

Macros

What is a macro?

Before we get started learning how to create and use macros it's important to understand what they are. A macro is a time saving device. It is designed to perform operations that usually take you several steps. This can be just about anything that you do in an Office program, whether it's creating a formula in Excel or formatting a sentence in Word. The applications of this tool are almost limitless. We'll explore the creation of these timesavers and learn how we can use macros to make our Office experiences more pleasant.

General Macro Ideas

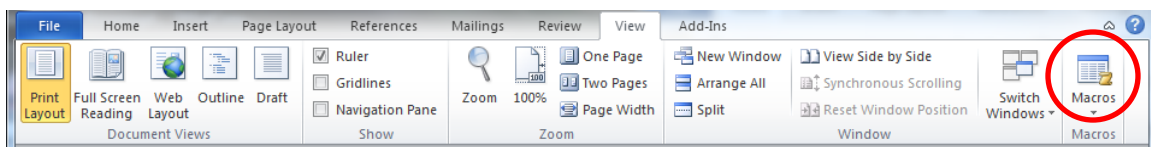
I can't stress enough how important it is to understand what the macro is really doing if you want to get it to work correctly. One recurring theme in recording and using these devices is to remember they work best when the commands are most general. How often does it come up that you need to change the text size and color of a 7 letter word? Probably not too often. On the other hand how often do you change the spacing and text size of your entire document? Or underline and center the title of your document? I can't speak for everyone but I do that very frequently. By making the rules of the macro general you can apply it in more situations, this will often call for some creative thinking to come up with the exact way to enter the commands so they can be reusable but this is all part of learning to work with macros. Other thing to understand with macros is their limitations. As much as it might seem like it sometimes the macro table is not a magic solution to all problems, all it can do is execute the same commands and functions that you can do; just much faster.

Recording Macros

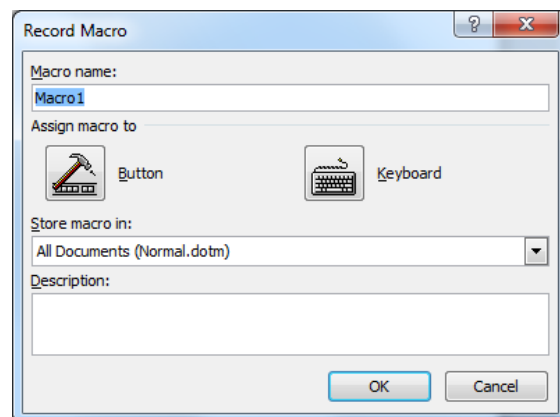
The easiest way to create a macro is by using the recording feature. This avoids the complexities of actual programming often associated with macro design. The concept behind recording a macro is almost like telling the computer "watch what I do" then telling it when to repeat your exact actions. Using this feature you can create another item in Word's macros list,

assign specific keyboard commands (hotkeys) to perform the macro, and even create toolbar buttons. To create a macro of your choice follow these steps:

1. Before beginning it's very important to be clear on what it is that you want to do and exactly how you're going to do it. Normally Office allows us the freedom to explore and experiment with few consequences, but errant clicks and back-stepping can make your macro inefficient and will usually result in having to start the recording process over again.
2. Place the cursor exactly where you will want the change to occur. Because of the nature of macros any relocating of the cursor during the recording process would make using your macro very confusing.



3. Left-click the "View" tab and select "Macro → Record New Macro..." from the ribbon. This screen will appear:



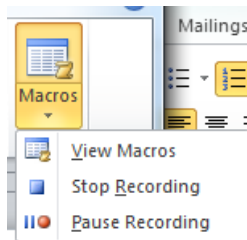
4. Name your macro: in the section "Macro name:" you need to enter a name describing what this macro will be for. You want this name to be easily recognizable since this is all you will see when you want to use this macro in the future.
5. Where to store your macro: the section "Store macro in:" determines whether this will be a local macro or universal. This means you can either use this macro in this document alone or you can make it available to anyone using Word on the computer you're using. This is determined by the pull down menu seen below. The majority of the time you're going to want the macro to be universal for all documents to increase its

usefulness. The only exception I can see is if you were using a public computer to work on a specific document and wanted to take the macro with you when you left the public computer to work somewhere else.

