Microsoft Excel 2016

Recording Simple Macros

INFOCUS COURSEWARE

Designed to fast-track you through the process of learning about computers and information technology, the *In Focus* range is a unique and innovative concept in learning.

A quick reference summary of key procedures is provided at the bottom of each page together with handy tips and additional information.

Each title in the *In Focus* series can be used as:

- a classroom workbook for instructor-led teaching and training;
- a self-study guide for self-paced learning;
- a tutorial guide for distance education programs;
- a resource collection of just-in-time support and information for help desk users and support staff;
- a handy, desk-side reference for computer users.

This publication has been created using EngineRoom Desktop™ document management and publishing software developed by Watsonia Publishing.

Microsoft Excel 2016
Recording Simple Macros

MICROSOFT EXCEL 2016
RECORDING SIMPLE MACROS

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Published by Watsonia Publishing

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Web site: www.watsoniapublishing.com

Product Code ExcRecSimMacros

Build: 29/06/17

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READ ME FIRST

In case you're not familiar with the terminology, *Read Me First* is quite often the name given to a computer file that contains important information for people to know prior to using an application.

This section contains some important information to help you use this book so we thought we'd start with a *Read Me First* section.

What skills and knowledge you will acquire...

The skills and knowledge acquired in Microsoft Excel 2016 - Recording Simple Macros are sufficient to be able to use and operate the software effectively.

What you'll need to know before beginning this course...

Microsoft Excel 2016 - Recording Simple Macros assumes little or no knowledge of the software. However, it would be beneficial to have a general understanding of personal computers and the Windows operating system environment.

The objectives of this guide…

At the completion of this course you should be able to:

create recorded macros in ***Excel***

use the macro recorder to create a variety of macros

What you get in a chapter...

Each chapter begins with a summary page listing the topics covered in that chapter. The chapter then consists of single-page topic sheets pertaining to the theme of the chapter.

What you'll need to have before commencing this course...

Many of the topics in this learning guide require you to open an existing file with data in it. These files can be obtained from your instructor and need the product code for this course which is ExcRecSimMacros.

As you work through this guide…

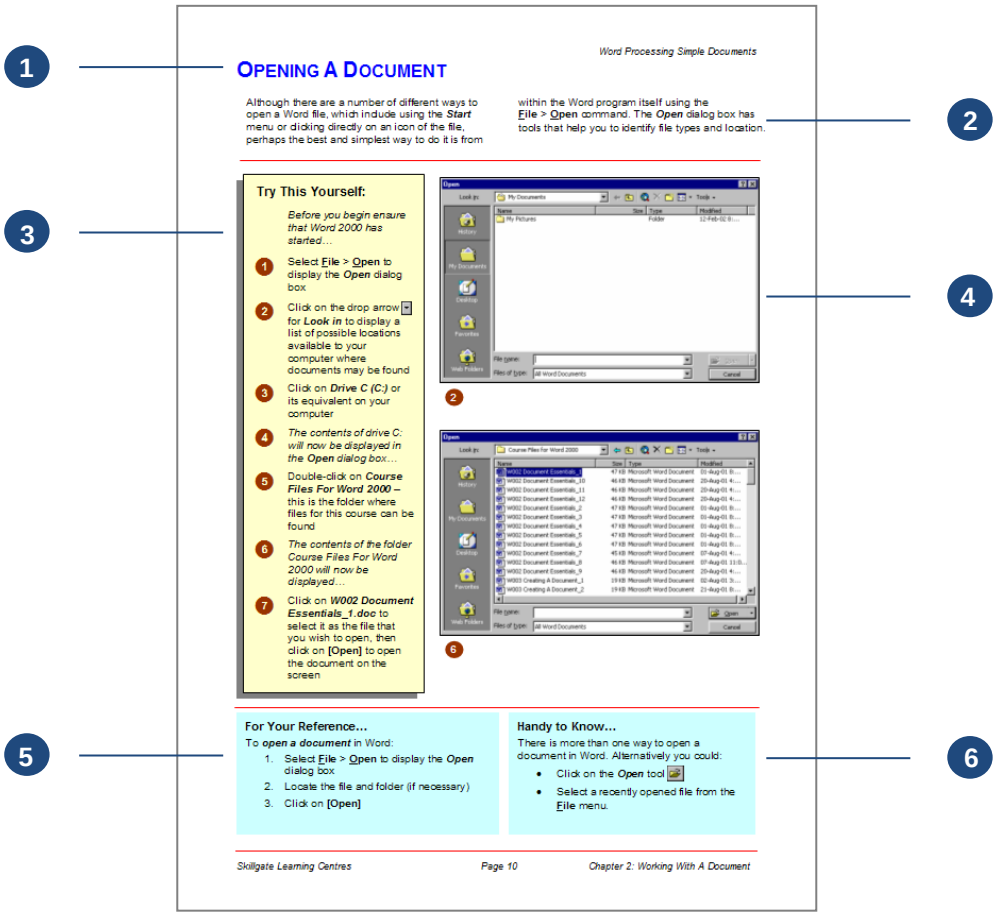
It is strongly recommended that you close all open files, if any, prior to commencing each new chapter in this learning guide. Each chapter, where relevant, has its own set of exercise files and any from a previous chapter are no longer required.

Where to from here...

Have a look at the next page which explains how a topic page works, ensure that you have access to the exercise files (see above), and you're ready to make a start.

WORKING WITH TOPIC SHEETS

The majority of this book comprises single-page topic sheets. There are two types of topic sheets: ***task*** and ***reference***. The layout of both is similar – an *overview* at the top, *detail* in the centre and *additional reference* (optional) material at the bottom. *Task* sheets contain a *Try This Yourself* step-by-step exercise panel in the detail area as shown below.



1. Topic name
2. General topic overview provides an introduction to the topic
3. *Try This Yourself* (*Task*-based topic sheets) is a detailed step-by-step practice exercise for you to work through. In *Reference* topic sheets this is usually replaced by a box with reference information.
4. In *Task* topic sheets screen shots and graphics provide a visual clue as to what will happen when you work through the *Try This Yourself* practice exercise. In *Reference* topic sheets the screen shots and graphics are used to visually represent information and concepts.
5. The *For Your Reference* (optional) element provides a quick summary of the steps required to perform a task. These usually only appear in Task-based topic sheets.
6. The *Handy To Know* (optional) element provides additional information such as alternate ways of accomplishing a task or further information providing handy tips.

CONTENTS

NOTES:

CHAPTER 1 RECORDED MACROS

INFOCUS

Macros provide a way of automating operations in Microsoft Excel. One of the easiest ways to create a macro is to use the macro recorder.

The macro recorder records the actions that you perform through the keyboard and mouse. It creates a program from these steps that you can run any time you need to repeat the actions.

In this way, macros enable you to work more efficiently.

In this session you will:

- ✓ gain an understanding of macros in ***Excel***
- ✓ learn how to set macro security
- ✓ learn how to save a document as macro enabled
- ✓ learn how to record a simple macro
- ✓ learn how to run a recorded macro
- ✓ learn how to record relative cell references
- ✓ learn how to run a macro with relative references
- ✓ learn how to view a macro
- ✓ learn how to edit a macro
- ✓ learn how to assign a macro to the toolbar
- ✓ learn how to run a macro from the toolbar
- ✓ learn how to assign a macro to the ribbon
- ✓ learn how to assign a keyboard shortcut to a macro
- ✓ learn how to delete a macro
- ✓ learn how to copy a macro.

UNDERSTANDING EXCEL MACROS

Macros were added to Excel many years ago to provide a way to automate routine operations. In earlier versions, macros enabled you to record the keystrokes used to perform an operation.

These days, macros have evolved into a full programming language, allowing you to fully automate virtually every facet of workbook production.

What Is A Macro?

A macro is simply a programmed set of instructions that tell Microsoft Excel (very specifically) what it should do. Macros are written or recorded in a procedure.

How Are Macros Created?

Excel offers two main ways of creating macros. Macros can be ***recorded*** using the built-in macro recorder, which records what you do and then converts this into a macro program. This is a great way of creating macros for performing routine, complex or boring repetitious tasks. Once recorded, these tasks can be performed quickly and accurately over and over again using the macro.

Macros can also be developed from scratch. In other words, you can ***type*** the programming steps yourself rather than recording them using the built-in macro recorder.

You can also use a combination of the two techniques to fine tune or change the functionality of a macro.

What Types Of Macros Are There?

As a very broad generalisation, there are two types of macros – ***global*** and ***local***.

A ***global*** macro is available to all of the workbooks that you create. For example, you might have a macro that adds your company name and details to the footer of a workbook. Since you want all workbooks to have this, the macro to add the footer should be available to all workbooks and would therefore need to be global.

A ***local*** macro is one that is available only to one particular workbook. For example, you might have a monthly report workbook that needs to have information imported into it from other sources. You can set up a macro that will conduct the importation for you so that you don't have to remember or perform the steps each time.

Where Are Macros Located?

Macros are either attached to the current document or located in a ***Personal Macro Workbook*** which makes them available to all workbooks (i.e. global). When you create a macro, if you select ***Personal Macro Workbook*** as the location in which to store it, a hidden personal macro workbook called ***Personal.xlsb*** is created and the macro is stored within it. This then makes it available each time you open Excel.

How Do You Access Macro Code?

Macros can only be viewed using the ***Visual Basic Editor*** which is accessed via the tool of the same name on the ***Developer*** tab. You can also press Alt + F11 to access the ***Visual Basic Editor***.

What Is VBA?

VBA (***Visual Basic for Applications***) is the programming language used to create macros. Earlier versions of Excel used more primitive versions of this language. VBA is a common programming language found in virtually all Microsoft Office applications. Once you have learned it for one product, you can easily adapt what you've learned to the other products.

Do I Need To Be A Programmer To Create Macros?

Absolutely not! While macros may appear cryptic and difficult to understand at first, tools such as the macro recorder make creating macros easy and effortless.

