Lesson 1

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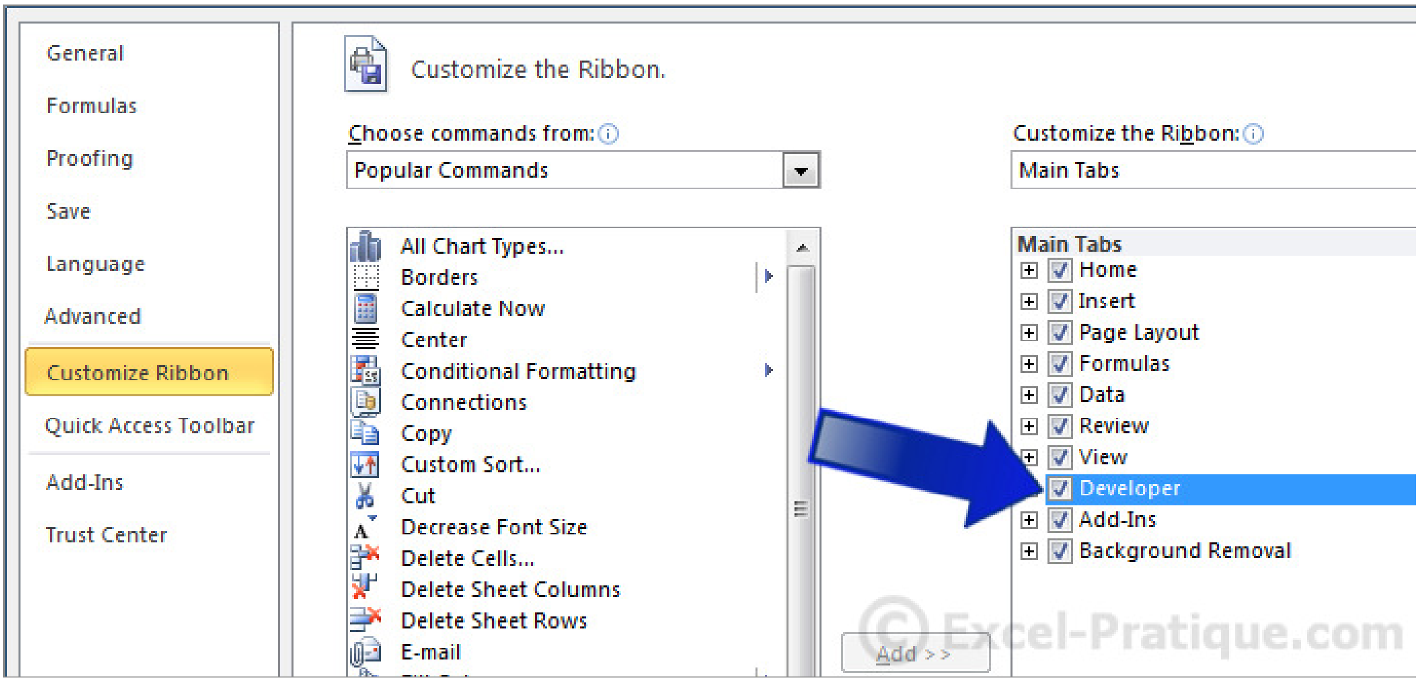
Introduction :

VBA (Visual Basic for Applications) is a language related to Visual Basic that can only run through a host application (Excel, in our case).

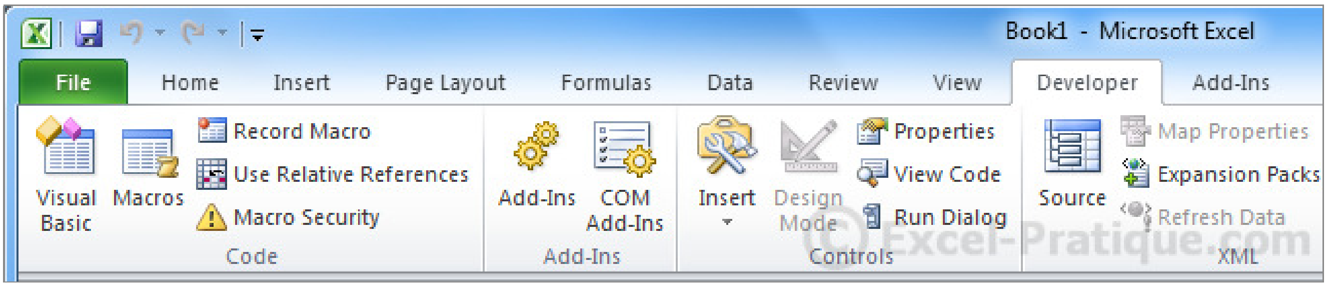
Using VBA, we can do almost anything imaginable with Excel ...