6. Description: whatever you type in this section will appear when selecting macros from you list to use (you'll see more of this later). So once you recognize the name of a macro you can click on it and the description will appear; which, if properly written, could confirm that the macro does what you want it to do. Simply type in a fitting description, perhaps including your name and when you created the macro if this is a computer used by more than one person, and that's all you need to do for the description.
7. Assign Macro to: this is a big one. What you determine here is how you can make the macro more easily accessible. No matter what you do here (or even if you ignore this step completely) you'll be able to use the macros menu, however, if this is something you'll be doing a lot of you often want to simplify things even further. For this reason we're allowed to assign either keyboard commands or buttons on the toolbar to macros. For class today we'll be using the keyboard assignment for the simple reason that the toolbar assignment won't work on every computer (differences in settings). To perform the Keyboard assign:
 - i. Left-click on the keyboard icon.
 - ii. Left-click in the space underneath "Press new shortcut key:"
 - iii. Press a combination of keys, usually involving the ctrl key or some other function key, that you want to be assigned to your macro.
 - iv. It will say underneath the box where you type your keys whether that combination is currently assigned to anything else. Ideally we'd want something currently unassigned but that isn't always practical so sometimes you need to just overwrite a previous hotkey.
 - v. Left-click "Assign"
 - vi. Confirm that your key assignment has moved into the "Current Keys" box then left-click "Close". You can assign multiple key combinations to the same macro but I don't recommend it.

What you've done is essentially created your own hotkey.

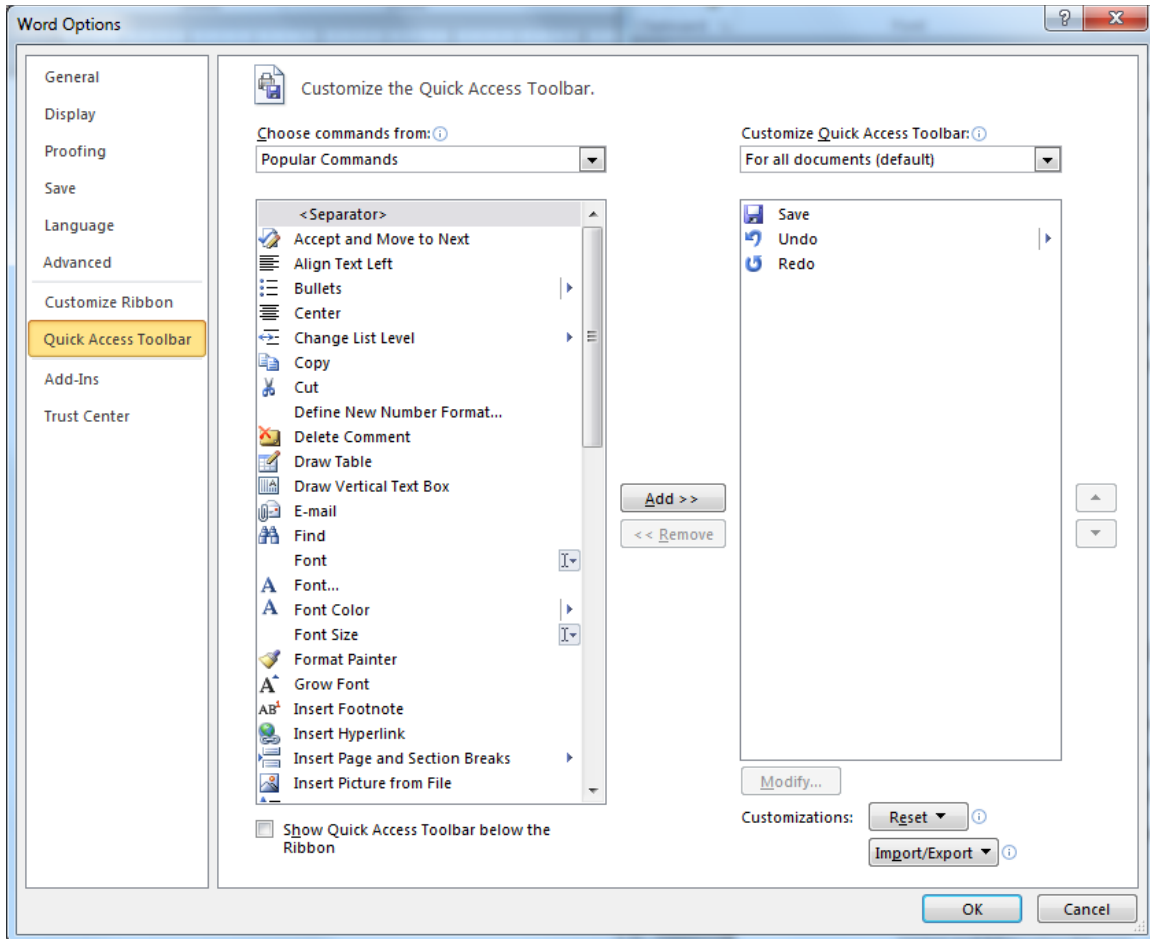
8. The second you clicked “Close” you began the recording stage of your macro. Careful now and no stray keystrokes or mouse actions. Everything you click or type will be remembered now until you press the stop button on the Recording toolbar which has popped open. I’ll give you specific in class instructions as to what we should do for our first macro but a rule to remember is to make everything you do as general as possible. I’ll explain more about this in class.
9. After you finished making whatever change desired click the stop button on the recording toolbar. You’ll notice that there is no message telling you the recording was successful or alerting you to the creation of a new macro. You simply return to using the document as normal. However your macro has been created and is ready to be used and reused.