SETTING MACRO SECURITY

Recording or writing macros allows you to hack into Excel and manipulate the application. One of the consequences of this is that macros become a potential source of viruses. To reduce the risk of viruses, Microsoft has a ***Trust Centre*** that allows you to enable or disable macros based on whether or not they are stored in a trusted location or have a digital signature.

Try This Yourself:

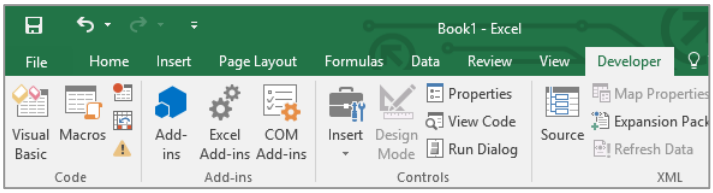
Before starting this exercise open a new, blank workbook...

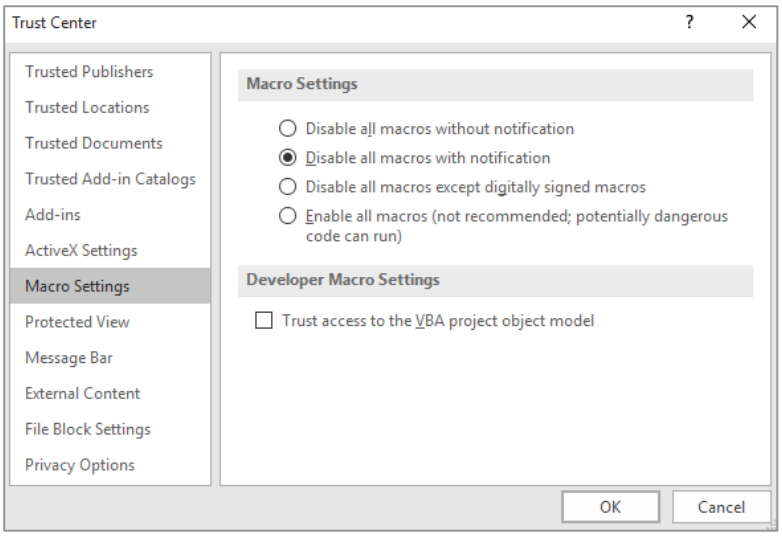
1. If the ***Developer*** tab is not visible, click on the ***File*** tab, click on **Options**, click on ***Customise Ribbon***, click on ***Developer*** in ***Customise the Ribbon*** so it is ticked, then click on **[OK]**
2. Click on the ***Developer*** tab
3. Click on ***Macro Security*** in the ***Code*** group to display the ***Trust Centre*** dialog box

   By default, all macros are currently disabled unless they are in a trusted location...
4. Click on ***Trusted Locations*** to see the list of trusted folders
5. Click on **[Add new location]** to display the ***Microsoft Office Trusted Location*** dialog box
6. Click on **[Browse]**, locate the course files folder, click on **[OK]** then click on **[OK]** again

   The course files folder will be added to the list of Trusted Locations...
7. Click on **[OK]** to close the dialog box

2





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For Your Reference…

To ***set*** the ***level of macro security***:

1. Click on the ***Developer*** tab
2. Click on ***Macro Security*** in the ***Code*** group
3. Click on the required level of security
4. Click on **[OK]**

Handy to Know…

- A ***digital signature*** is an encrypted electronic stamp used to authenticate a macro or document. This signature confirms that the macro or document originated from the signer and has not been altered.

SAVING A DOCUMENT AS MACRO ENABLED

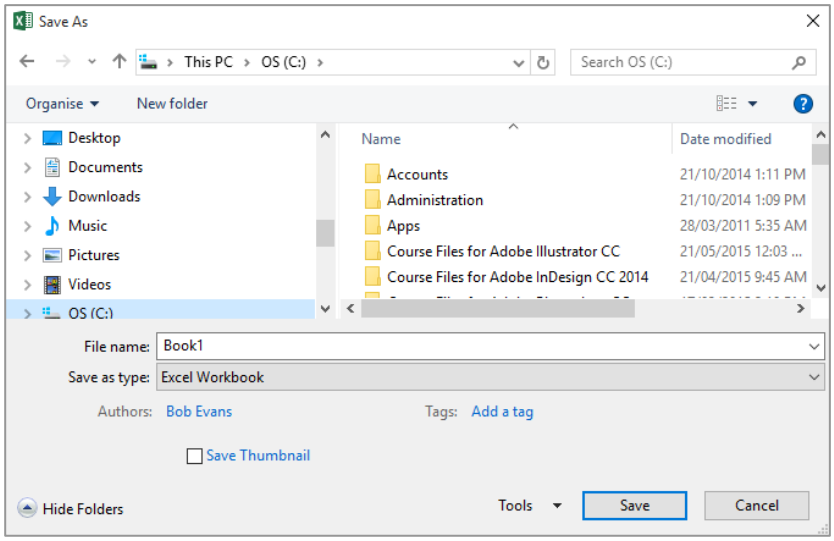
Microsoft Excel has several different file formats that control whether or not macros can be saved with the file. The default workbook format of ***.xlsx*** does not allow macros to be saved with the workbook. To ensure that macro code can be saved, you must change the workbook type to ***.xlsm*** which is known as an ***Excel Macro-Enabled Workbook***.

Try This Yourself:

Same File *Continue using the previous file with this exercise, or open the file Macros_1.xlsx...*

1. Click on the ***File*** tab, then click on ***Save As*** to display the ***Save As*** place
2. Click on ***This PC*** in the middle pane, then click on ***Browse*** to display the ***Save As*** dialog box
3. Click on the drop arrow for ***Save as type***, then select **Excel Macro-Enabled Workbook (*.xlsm)**
4. Ensure the course files folder is selected, then click on **[Save]**

   The filename, shown in the title bar, will reflect the file type



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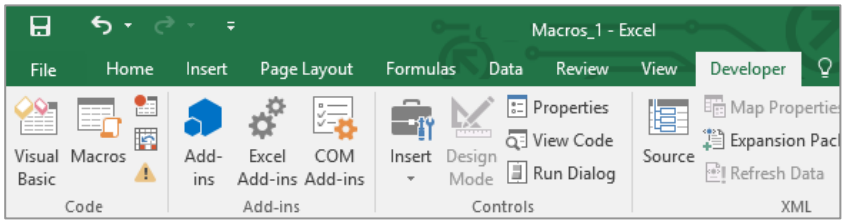


4

For Your Reference…

To ***save*** a ***workbook*** as ***macro-enabled***:

1. Click on the ***File*** tab, then click on ***Save As***
2. Open the ***Save As*** dialog box
3. Click on the drop arrow for ***Save as type*** and select **Excel Macro-Enabled Workbook (*.xlsm)**
4. Click on **[OK]**

Handy to Know…

- Excel files saved as either ***.xlsx or xltx*** cannot be used to store macros, while those saved as either ***.xlsm*** or ***.xltm*** can be used to store macros. You can create a macro in a workbook that is not macro-enabled, but you won't be able to save it.

RECORDING A SIMPLE MACRO

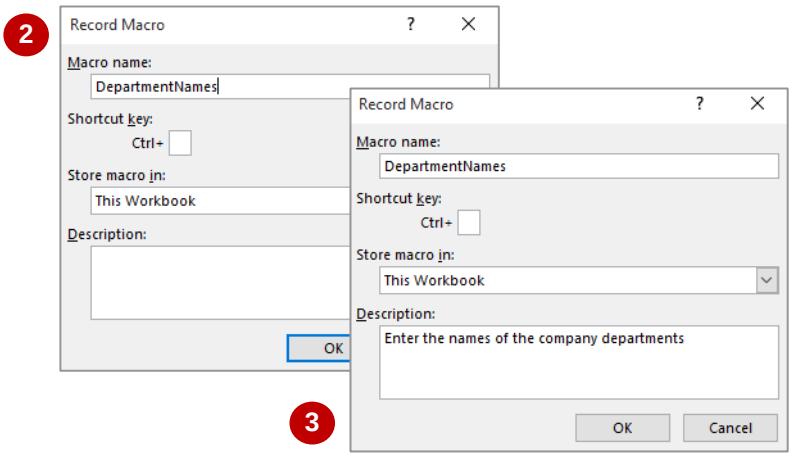
Simple ***macros*** can be recorded to perform steps that you need to repeat often. For example, you might need to enter the names of your company's departments in each workbook you create. When you create a macro, you need to assign it a unique name and a location to store it. When you record the steps required, the recorder takes care of writing the macro commands.

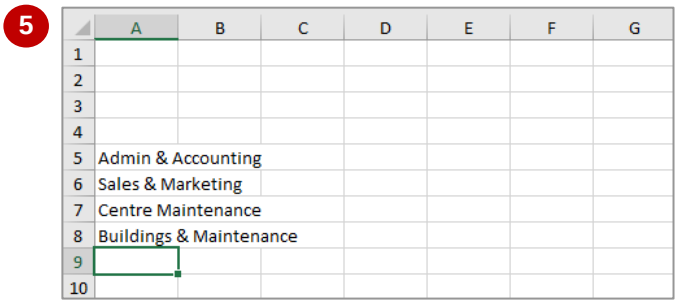
Try This Yourself:

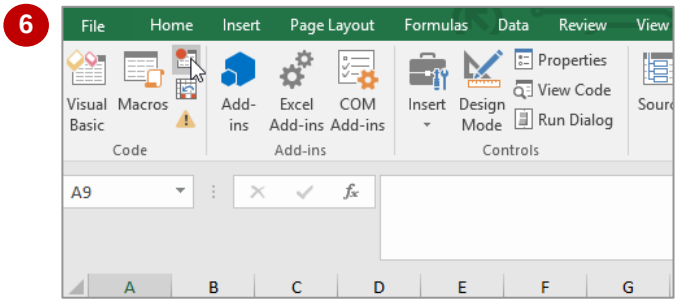
Same File *Continue using the previous file with this exercise, or open the file Macros_2.xlsm...*

1. Click on the ***Developer*** tab, then click on ***Record Macro*** in the ***Code*** group to display the ***Record Macro*** dialog box
2. Type **DepartmentNames** (no spaces) in ***Macro name***
3. Ensure that ***Store macro in*** is set to ***This Workbook***, click in ***Description***, then type **Enter the names of the company departments**
4. Click on **[OK]** to begin recording

   The Stop Recording tool appears in the Code group on the Developer tab and also in the status bar, indicating that recording is in progress...
5. Click in cell ***A5***, then enter the text as shown, pressing Enter after each entry, including the last one
6. Click on ***Stop Recording*** in the ***Code*** group







For Your Reference…

To ***record*** a ***macro***:

1. Click on the ***Developer*** tab, then click on ***Record Macro*** in the ***Code*** group
2. Type a ***Macro name***, then select a location
3. Click on **[OK]**, then perform the steps
4. Click on ***Stop Recording*** in the ***Code*** group

Handy to Know…

- If you want to be able to access a macro from more than one workbook, store it in the ***Personal Macro Workbook***.
- The shortcut key combination option in the ***Record Macro*** dialog box enables you to run a macro without having to access the ribbon.

