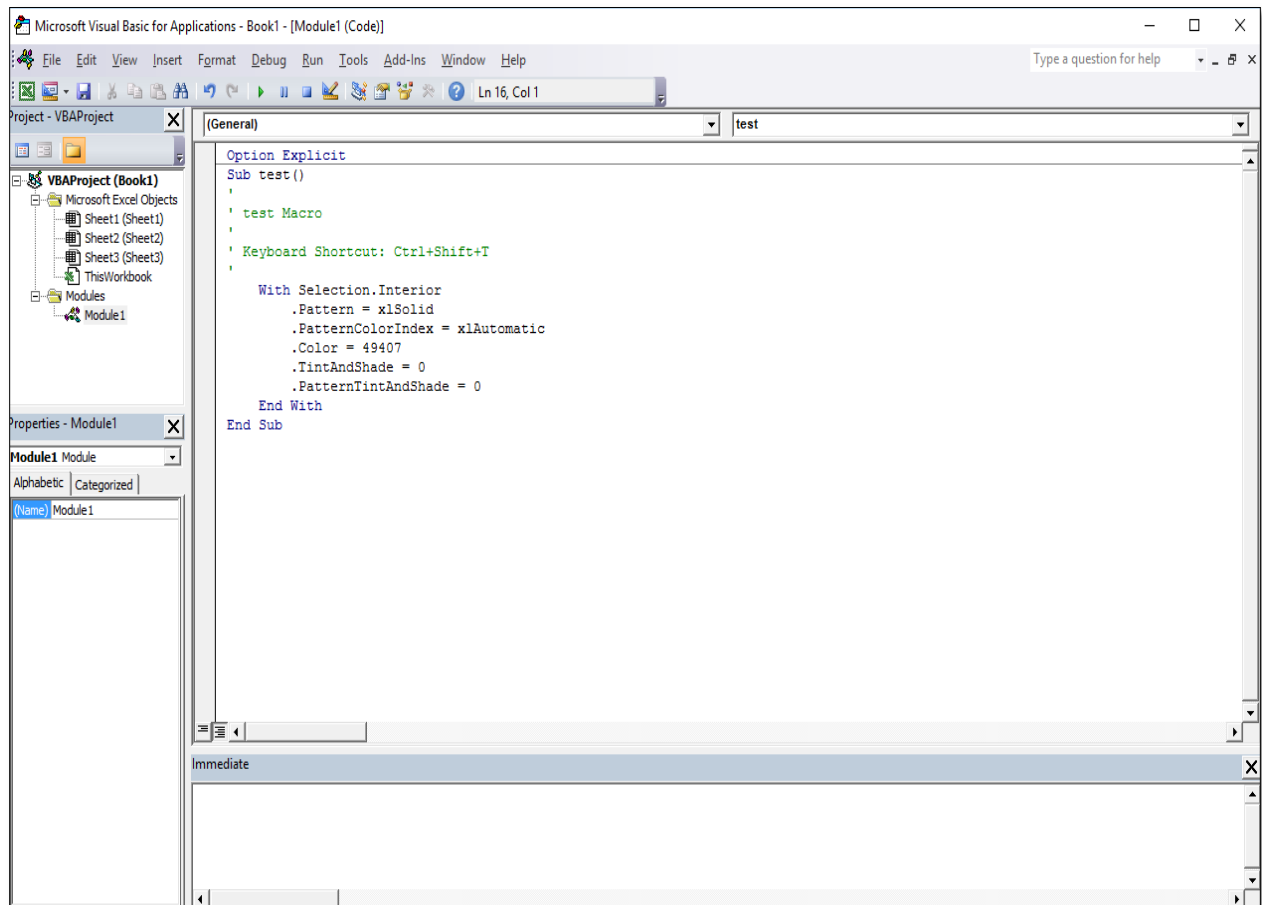
Go to excel sheet, change the color of a cell to one of the standard colors.

Stop the recording by clicking on the **Developer** tab.