Adding Macros to Ribbon and Quick Access Toolbar

If you create a macro for yourself or another user and want it to be as convenient as possible to access you can add a button for the task to whichever tab of the ribbon you like or to the quick access toolbar. To do this right click on any tab and choose either *Customize the Ribbon...* or *Customize Quick Access Toolbar...*

This screen appears:



On the right you see a list of all the existing buttons on the toolbar; on the left you see a list of possible additions. Using the pull down menu change the selection from Popular Commands to Macros then double-click the macro you want to add to your toolbar. After adding it to the list on the right select the macro and left-click the *Modify...* button. You will be given a list of possible icons to choose from. These are .ico files and it is possible to add to them but not through Office directly. Select the one you want to represent your macro and it will now be visible on the toolbar.

Using and Managing Macros

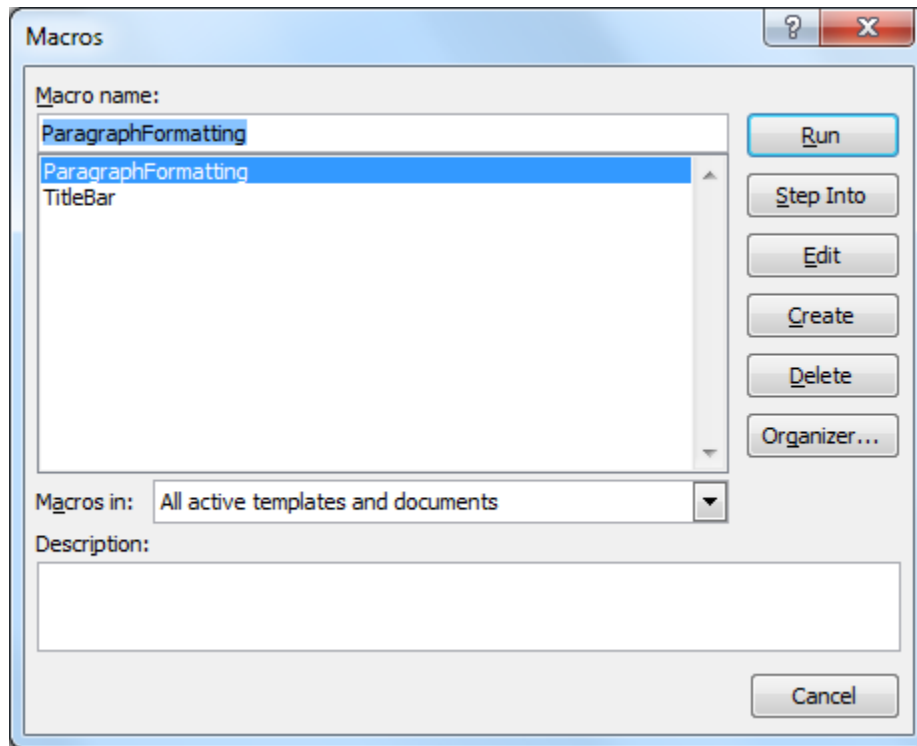
So far we've created a macro and stored it in our computer. Next thing we need to know is what exactly we're to do with this creation. Actually using the macro is fairly straightforward, follow these steps and you should be fine:

1. When the situation arises again where you'd like Word to perform the changes you've made a part of your macro the first thing you need to do is line up the cursor exactly as it was when you created the macro. What I mean by this is if it should be in front of the word/sentence/paragraph that you're changing then put it in front. If it should be at the end then put it at the end. Just make sure that you have everything set as it was during the creation. It's easy to get caught up in the more complex elements of macros and forget something simple like putting the cursor in the right spot.
2. Press the hotkeys you assigned to the macro.
3. Finished! You should have seen some blinking then all your changes taking effect.

What's that you say? Forgot the hotkeys or didn't assign them in the first place? No problem, we've got another, slightly slower method of using our macros.

1. Again you need to align the cursor correctly.
2. Open the "View" ribbon.
3. Choose "Macro→View Macros..." from the menu, you'll notice that "Alt+F8" will work the same as going through these menus.

4. This screen will appear:



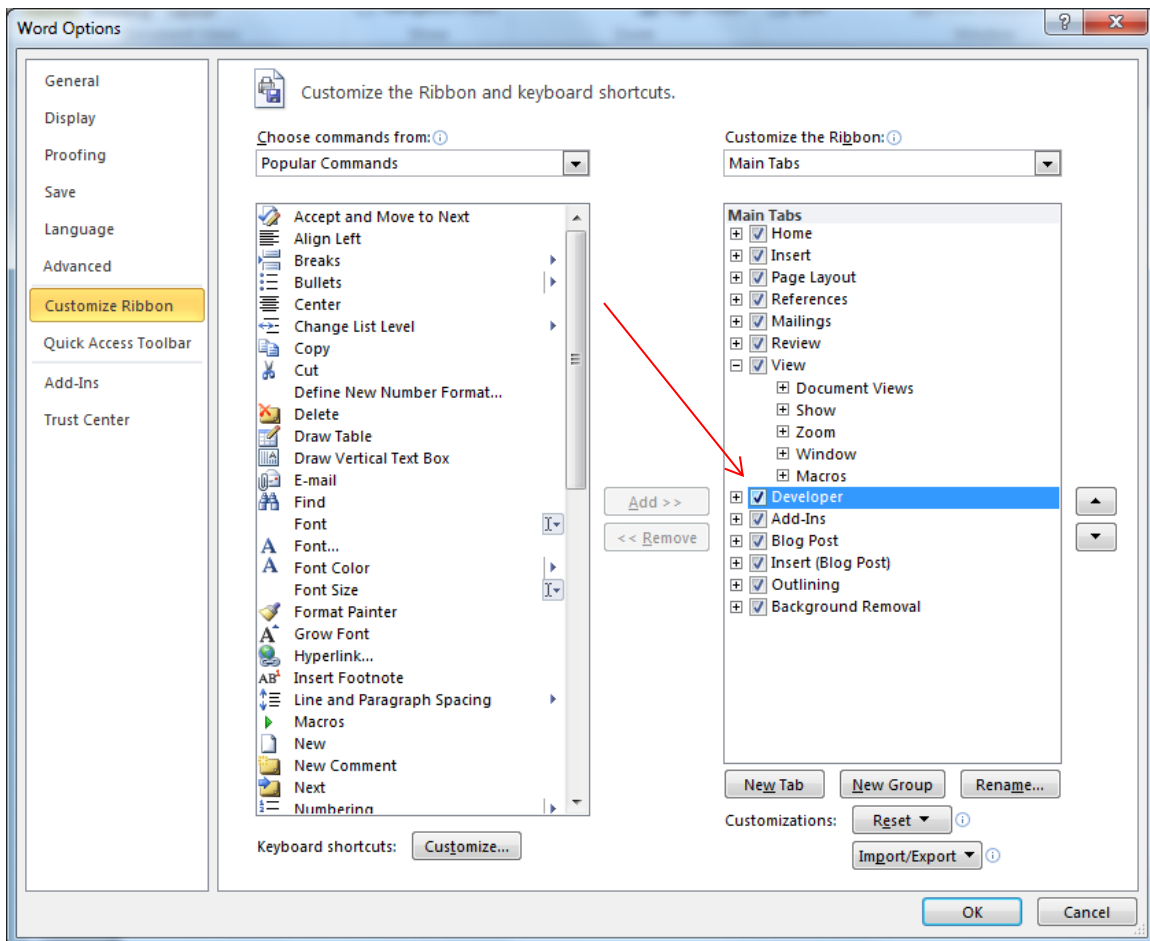
5. Left-click on the macro from the list (there's just 1 in this case) that you want to use.
6. Left-click the "Run" button.
7. Finished! This will work exactly the same as having clicked the keyboard commands (or toolbar commands if you experiment on your own and create some of those).