RUNNING A RECORDED MACRO

Once a macro has been recorded, it can be played or run as often as you need it. All you need to know is which macros are available and what they do. The description is very important at this stage, especially if you haven't used your macros for a while. The description of a macro can be viewed in the ***Macro*** dialog box, displayed when you want to run a recorded macro.

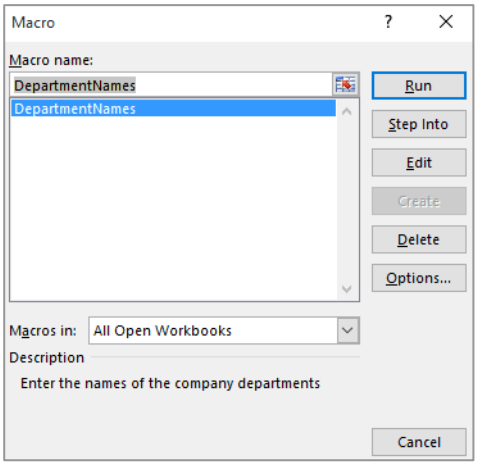
Try This Yourself:

Same File *Continue using the previous file with this exercise, or open the file Macros_3.xlsm...*

1. Select the range ***A5:A8***
2. Press Del to remove the department name labels
3. Click on the ***Developer*** tab, then click on ***Macros*** in the ***Code*** group to display the ***Macros*** dialog box
4. Click on ***DepartmentNames*** if it is not already selected, then click on **[Run]**

   The macro will run and the department names will be inserted in the correct cells...
5. Add the rest of the data as shown, then resize the columns to fit the data

3



4

	A	B	C	D	E	F	G
1							
2							
3							
4							
5	Admin & Accounting						
6	Sales & Marketing						
7	Centre Maintenance						
8	Buildings & Maintenance						
9							
10							

5

	A	B	C	D	E
1					
2					
3					
4					
5	Admin & Accounting	Overheads	Projected		
6	Sales & Marketing	250			
7	Centre Maintenance	300			
8	Buildings & Maintenance	254			
9		156			
10					

For Your Reference…

To ***run*** a ***recorded macro***:

1. Click on the ***Developer*** tab
2. Click on ***Macros*** in the ***Code*** group
3. Click on the ***Macro name***
4. Click on **[Run]**

Handy to Know…

- You can display the ***Macros*** dialog box by using the keyboard shortcut Alt + F8.
- You can press the keyboard shortcut assigned to the macro to run it.

RELATIVE CELL REFERENCES

Unlike absolute cell references that identify specific cells such as ***A5***, relative cell references are an offset from the current active cell. For example ***RC[-1]*** refers to the cell one column to the left of the currently active cell. You can force Excel to record relative cell references so that your macros can be used in any cell in a workbook.

Try This Yourself:

Same File

Continue using the previous file with this exercise, or open the file Macros_4.xlsm...

1. Click in cell ***C5***

   This is where we want the macro to place the new value...

2. Click on the ***Developer*** tab, then click on ***Use Relative References*** in the ***Code*** group to activate the option

3. Click on ***Record Macro*** in the ***Code*** group, complete the macro information as shown, then click on **[OK]** to start recording

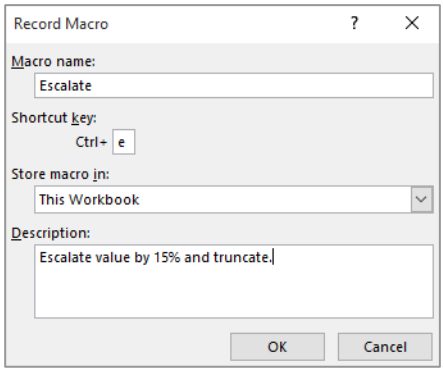
4. Type **=TRUNC(B5*1.15)**, as shown, and press Enter

   The calculated value will appear in cell C5...

5. Click on ***Stop Recording*** in the ***Code*** group

6. Click on ***Use Relative References*** to turn off the option

3



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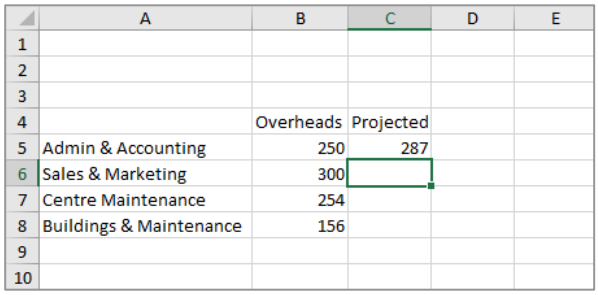


	A	B	C	D	E
1					
2					
3					
4		Overheads	Projected		
5	Admin & Accounting	250	287		
6	Sales & Marketing	300			
7	Centre Maintenance	254			
8	Buildings & Maintenance	156			
9					
10					

For Your Reference…

To ***record*** a ***macro with relative references***:

1. Click on the ***Developer*** tab, click on ***Use Relative References*** in the ***Code*** group***,*** click on ***Record Macro*** in the ***Code*** group, fill in the macro details, then click on **[OK]**
2. Perform the steps, then click on ***Stop Recording*** in the ***Code*** group

Handy to Know…

- To change a relative cell reference within a formula to a different kind of reference (such as absolute or mixed), select the reference in the formula bar and press F4 to cycle through the options.

RUNNING A MACRO WITH RELATIVE REFERENCES

When you record a macro with absolute cell references, it records the exact cell references. No matter which cell is active, when you run the macro, the actions will be performed on the cells that you used when recording the steps. With relative cell references, the macro will run relative to the currently active cell, so you need to take care with positioning.

Try This Yourself:

Same File

Continue using the previous file with this exercise, or open the file Macros_5.xlsm...

1. Ensure that cell ***C6*** is active

   This is where we want the macro to perform the recorded steps...

2. Click on the ***Developer*** tab, then click on ***Macros*** in the ***Code*** group to display the ***Macro*** dialog box

3. Click on ***Escalate***, then click on **[Run]**

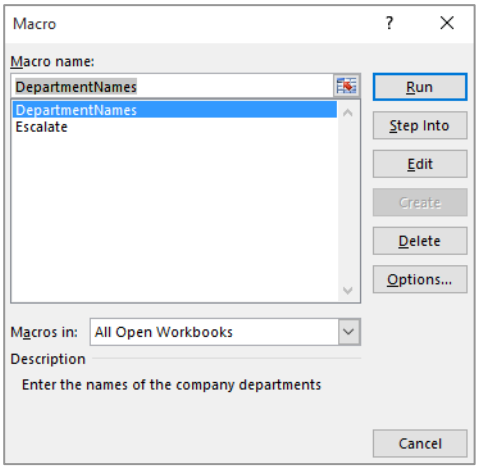
   The formula is entered into the cell and the value resulting from the calculation is displayed. You can also run the macro using the shortcut key you set...

4. Ensure that cell ***C7*** is selected, then press Ctrl + E to run the macro again

   The value is entered...

5. Ensure that cell ***C8*** is selected then press Ctrl + E to complete the column

2



3

	A	B	C	D	E
1					
2					
3					
4		Overheads	Projected		
5	Admin & Accounting	250	287		
6	Sales & Marketing	300	345		
7	Centre Maintenance	254			
8	Buildings & Maintenance	156			
9					
10					

5

	A	B	C	D	E
1					
2					
3					
4		Overheads	Projected		
5	Admin & Accounting	250	287		
6	Sales & Marketing	300	345		
7	Centre Maintenance	254	292		
8	Buildings & Maintenance	156	179		
9					
10					

For Your Reference…

To ***run*** a ***macro*** with ***relative cell referencing***:

1. Click on the cell where you want the macro to perform
2. Click on the ***Developer*** tab, then click on ***Macros*** in the ***Code*** group
3. Select the macro and click on **[Run]** or, Press the shortcut key combination

Handy to Know…

- By holding down Shift when you assign a shortcut key combination in the ***Record Macro*** dialog box, you have access to at least another 26 possible combinations. Just be careful that you are not overriding built-in shortcuts already in place in Excel.

VIEWING A MACRO

When you record a macro, you actually create a series of commands in a programming language called ***Visual Basic for Applications (VBA)***. Each time you run the macro, the code is executed. VBA can be viewed and edited using the ***Visual Basic Editor***. The advantage of using the editor is that you can easily change, copy or delete macro code.