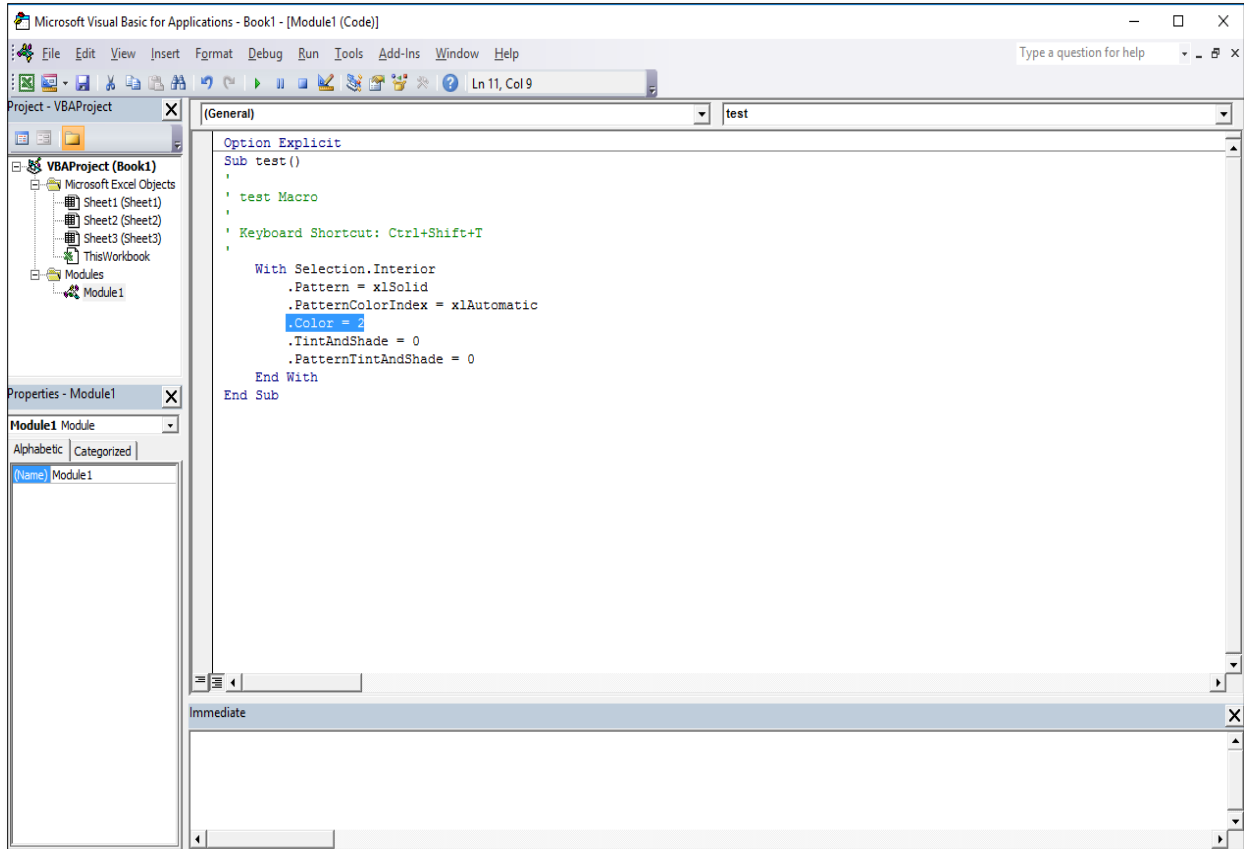
To see what excel did behind the scenes you can click on **Macros** button on **Developer** tab and select **Edit**.



This is what excel did behind the scenes. It has translated your actions into the code. You can change the code if you want.



You can change the font color by changing the number that equals to color. For example change it to **2** and go to excel sheet. As you see the text color has been changed.



By clicking on **Visual Basic** on **Developer** tab, we can write our macro. In next session we will begin to write our macros.

Examples:

- Recording a macro that changes the font size.
- Using the cell color changing macro by its shortcut key to other cells.