So that's how you run a macro. You may have noticed that there are a few other things in that Macros window to do. We'll examine those here:

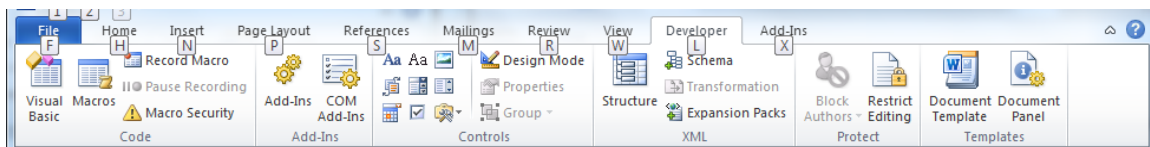
-Cancel: If you decide you don't want to be in the Macros window anymore click this one.

Step Into, Edit, and Create

The first step for working with the more advanced Macro options is to turn on the Developer tab in the ribbon. To do this again go to Customize Ribbon and check the option shown below:



This puts a number of more advanced options at easy reach.



-Step Into: The first of the three buttons that I've singled out. The reason that I've separated them all is because they are very similar in many regards. One of their biggest similarities is that I'm not going to teach you how to use them. All three of these buttons will open up what's called an editor or debugger, allowing you to write, and edit the actual programming behind the macros. This language is a version of visual basic designed especially for Office applications and I would only encourage you to look into using this if you have a programming background or are willing to dedicate a large amount of time to developing one. For those of you whom match this