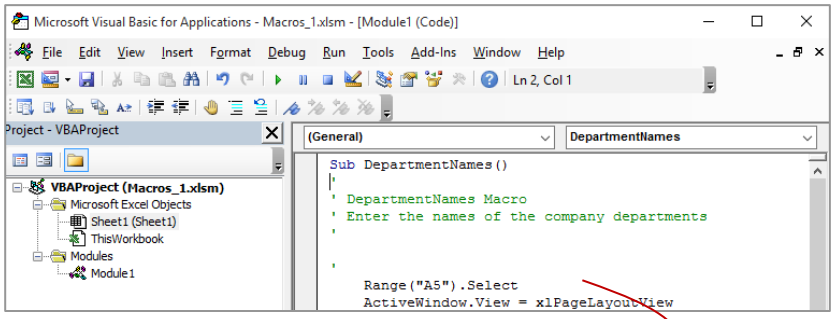
Try This Yourself:

Same File *Continue using the previous file with this exercise, or open the file Macros_6.xlsm...*

1. Click on the ***Developer*** tab, then click on ***Macros*** to display the ***Macro*** dialog box
2. Click on ***DepartmentNames***, then click on **[Edit]**

   The Visual Basic Editor will be displayed. The code for the selected macro is shown in the Module window...
3. Spend a few moments reading through each line of code – see if you can work out what each line does
4. Scroll down the Module window to display the ***Escalate*** code

   Excel has placed both programs into the same Module...
5. Click on **File,** then select **Close and Return to Microsoft Excel** to close the ***Visual Basic Editor***



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4

```
(General)                                   DepartmentNames
Sub DepartmentNames()
'
' DepartmentNames Macro
' Enter the names of the company departments
'
'
    Range("A5").Select
    ActiveWindow.View = xlPageLayoutView
    ActiveWindow.View = xlPageLayoutView
    ActiveWindow.View = xlNormalView
    ActiveCell.FormulaR1C1 = "Admin & Accounting"
    Range("A6").Select
    ActiveCell.FormulaR1C1 = "Sales & Marketing"
    Range("A7").Select
    ActiveCell.FormulaR1C1 = "Centre Maintenance"
    Range("A8").Select
    ActiveCell.FormulaR1C1 = "Buildings & Maintenance"
    Range("A9").Select
End Sub
Sub Escalate()
'
' Escalate Macro
' Escalate value by 15% and truncate.
'
' Keyboard Shortcut: Ctrl+e
'
    ActiveCell.FormulaR1C1 = "=TRUNC(RC[-1]*1.15)"
    ActiveCell.Offset(1, 0).Range("A1").Select
End Sub
```

For Your Reference…

To ***view*** a ***macro***:

1. Click on the ***Developer*** tab, then click on ***Macros*** in the ***Code*** group
2. Select a macro
3. Click on **[Edit]**

Handy to Know…

- When viewing macros in the ***Visual Basic Editor***, you will notice that some of the code is in green. These are known as ***comments*** and are used to explain the what, why and who of code. This information is ignored by the macro, but can be invaluable to a programmer in understanding the code.

EDITING A MACRO

You might find that you want to make a minor change to your macro or insert additional code to improve the macro's functionality. Macro instructions can be edited in the ***Visual Basic Editor***. You need to have a reasonable grasp of the programming language before you can confidently make changes, and the ***Help*** system found through the ***Visual Basic Editor*** is useful.

Try This Yourself:

Same File

Continue using the previous file with this exercise, or open the file Macros_7.xlsm...

1. Click on the ***Developer*** tab, then click on ***Macros*** in the ***Code*** group to display the ***Macro*** dialog box
2. Click on ***Escalate*** then click on **[Edit]** to display the code in the ***Visual Basic Editor*** window
3. Type the additional lines as shown, using Tab to indent lines and Enter for new lines
4. Modify the formula line as shown
5. Click on **File**, then select **Save Macros_7.xlsm** or **Save Book1.xlsm**
6. Click on ***File*** > **Close and Return to Microsoft Excel**
7. Click in cell ***D5*** and press Ctrl + E to see a dialog box

   The edited macro enables you to now specify an escalation % at the time it is run…
8. Type **50** and click on **[OK]**

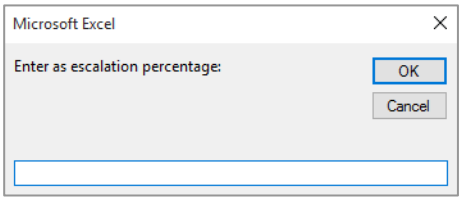
   Here, the macro increases the value 287 by 50% and truncates the result

```
Sub Escalate()
'
' Escalate Macro
' Escalate value by 15% and truncate.
'
' Keyboard Shortcut: Ctrl+e

'   Dim intEscRate As Integer
    intEscRate = InputBox("Enter as escalation percentage: ")
    ActiveCell.FormulaR1C1 = "=TRUNC(RC[-1]*1.15)"
    ActiveCell.Offset(1, 0).Range("A1").Select
End Sub
```

3

```
Sub Escalate()
'
' Escalate Macro
' Escalate value by 15% and truncate.
'
' Keyboard Shortcut: Ctrl+e

'   Dim intEscRate As Integer
    intEscRate = InputBox("Enter as escalation percentage: ")
    ActiveCell.FormulaR1C1 = "=TRUNC(RC[-1]*1." & intEscRate & ") "
    ActiveCell.Offset(1, 0).Range("A1").Select
End Sub
```

4



7

	A	B	C	D	E
1					
2					
3					
4		Overheads	Projected		
5	Admin & Accounting	250	287	430	
6	Sales & Marketing	300	345		
7	Centre Maintenance	254	292		
8	Buildings & Maintenance	156	179		
9					
10					

8

For Your Reference…

To ***edit*** a ***macro***:

1. Click on the ***Developer*** tab, then click on ***Macros*** in the ***Code*** group, select a macro and click on **[Edit]**
2. Make the changes as required
3. Click on ***File*** and select **Save…**
4. Click on ***File*** and select **Close…**

Handy to Know…

- The ***Dim*** statement in macro code declares (creates) a ***variable*** (temporary holder) by the name given. ***InputBox*** displays a dialog box and the assigned question. The user's response is then placed in the variable.
- You can press Alt + F11 to display the ***Visual Basic Editor***.

ASSIGNING A MACRO TO THE TOOLBAR

Running a macro from the ***Macros*** dialog box is not necessarily the most practical way to do it. However, you can create a custom button to place on the ***Quick Access Toolbar*** (***QAT***) and attach the macro to this button. As the ***QAT*** is always visible, the macro is easily accessible. You can also change the name and icon associated with the button.

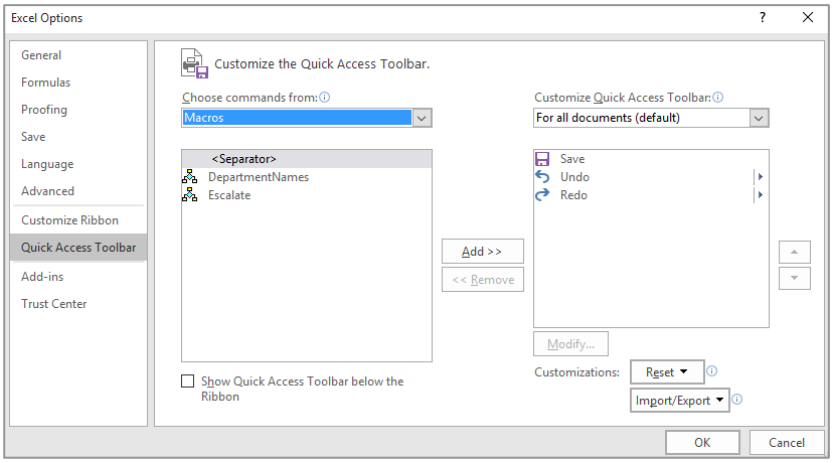
Try This Yourself:

Same File

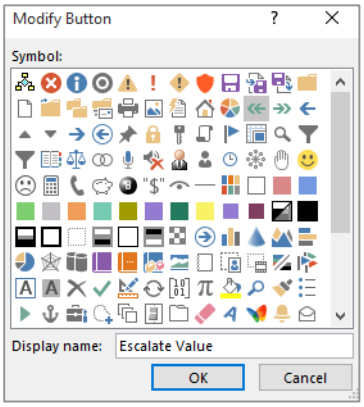
Continue using the previous file with this exercise, or open the file Macros_8.xlsm...

1. Click on the drop arrow of the ***Quick Access Toolbar*** and select **More Commands** to display the ***Excel Options*** dialog box
2. Click on the drop arrow for ***Choose commands from*** and select **Macros** to list the available macros
3. Click on ***Escalate***, then click on **[Add]** to add the macro to the ***QAT*** list on the right
4. Click on **[Modify]** to display the ***Modify Button*** dialog box
5. Click on an icon of your choice, then type **Escalate Value** in ***Display name***
6. Click on **[OK]** then click on **[OK]** again

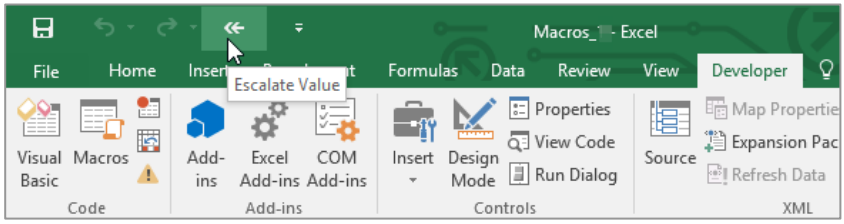
   The new button will display in the QAT...
7. Point to the button in the ***QAT*** to display the name



2



5



7

For Your Reference…

To ***assign*** a ***macro*** to a ***toolbar button***:

1. Click on the drop arrow for the ***Quick Access Toolbar*** and select **More Commands**
2. Click on the drop arrow for ***Choose commands from*** and select **Macros**

For Your Reference (cont'd)…

3. Click on the macro and click on **[Add]**
4. Click on **[Modify]** to change the name and/or icon
5. Click on **[OK]**
6. Click on **[OK]** again

RUNNING A MACRO FROM THE TOOLBAR

If you have created a custom button on the ***Quick Access Toolbar*** for one of your macros, you can quickly run the macro by clicking on the button. The only consideration you need to make is whether or not the position of the cell pointer is important – this is relevant when relative cell references are used in the macro. In this example, the active cell determines which value is escalated.