But before we get started, let's begin by making sure that the tools we need are visible.

If you are using Excel version 2007 (or a higher version), click on File > Options > Customize the Ribbon and then check "Developer".

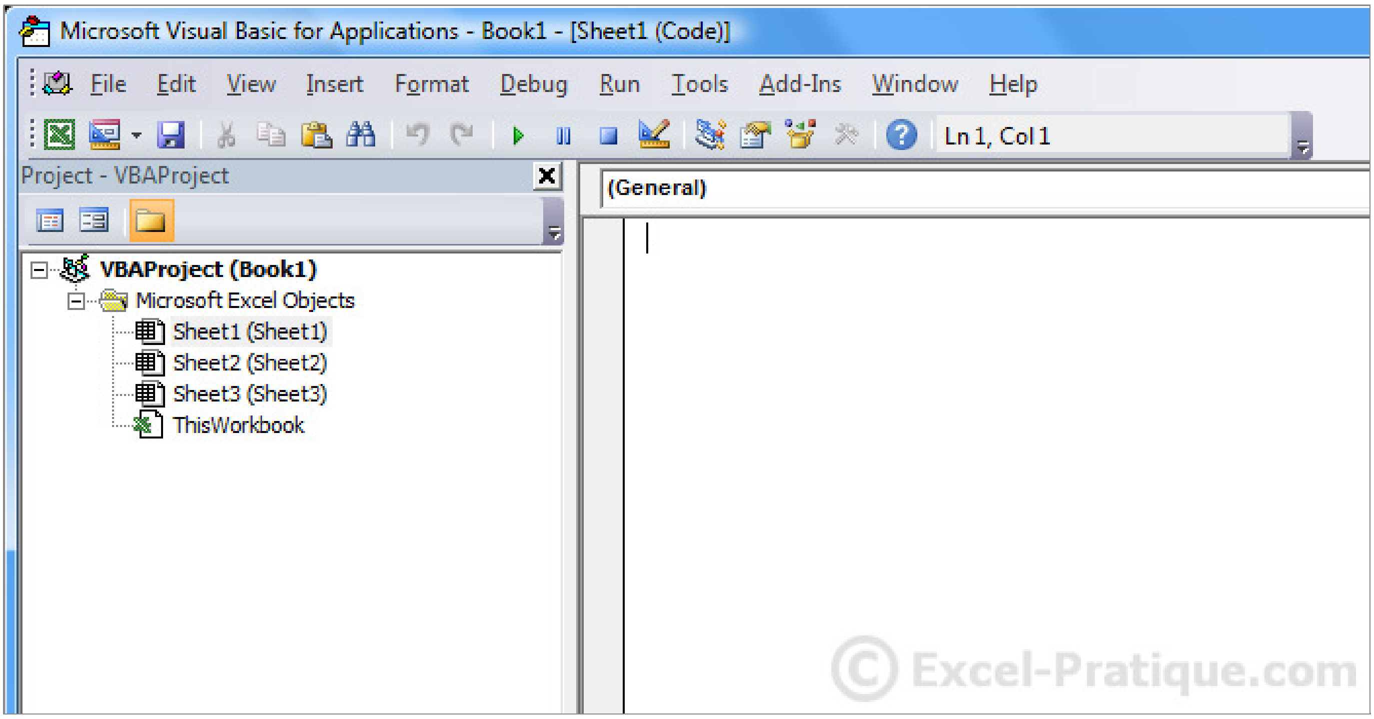


A new tab will be added :



If the version of Excel that you are using is lower than 2007, add the "Control Toolbox" and "Formulas" toolbars.