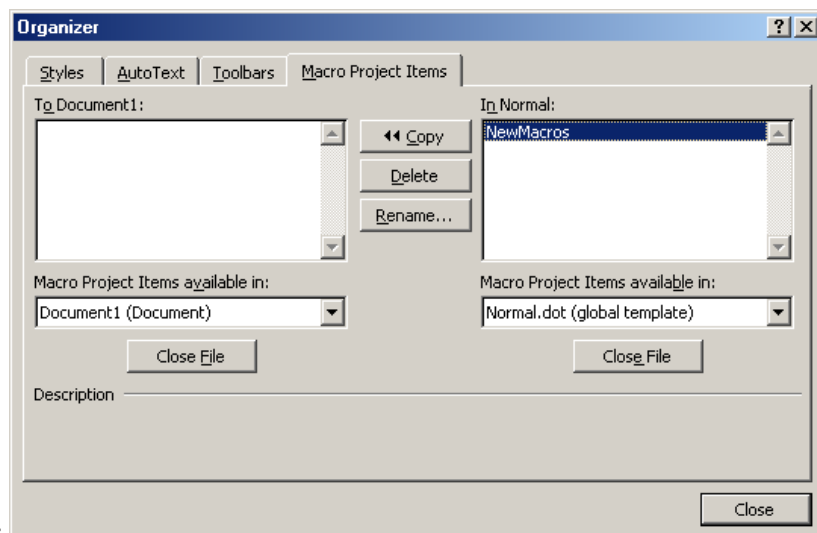
description, “Step Into” allows you to perform the common debugging technique of performing the lines of code one at a time, thereby finding out what each line does as it does it. Using this debugger and learning this language don’t deserve a class all their own, they’d require more along the lines of 16 weeks of classes.

-Edit: Unlike “Step Into” the “Edit” button will simply open up the editor with the code there before you to be changed as you see fit. That’s not to say that there’s anything simple about using Edit.

-Create: This is for those who don’t want to use the record feature to create their new macros. Instead you can have all the fun of extensive typing and looking up obscure command names by using the Create feature and entering in the Visual Basic code yourself. Best of luck to you.

-Delete: Back to things you will probably actually use. Delete is for removing unwanted macros, as you may have guessed. This is nice for when you screw up some part of the recording process and want to make a correct macro using the name you used in the failed one. Simply left-click on the macro you want to get rid of then left-click on the “Delete” button.

-Organizer... : This is a tool you may never have to use but it’s nice to have there. As you can



see on the image below:

the organizer does not just apply to macros. What it’s used for is moving objects such as macros and toolbars from one specific document to the files that control all Word documents. It can also be used for deleting and renaming Macros and other objects.

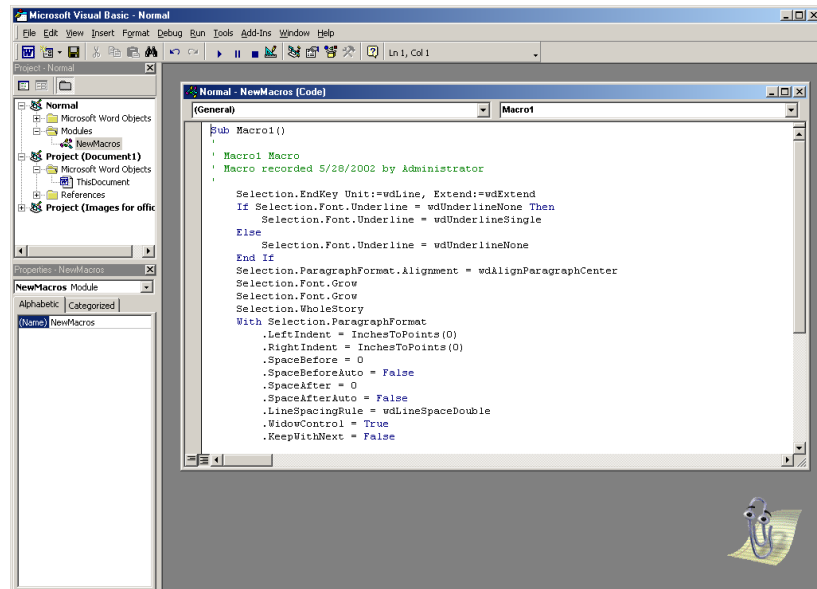
Writing and Editing Macros

We discussed briefly the options you have for writing and editing macros using the script editor provided by Microsoft Office. I'd like to give a little more detail about that here. The window shown here

is what will appear when you choose any of those three functions. You can see that it is rather text intensive, meaning there's very little pointing and clicking and quite a bit of entering in specific commands. You'll also see that there are rules here that must be followed just as there are for any programming language.