Try This Yourself:

Same File *Continue using the previous file with this exercise, or open the file Macros_9.xlsm...*

1. Click on cell ***D6*** to position the cell pointer
2. Click on ***Escalate Value*** in the ***Quick Access Toolbar***

   The dialog box will appear asking for the escalation value. The calculation will be performed on the cell to the left of the cell pointer…
3. Type **50** and click on **[OK]**

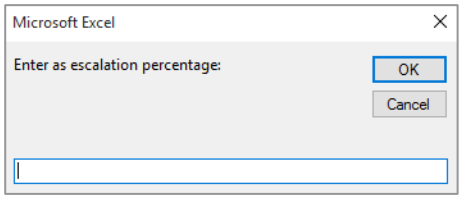
   You can also press Enter *after typing the value. The figure will be calculated and placed in the cell...*
4. Repeat steps ***1*** to ***3*** for the following cells, using the values as shown:

   D7 ***30***

   D8 ***45***

   As you can see, the custom button makes running and re-running the macro very easy

2



3

	A	B	C	D	E
1					
2					
3					
4		Overheads	Projected		
5	Admin & Accounting	250	287	430	
6	Sales & Marketing	300	345	517	
7	Centre Maintenance	254	292		
8	Buildings & Maintenance	156	179		
9					
10					

4

	A	B	C	D	E
1					
2					
3					
4		Overheads	Projected		
5	Admin & Accounting	250	287	430	
6	Sales & Marketing	300	345	517	
7	Centre Maintenance	254	292	379	
8	Buildings & Maintenance	156	179	259	
9					
10					

For Your Reference…

To ***run*** a ***macro assigned*** to a ***toolbar button***:

1. Position the cell pointer
2. Click on the button in the ***Quick Access Toolbar***

Handy to Know…

- You can remove a button from the ***Quick Access Toolbar*** by right-clicking on the button and selecting **Remove from Quick Access Toolbar**.

ASSIGNING A MACRO TO THE RIBBON

As well as assigning a macro to the ***Quick Access Toolbar***, for easy access, you can also assign it to a tab on the ribbon. The initial step in customising a tab of the ribbon is to add a custom group which you can then add tools into. This group can be added to an existing tab of the ribbon, or you can create a new, custom tab, perhaps to contain all of your custom tools.

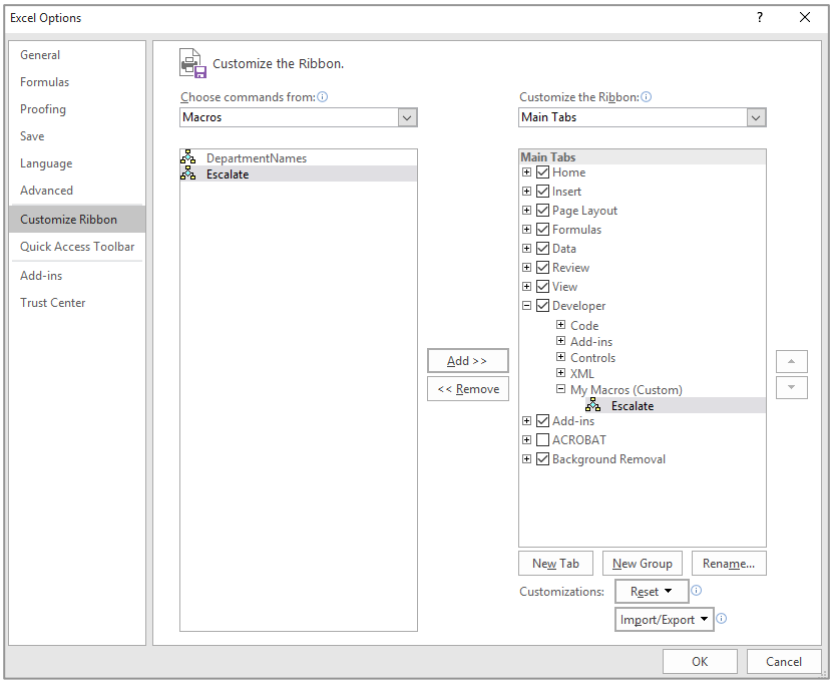
Try This Yourself:

Same File

Continue using the previous file with this exercise, or open the file Macros_10.xlsm...

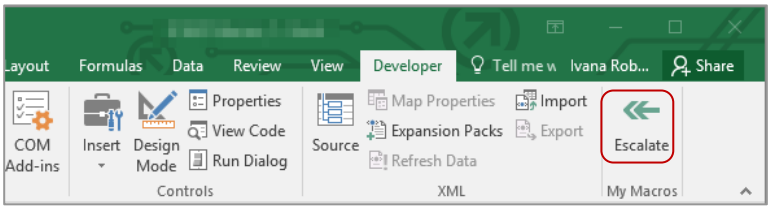
1. Click on the ***File*** tab and click on ***Options***, then click on ***Customise Ribbon***
2. In the ***Main Tabs*** list on the right, ensure ***Developer*** is selected, then click on **[New Group]**
3. Click on ***New Group (Custom)*** to select it, then click on **[Rename]**
4. Type **My Macros** in ***Display Name***, select an icon, then click on **[OK]**
5. Click on the drop arrow for ***Choose commands from*** and click on ***Macros***
6. Click on ***Escalate*** and click on **[Add]** to add it to the custom group
7. Click on **[Rename]**, select an icon and click on **[OK]**, then click on **[OK]** again to return to the worksheet
8. Click on the Developer tab

   The macro now appears in the My Macros group, on the Developer tab



6

8



For Your Reference…

To ***add*** a ***macro*** to the ***ribbon***:

1. Click on the ***File*** tab and click on ***Options***
2. Click on ***Customise Ribbon***
3. Select or create a tab, then click on **[New Group]**
4. Rename the group

For Your Reference (cont'd)…

5. Click on the drop arrow for ***Choose commands from*** and click on ***Macros***
6. Select a macro and click on **[Add]**
7. Click on **[OK]**
8. Click on **[OK]**

ASSIGNING A KEYBOARD SHORTCUT TO A MACRO

Running a macro from the ***Macros*** dialog box, the ***Quick Access Toolbar*** or the ribbon may still take unnecessary time if you tend to work with your hands on the keyboard rather than on the mouse. To assist keyboard-oriented people, you can assign a keyboard shortcut to a macro, so that you can simply run it straight from the keyboard – saving you time.

Try This Yourself:

Same File

Continue using the previous file with this exercise, or open the file Macros_11.xlsm...

1. Click on the ***Developer*** tab, then click on ***Macros*** in the ***Code*** group to display the ***Macro*** dialog box
2. Click on ***DepartmentNames*** in ***Macro name*** and click on **[Options]** to display the ***Macro Options*** dialog box

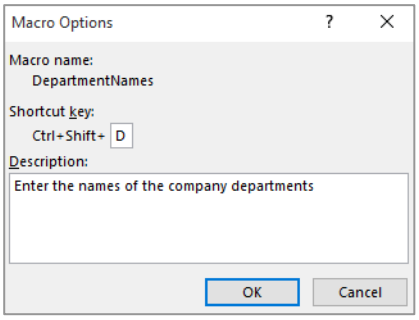
   The insertion point is currently positioned in the Shortcut key field...
3. Press Shift + D

   This will create the keyboard shortcut Ctrl + Shift + D*...*
4. Click on **[OK]**, then click on **[Cancel]** to close the dialog box

   Let's test the shortcut...
5. Select ***A5:A8*** and press Del to delete the company department names
6. Press Ctrl + Shift + D

   The macro is run and the company department names reappear in the cells

3



5

	A	B	C	D	E
1					
2					
3					
4		Overheads	Projected		
5		250	287	430	
6		300	345	517	
7		254	292	379	
8		156	179	259	
9					
10					

6

	A	B	C	D	E
1					
2					
3					
4		Overheads	Projected		
5	Admin & Accounting	250	287	430	
6	Sales & Marketing	300	345	517	
7	Centre Maintenance	254	292	379	
8	Buildings & Maintenance	156	179	259	
9					
10					

For Your Reference…

To ***assign*** a ***keyboard shortcut*** to a ***macro***:

1. Click on the ***Developer*** tab, then click on ***Macros*** in the ***Code*** group
2. Select a ***Macro name*** and click on **[Options]**
3. Press the keyboard shortcut
4. Click on **[OK]**

Handy to Know…

- You can create a keyboard shortcut for a macro at the time you create the macro or retrospectively.

DELETING A MACRO

Macros can tend to accumulate, so it is a good idea to delete any macros that you don't need to avoid getting them confused with the macros you actually use. Macros should be deleted from the ***Macro*** dialog box. If you remove a macro button from the toolbar, all that happens is that the button is removed. Once a macro is deleted, it cannot be recovered using ***Undo***.

Try This Yourself:

Same File *Continue using the previous file with this exercise, or open the file Macros_12.xlsm...*

1. Click on the ***Developer*** tab, click on ***Macros*** in the ***Code*** group then click on ***Escalate*** and click on **[Delete]**

   A confirmation dialog box will appear…

2. Click on **[Yes]**

   The macro is removed, but the button is still on the Quick Access Toolbar and ribbon...