To work with VBA code, we'll need an editor, which is installed by default. You can open it by pressing the shortcut key combination "Alt F11" :



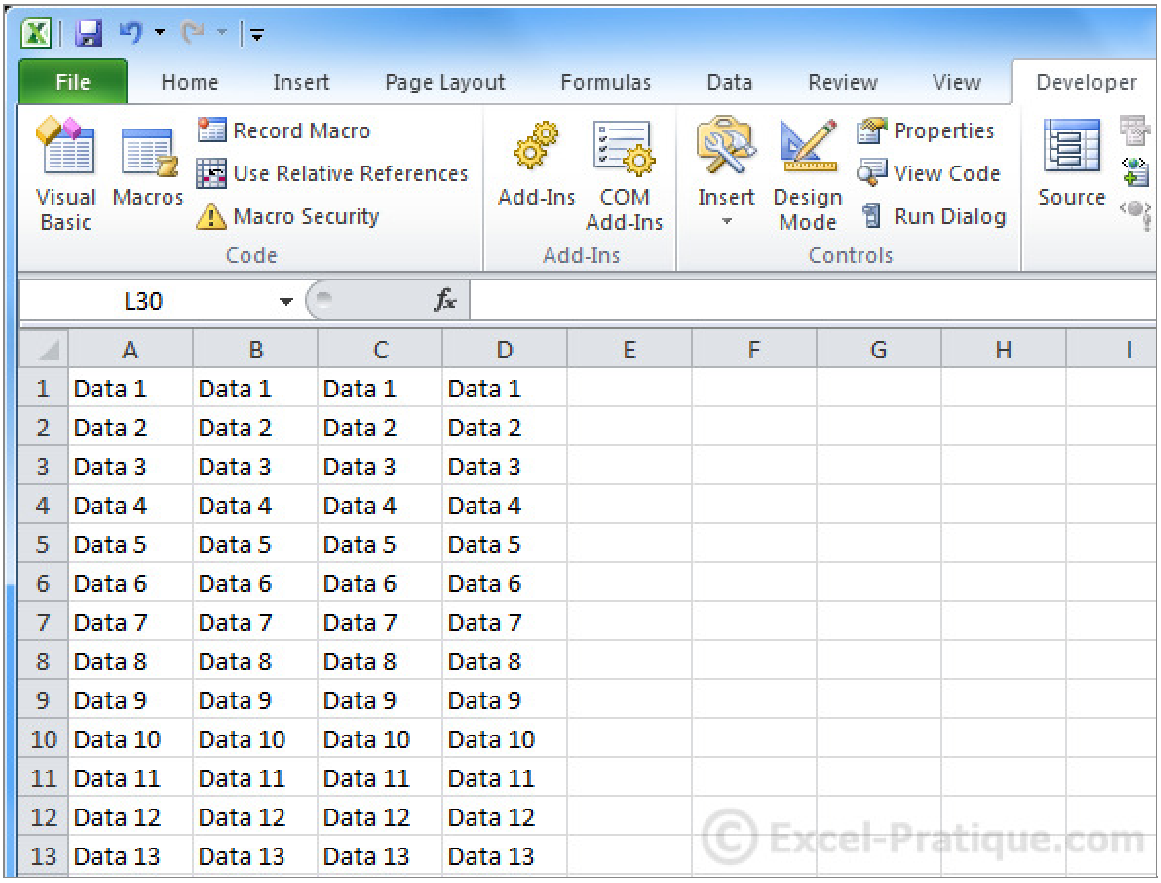
We'll come back to this. What's important for now is just to remember the "Alt F11" shortcut ...

First macro :

The macro recorder makes it very easy to automate certain tasks.