Hopefully seeing the environment you'd be required to work in will solidify the impression that creating or editing macros using these techniques is both difficult and time consuming. My recommendation is still to use the record macro feature unless absolutely necessary.

For further information research VBA Programming online.



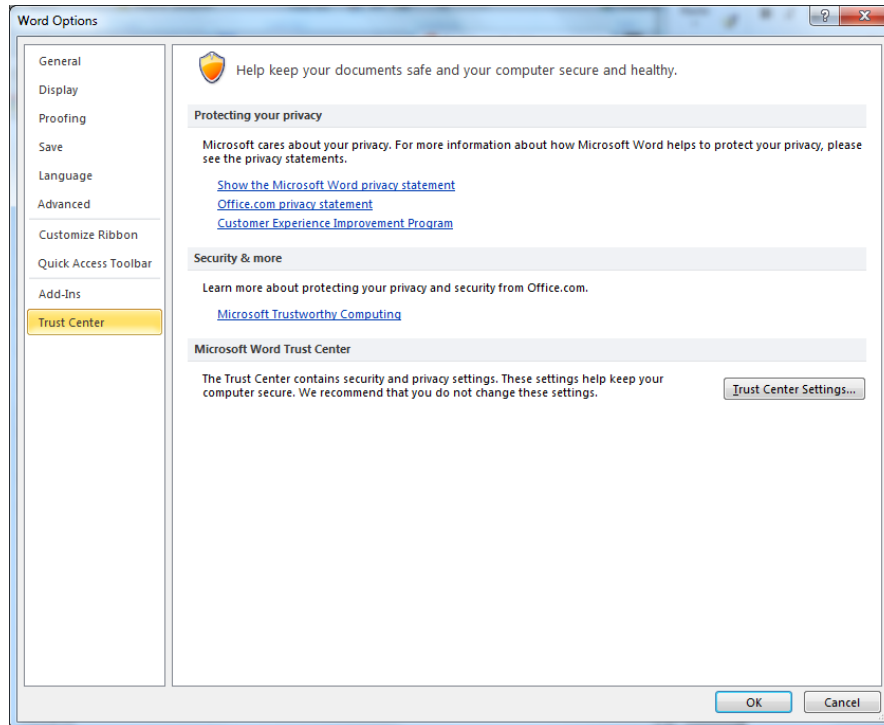
The screenshot shows the Microsoft Visual Basic editor window titled "Normal - NewMacros (Code)". The window contains a VBA macro named "Macro1" with the following code:

```
Sub Macro1()  
    Macro1 Macro  
    ' Macro recorded 5/28/2002 by Administrator  
    Selection.EndKey Unit:=wdLine, Extend:=wdExtend  
    If Selection.Font.Underline = wdUnderlineNone Then  
        Selection.Font.Underline = wdUnderlineSingle  
    Else  
        Selection.Font.Underline = wdUnderlineNone  
    End If  
    Selection.ParagraphFormat.Alignment = wdAlignParagraphCenter  
    Selection.Font.Grow  
    Selection.WholeStory  
    With Selection.ParagraphFormat  
        .LeftIndent = InchesToPoints(0)  
        .RightIndent = InchesToPoints(0)  
        .SpaceBefore = 0  
        .SpaceBeforeAuto = False  
        .SpaceAfter = 0  
        .SpaceAfterAuto = False  
        .LineSpacingRule = wdLineSpaceDouble  
        .WidowControl = True  
        .KeepWithNext = False  
    End With  
End Sub
```

Macro Security

Macros are considered a security concern so to use them in your applications you should go to the Microsoft Trust Center and edit the settings accordingly. To get there:

1. Select *File* from the ribbon
2. Select *Options* from the menu that appears, click Trust Center and this will pop up



3. Left-click Trust Center Settings and choose the macro setting that your comfortable with