3. Right-click on ***Escalate Value*** in the ***QAT*** and select **Remove from Quick Access Toolbar**

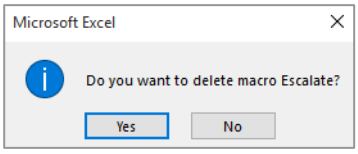
4. Right-click on ***Escalate*** on the ribbon and select **Customise the Ribbon**

5. Expand ***My Macros (Custom)*** to display the tools, then right-click on ***Escalate*** and select **Remove**

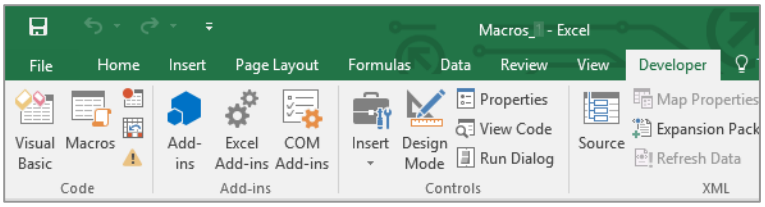
6. Right-click on ***My Macros (Custom)*** and select **Remove** to delete the group, then click on **[OK]**

   The group and the tool are now removed

1



3



6

	A	B	C	D	E
1					
2					
3					
4		Overheads	Projected		
5	Admin & Accounting	250	287	430	
6	Sales & Marketing	300	345	517	
7	Centre Maintenance	254	292	379	
8	Buildings & Maintenance	156	179	259	
9					
10					

For Your Reference…

To ***delete*** a ***macro***:

1. Click on the ***Developer*** tab, then click on ***Macros*** in the ***Code*** group
2. Click on the macro
3. Click on **[Delete]**
4. Click on **[Yes]**

Handy to Know…

- Removing all traces of a macro effectively requires two steps – one to remove the actual macro code via the ***Macro*** dialog box and one to remove the button from the ***Quick Access Toolbar*** and/or ***ribbon*** (if one exists).

COPYING A MACRO

If you have recorded a macro and saved it in a particular document or template, you might like to ***copy the macro*** to another document or template so that it can be used elsewhere.

Microsoft Excel enables you to copy macro project items between workbooks, using the ***Visual Basic Editor***.

Try This Yourself:

Open File

Before starting this exercise you MUST open the file Macros_13.xlsm...

1. Open a new blank workbook

   Let's copy a macro to this new workbook...

2. On the ***Developer*** tab click on ***Visual Basic*** in the ***Code*** group to display the ***Visual Basic Editor***

   In the Project Explorer pane, you can see both workbooks and their Objects and Modules...

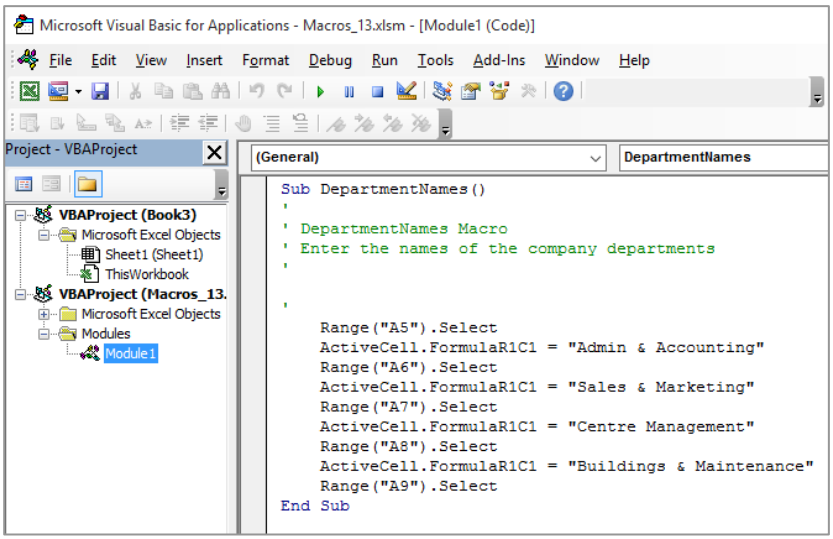
3. Ensure that ***Modules*** is expanded for ***VBAProject (Macros_13.xlsm)***, then click on ***Module1*** to select it

4. Drag the ***Module1*** icon over the unnamed project ***VBAProject (Book1)*** (or ***(Book2 or 3)*** if using continuing files)

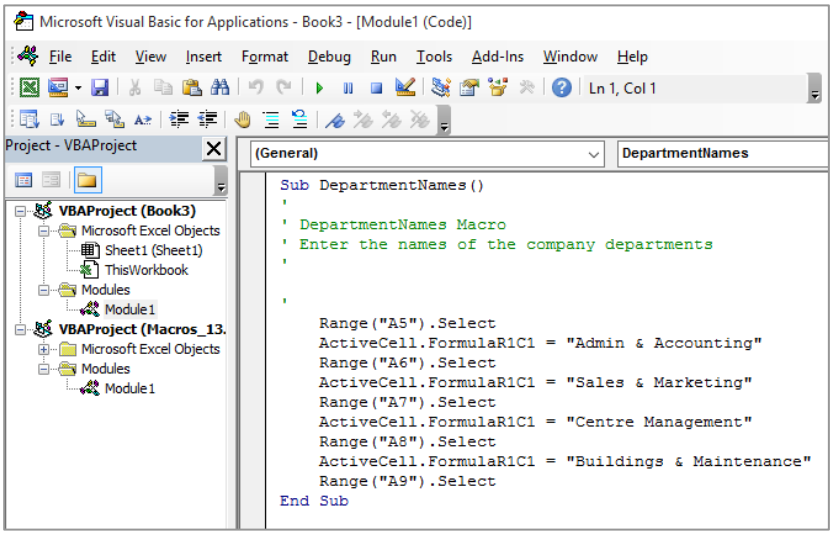
5. Release the mouse to copy ***Module1*** to the unnamed project

   This project now displays a Modules folder…

6. Double-click on ***Modules*** for ***VBAProject (Book2)*** then double-click on ***Module1*** to see the copied macro



3



6

For Your Reference…

To ***copy*** a ***macro***:

1. Open the source and destination workbooks
2. Click on the ***Developer*** tab, then click on ***Visual Basic*** in the ***Code*** group
3. Drag the module from one workbook to another

Handy to Know…

- You can't copy a macro project item if the destination workbook has one with the same name already. If this happens you need to rename the item and then copy it.

CHAPTER 2 RECORDER WORKSHOP

INFOCUS

The ***Macro Recorder*** can be used to create macros to automate your work or to make a worksheet more user-friendly for colleagues.

Complex calculations can be recorded by an experienced Excel operator and then linked to objects on the worksheet to make them available to anyone.

In this session you will:

- ✓ learn how to prepare data for an application
- ✓ learn how to record a summation macro
- ✓ learn how to record consolidations
- ✓ learn how to record macros for specific divisions
- ✓ learn how to test macros
- ✓ learn how to create objects to run macros
- ✓ learn how to assign a macro to an object.

PREPARING DATA FOR AN APPLICATION

A series of macros can be put together in a workbook to perform related functions. This type of workbook is called an ***application***. Before you start creating macros for an application, you need to check that the data is suitable. For our example, a consolidation of the budget figures for four divisions, we need to ensure that the layout of each source worksheet is identical.

Try This Yourself:

Before starting this exercise ensure Excel has started…

1. Navigate to the course files folder, then double-click on ***Expenses East.xlsx*** to open the workbook
2. Repeat step ***1*** for the following workbooks:

   Expenses North.xlsx

   Expenses South.xlsx

   Expenses West.xlsx
3. Spend a few moments examining the workbooks

   Notice that the layout for each of the workbooks is the same – column and row headings are the same, totals exist in the same cells in each workbook, and the format applied to each total cell is the same.

   *Leave the four **Expenses** workbooks open for the next exercise*

1

	A	B	C	D	E
1	Eastern Division				
2					
3		Jan	Feb	Mar	First Quarter
4					
5	Administration	12,766	12,776	11,988	37,530
6	Sales	23,116	23,666	23,765	70,547
7	Production	12,899	12,344	12,634	37,877
8	Despatch	1,876	1,977	2,554	6,407
9					
10	Total	50,657	50,763	50,941	152,361
11					

2

	A	B	C	D	E
1	Western Division				
2					
3		Jan	Feb	Mar	First Quarter
4					
5	Administration	5,332	5,288	5,776	16,396
6	Sales	12,876	12,399	12,000	37,275
7	Production	9,334	9,435	9,166	27,935
8	Despatch	199	266	178	643
9					
10	Total	27,741	27,388	27,120	82,249
11					

For Your Reference…

To ***prepare data*** for an ***application***:

1. Review the workbooks to be included so that you are familiar with the data
2. If preparing for a consolidation, check that the layout of each source workbook is identical

Handy to Know…

- A ***data consolidation*** combines the figures from different worksheets/workbooks into a summary. For this we need the layout of each source workbook to be identical. We can write macros to consolidate the data in different ways such as a total, an average, or maximum and minimum figures.

RECORDING A SUMMATION MACRO

Any options available on Excel's ribbon can be turned into macros to avoid the need for repetition. In this example, we will record a macro that uses the ***Consolidate*** option on the ***DATA*** tab of the ribbon to reference the figures in four worksheets and present the total in a fifth worksheet. By recording these steps, we can recreate the figures instantly in the future.

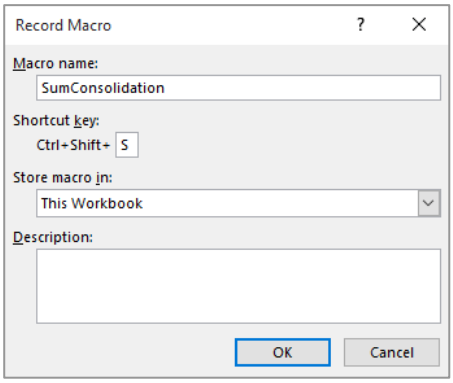
Try This Yourself:

Open File

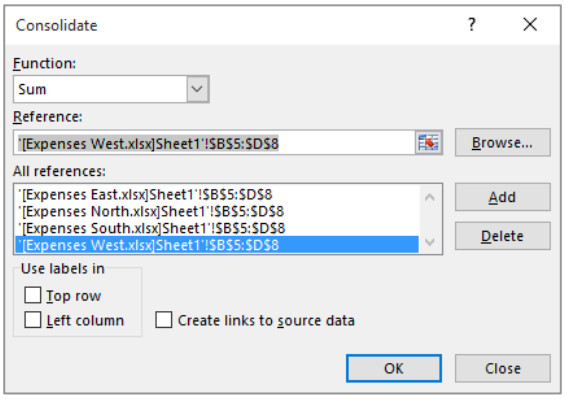
Before starting this exercise you MUST open the file Recorder Workshop_1.xlsm…