To give just one example, we will automate the following actions :

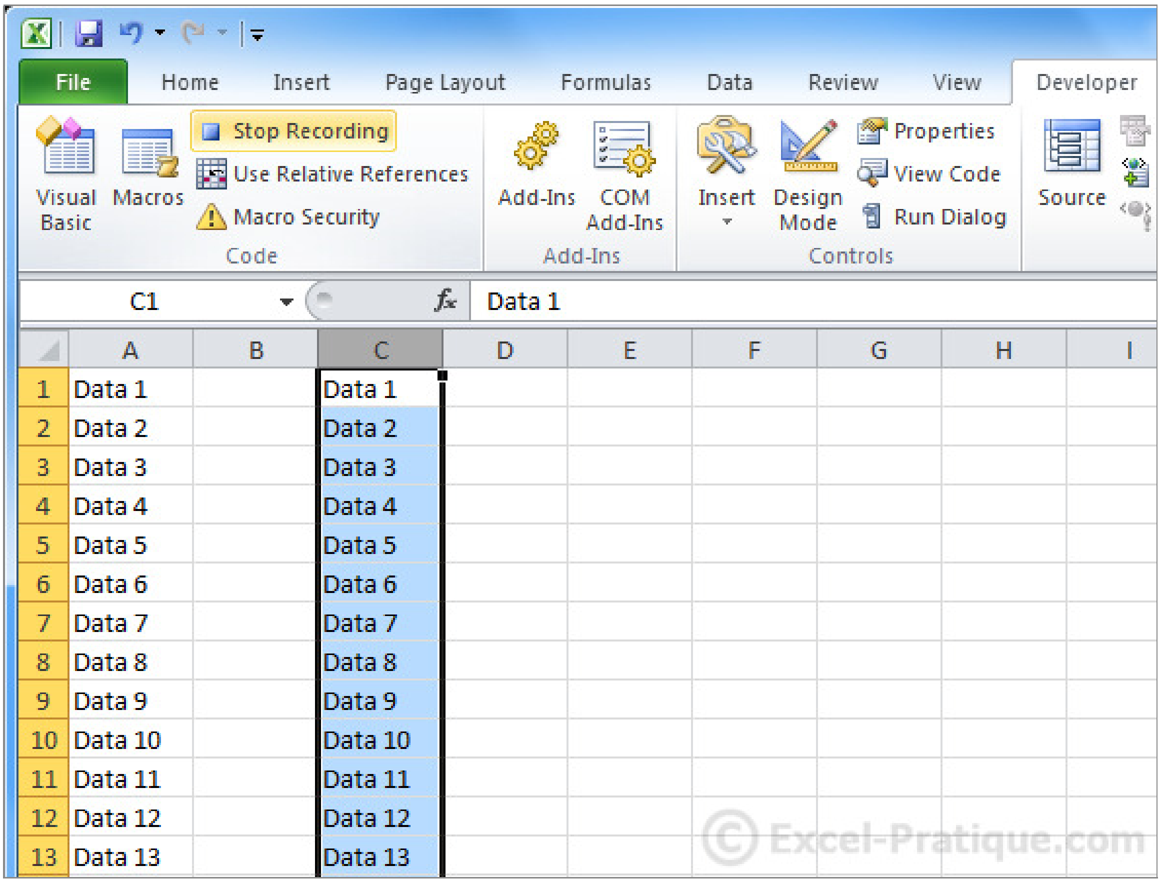
- delete the contents of columns A and C
- move the contents of column B to column A
- move the contents of column D to column C



	A	B	C	D	E	F	G	H	I
1	Data 1	Data 1	Data 1	Data 1					
2	Data 2	Data 2	Data 2	Data 2					
3	Data 3	Data 3	Data 3	Data 3					
4	Data 4	Data 4	Data 4	Data 4					
5	Data 5	Data 5	Data 5	Data 5					
6	Data 6	Data 6	Data 6	Data 6					
7	Data 7	Data 7	Data 7	Data 7					
8	Data 8	Data 8	Data 8	Data 8					
9	Data 9	Data 9	Data 9	Data 9					
10	Data 10	Data 10	Data 10	Data 10					
11	Data 11	Data 11	Data 11	Data 11					
12	Data 12	Data 12	Data 12	Data 12					
13	Data 13	Data 13	Data 13	Data 13					

To do this, click on "Record Macro" and then "Ok", carry out the actions described above without interruption (because everything you do will be recorded) and then click on "Stop Recording".

For versions of Excel lower than 2007 : Tools > Macros > Record New Macro.