1. Click on the ***Developer*** tab, then click on ***Record Macro*** in the ***Code*** group
2. Type **SumConsolidation** in ***Macro name:***, type **S** in ***Shortcut key***, as shown, then click on **[OK]**
3. Click in cell ***B5***, click on the ***Data*** tab, then click on ***Consolidate*** in the ***Data Tools*** group to display the ***Consolidate*** dialog box
4. Click on the ***View*** tab, click on ***Switch Windows*** in the ***Window*** group, then click on ***Expenses East.xlsx***
5. Select the range ***B5:D8***, then click on **[Add]** in the ***Consolidate*** dialog box
6. Repeat steps ***4*** and ***5*** for ***Expenses North.xlsx***, ***Expenses South.xlsx*** and ***Expenses West.xlsx***
7. Click on **[OK]** to consolidate the figures, click in cell ***A1*** in ***Recorder Workshop_1.xslm***, type **Sum of All Divisions**, then press Enter
8. Click on the ***Developer*** tab, then click on ***Stop Recording*** in the ***Code*** group

2



6



7

	A	B	C	D	E
1	**Sum of All Divisions**				
2					
3		***Jan***	***Feb***	***Mar***	***First Quarter***
4					
5	*Administration*	28,630	29,391	28,210	86,231
6	*Sales*	136,767	134,785	136,542	408,094
7	*Production*	98,299	99,210	107,000	304,509
8	*Despatch*	21,274	17,910	20,941	60,125
9					
10	***Total***	284,970	281,296	292,693	**858,959**
11					

For Your Reference…

To ***record*** a ***summation macro***:

1. Click on the ***Developer*** tab, then click on ***Record Macro*** in the ***Code*** group
2. Click on the first cell of the target range and perform the consolidation steps
3. Click on ***Stop Recording*** in the ***Code*** group

Handy to Know…

- If you wish to view a list of created macros, you can do so by navigating to the ***Developer*** tab and clicking on ***Macros*** in the ***Code*** group to open the ***Macro*** dialog box. If you make a mistake when recording a macro, you can use the ***Macro*** dialog box to delete it.

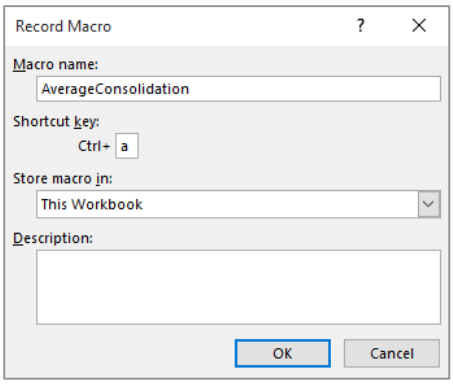
RECORDING CONSOLIDATIONS

Once a ***consolidation*** has been recorded, it can be reused to consolidate the figures in different ways. Some of the other options for summarising the data are to show average, maximum, minimum, count, product (multiplied) and standard deviation. For our case study in this workshop we will build additional macros that perform the first three of these functions on the same set of data.

Try This Yourself:

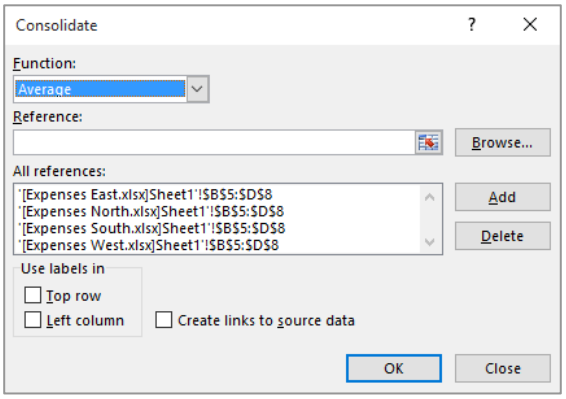
Same File *Continue using the previous file with this exercise, or open the file Recorder Workshop_2.xlsm...*

1. On the ***Developer*** tab, click on ***Record Macro*** in the ***Code*** group, then fill the ***Record Macro*** dialog box as shown and click on **[OK]**



2. Click in cell ***B5***, click on the ***Data*** tab, then click on ***Consolidate*** in the ***Data Tools*** group to display the ***Consolidate*** dialog box

3. Click on the drop arrow for ***Function***, then select **Average**



As the References are already in place from the previous macro, we can simply accept the rest of the settings...

4. Click on **[OK]**, click in cell ***A1***, type **Average of All Divisions**, then press Enter

5. Click on the ***Developer*** tab, then click on ***Stop Recording*** in the ***Code*** group

6. Repeat steps ***1*** to ***5*** for the other macros, as shown in the table

Macro Name:	MaximumConsolidation
Macro Shortcut:	Ctrl + X (lowercase x)
Consolidation Function:	Max
Text in cell A1:	Maximum of All Divisions
Macro Name:	MinimumConsolidation
Macro Shortcut:	Ctrl + I (lowercase i)
Consolidation Function:	Min
Text in cell A1:	Minimum of All Divisions

For Your Reference…

To ***apply different consolidation functions***:

1. Click where you want the data to appear
2. Click on the ***Data*** tab, click on ***Consolidate***
3. Click on the drop arrow for ***Function*** and select the function required
4. Click on **[OK]**

Handy to Know…

- After performing a consolidation, you have no way of knowing how the figures have been combined without referring to the ***Consolidate*** dialog box. By placing a heading in cell ***A1*** we ensure that, at any time, we know which function was the most recently applied.

RECORDING DIVISIONAL MACROS

We have used the data consolidation process to combine the data from four source workbooks. If you wanted to examine these individually, you would need to open them one by one.

Alternatively, you can write macros that transfer the data from one division only into the consolidated worksheet. Add a heading at the same time and you've created one viewing point for all workbooks.

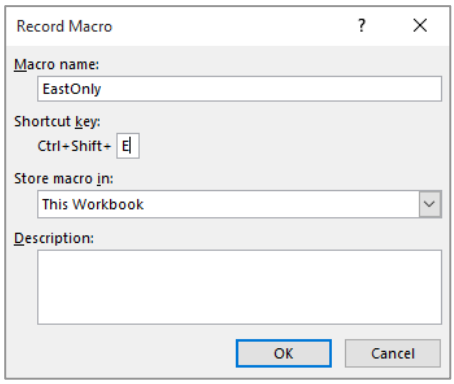
Try This Yourself:

Same File

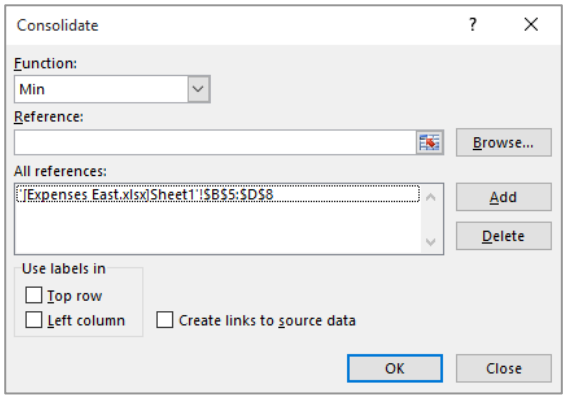
Continue using the previous file with this exercise, or open the file Recorder Workshop_3.xlsm...

1. On the ***Developer*** tab, click on ***Record Macro*** in the ***Code*** group, fill the ***Record Macro*** dialog box as shown, then click on **[OK]**
2. Click in cell ***B5***, click on the ***Data*** tab, then click on ***Consolidate*** in the ***Data Tools*** group to display the ***Consolidate*** dialog box
3. Click on the drop arrow for ***Function*** and select **Sum**
4. Click on the ***Expenses North.xlsx*** entry in ***All references***, click on **[Delete]**, then repeat with the ***Expenses South.xlsx*** and ***Expenses West.xslx*** entries
5. Click on **[OK]**, click in cell ***A1***, then type **Eastern Division Only** and press Enter
6. Click on the ***Developer*** tab, then click on ***Stop Recording*** in the ***Code*** group
7. Repeat step ***1*** to create the macro, as shown, then repeat step ***2,*** click on ***Expenses East.xlsx*** under ***All References***, replace the text **East** under ***Reference*** with **West**, then click on **[Add]**
8. Delete ***Expenses East*** under ***All References***, then repeat steps **5** and ***6***
9. Repeat steps ***7*** and ***8*** for the macros as shown

1



4



7

Macro Name:	WestOnly
Macro Shortcut:	Ctrl + Shift + W (uppercase W)
Reference:	Expenses West.xlsx

9

Macro Name:	NorthOnly
Macro Shortcut:	Ctrl + Shift + N (uppercase N)
Reference:	Expenses North.xlsx
Text in cell A1:	Northern Division Only
Macro Name:	SouthOnly
Macro Shortcut:	Ctrl + Shift + O (uppercase O)
Reference:	Expenses South.xlsx
Text in cell A1:	Southern Division Only

For Your Reference…

To ***display*** a ***single workbook*** using ***consolidate***:

1. Click where you want the data to appear
2. On the ***Data*** tab, click on ***Consolidate***
3. Ensure that ***Sum*** is selected in ***Function***
4. Remove all references except the one you require, then click on **[OK]**

Handy to Know…

- You can consolidate data by ***category***. This uses the ***labels*** to the left or above the values to determine the category. Using this, you can have a list of labels that varies, such as expense categories. Values with identical labels are consolidated and the others are reported individually.

TESTING MACROS

We have developed eight macros for our case study. Four of them provide a summary of the data as a total, average, maximum or minimum. The other four macros display the source data, enabling you to drill down a level and review the original data, should you want to examine it more thoroughly. It is important to test each macro before you pass the workbook on to other users.

Try This Yourself:

Same File *Continue using the previous file with this exercise, or open the file Recorder Workshop_4.xlsm....*

1. Press Ctrl + Shift + S to see the ***Sum*** consolidation
2. Press Ctrl + A to see the ***Average*** consolidation
3. Press Ctrl + I to see the ***Minimum*** consolidation
4. Press Ctrl + X to see the ***Maximum*** consolidation
5. Press Ctrl + Shift + E to see the ***Eastern Division*** data
6. Press Ctrl + Shift + W to see the ***Western Division*** data
7. Press Ctrl + Shift + N to see the ***Northern Division*** data
8. Press Ctrl + Shift + O to see the ***Southern Division*** data

1

	A	B	C	D	E
1	**Sum of All Divisions**				
2					
3		***Jan***	***Feb***	***Mar***	***First Quarter***
4					
5	*Administration*	28,630	29,391	28,210	86,231
6	*Sales*	136,767	134,785	136,542	408,094
7	*Production*	98,299	99,210	107,000	304,509
8	*Despatch*	21,274	17,910	20,941	60,125
9					
10	***Total***	284,970	281,296	292,693	**858,959**
11					

4

	A	B	C	D	E
1	**Maximum of All Divisions**				
2					
3		***Jan***	***Feb***	***Mar***	***First Quarter***
4					
5	*Administration*	12,766	12,776	11,988	37,530
6	*Sales*	65,886	63,499	61,222	190,607
7	*Production*	43,288	43,887	54,112	141,287
8	*Despatch*	9,633	9,123	9,443	28,199
9					
10	***Total***	131,573	129,285	136,765	**397,623**
11					

8

	A	B	C	D	E
1	**Southern Division Only**				
2					
3		***Jan***	***Feb***	***Mar***	***First Quarter***
4					
5	*Administration*	8,221	8,332	7,334	23,887
6	*Sales*	34,889	35,221	39,555	109,665
7	*Production*	32,778	33,544	31,088	97,410
8	*Despatch*	9,566	9,123	9,443	28,132
9					
10	***Total***	85,454	86,220	87,420	**259,094**
11					

For Your Reference…

To ***test*** a ***macro***:

- Press the corresponding shortcut key, or

1. Click on ***Macros*** on the ***Developer*** tab
2. Select the macro
3. Click on **[Run]**

Handy to Know…

- Ideally, you should manually calculate a sample of the figures to ensure that the consolidations are working correctly. Open each workbook and compare the figures. You'd be surprised at the proportion of spreadsheets that have errors – automated and all!

CREATING OBJECTS TO RUN MACROS

Macros make using workbooks easier – as long as you know that they exist! You could show someone how to use the shortcut keys or ribbon to run macros, but a more user-friendly approach is to ***create an object*** and link the macro to that object. An object can be anything that you can place on a workbook, such as a drawn circle, a box, a line or even an inserted picture.

Try This Yourself:

Same File

Continue using the previous file with this exercise, or open the file Recorder Workshop_5.xlsm...

1. Click on the ***Insert*** tab, then click on ***Shapes*** in the ***Illustrations*** group to display a gallery of shapes
2. Click on the ***Bevel*** shape under ***Basic Shapes*** to select it

   The cursor will change to a cross-hair
3. Starting at the top left of cell ***G2***, click and drag to draw a bevelled rectangle as shown, then type **Sum Divisions**
4. Repeat steps ***2*** and ***3*** to create a column of the bevel objects with text, as shown

   The Bevel tool now appears under recently Used Shapes in the Shapes gallery

	A	B	C	D	E
1	Southern Division Only				
2					
3		*Jan*	*Feb*	*Mar*	*First Quarter*
4					
5	*Administration*	8,221	8,332	7,334	23,887
6	*Sales*	34,889	35,221	39,555	109,665
7	*Production*	32,778	33,544	31,088	97,410
8	*Despatch*	9,566	9,123	9,443	28,132
9					
10	***Total***	85,454	86,220	87,420	**259,094**
11					

3

	A	B	C	D	E
1	Sum of All Divisions				
2					
3		*Jan*	*Feb*	*Mar*	*First Quarter*
4					
5	*Administration*	28,630	29,391	28,210	86,231
6	*Sales*	136,767	134,785	136,542	408,094
7	*Production*	98,299	99,210	107,000	304,509
8	*Despatch*	21,274	17,910	20,941	60,125
9					
10	***Total***	284,970	281,296	292,693	**858,959**
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Sum Divisions
Average Divisions
Minimum Expenses
Maximum Expenses
Eastern Division
Western Division
Northern Division
Southern Division

4 *If the shapes appear as if they are not aligned, hold down* Shift*, click on each object to select them, then click on the* ***Drawing Tools: Format*** *tab, click on* ***Align Objects*** *in the* ***Arrange*** *group and select* ***Align Left.*** *On the* ***Drawing Tools: Format*** *tab, you can also click on* ***Align Objects*** *in the* ***Arrange*** *group and select* ***Distribute Vertically*** *to make the distance between each shape even.*

For Your Reference…

To ***create*** an ***object***:

1. Click on the ***Insert*** tab, then click on ***Shapes*** in the ***Illustrations*** group
2. Select a shape from the menu
3. Draw a shape on the worksheet
4. Type a name in the shape

Handy to Know…

- Click on ***Shape Fill*** to change the fill colour of a shape.
- Click on ***Shape Outline*** to change the outline of a shape.

ASSIGNING A MACRO TO AN OBJECT

Once you have created your macros and the objects that you want to link them to, all you need to do is assign the macros to the objects. This is done via a shortcut menu. When you assign a macro to an object, the object becomes 'live'. The cursor will change to a hand as you point to the object. This is to clearly indicate that clicking on the object will start an action.

Try This Yourself:

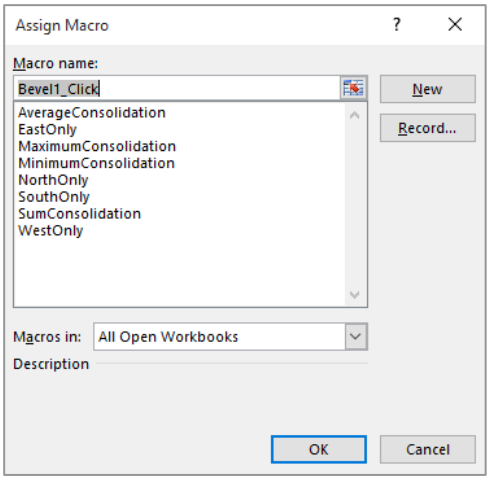
Same File

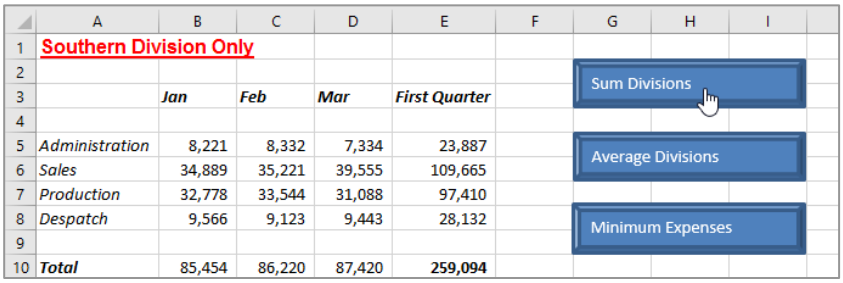
Continue using the previous file with this exercise, or open the file Recorder Workshop_6.xlsm...

1. Click on the ***Sum Divisions*** shape to select it
2. Right-click on the shape to display the shortcut menu, then select **Assign Macro**

   The Assign Macro dialog box will be displayed...
3. Click on ***SumConsolidation*** and click on **[OK]**
4. Press Esc to deselect the shape, then point to the ***Sum Divisions*** shape to show that the cursor will display as a hand
5. Click on the shape to run the macro
6. Repeat steps ***1*** to ***5*** to assign the macros as shown in the table
7. Test each of the macro objects

2





4

6

Shape	Macro
Average Divisions:	AverageConsolidation
Minimum Expenses:	MinimumConsolidation
Maximum Expenses:	MaximumConsolidation
Eastern Division:	EastOnly
Western Division:	WestOnly
Northern Division:	NorthOnly
Southern Division:	SouthOnly

For Your Reference…

To ***assign*** a ***macro*** to an ***object***:

1. Right-click on the object and select **Assign Macro**
2. Click on the macro name
3. Click on **[OK]**

Handy to Know…

- You can assign macros to the ***Quick Access Toolbar***. Click on the drop arrow for the QAT and select **More Commands**. Click on the drop arrow for ***Choose commands from*** and click on ***Macros***. Click on the macro, then click on **[Add]**.

CONCLUDING REMARKS

Congratulations!

You have now completed Microsoft Excel 2016 - Recording Simple Macros. Microsoft Excel 2016 - Recording Simple Macros was designed to get you to the point where you can competently perform a variety of operations.

We have tried to build up your skills and knowledge by having you work through specific tasks. The step by step approach will serve as a reference for you when you need to repeat a task.

Where To From Here?

The following is a little advice about what to do next:

- Spend some time playing with what you have learnt. You should reinforce the skills that you have acquired and use some of the application's commands. This will test just how much of the concepts and features have stuck! Don't try a big task just yet if you can avoid it - small is a good way to start.
- Some aspects of the course may now be a little vague. Go over some of the points that you may be unclear about. Use the examples and exercises in these notes and have another go - these step-by-step notes were designed to help you in the classroom and in the work place!

Here are a few techniques and strategies that we've found handy for learning more about technology:

- read computer magazines - there are often useful articles about specific techniques
- if you have the skills and facilities browse the Internet, specifically the technical pages of the application that you have just learnt
- take an interest in what your work colleagues have done and how they did it - we don't suggest that you plagiarise but you can certainly learn from the techniques of others
- if your software came with a manual (which is rare nowadays) spend a bit of time each day reading a few pages. Then try the techniques out straight away - over a period of time you'll learn a lot this way
- and of course, there are also more courses and books for you to work through.

Hungry for More?

We live in an ever-changing world where we all need to review and upgrade our skills.

If you have received this course book on a training course why not ask the tutor or trainer for other courses that may be of benefit to you. If you are attending a college ask for one of their brochures.

Alternatively, if you've enjoyed using this course book you can find others that cover a wide range of topics at our web site www.watsoniapublishing.com.

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