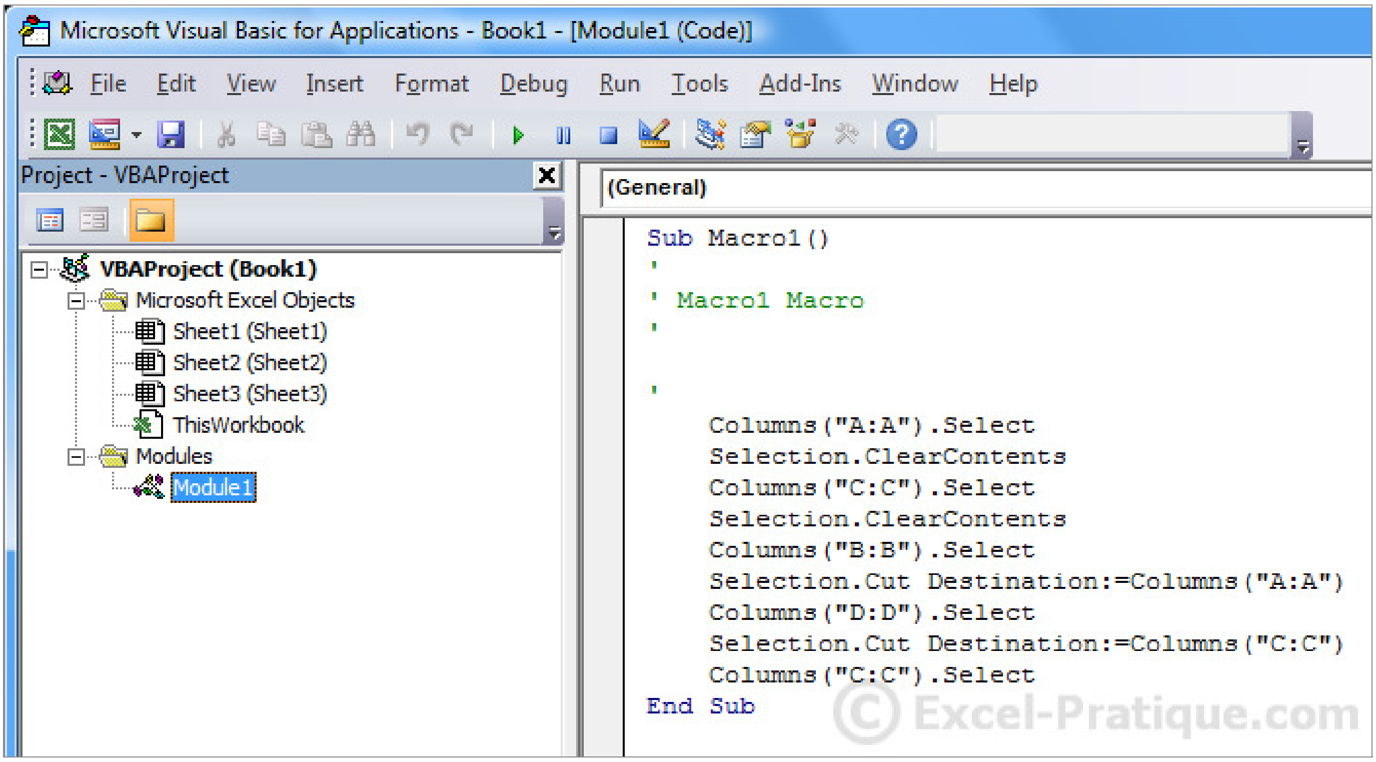


C1 | *fx* Data 1

	A	B	C
1	Data 1		Data 1
2	Data 2		Data 2
3	Data 3		Data 3
4	Data 4		Data 4
5	Data 5		Data 5
6	Data 6		Data 6
7	Data 7		Data 7
8	Data 8		Data 8
9	Data 9		Data 9
10	Data 10		Data 10
11	Data 11		Data 11
12	Data 12		Data 12
13	Data 13		Data 13

Excel has recorded your actions and translated them into VBA code.

To view your macro, open the editor (Alt F11) and click on "Module1" :



```
Sub Macro1()
'
' Macro1 Macro
'

'
    Columns("A:A").Select
    Selection.ClearContents
    Columns("C:C").Select
    Selection.ClearContents
    Columns("B:B").Select
    Selection.Cut Destination:=Columns("A:A")
    Columns("D:D").Select
    Selection.Cut Destination:=Columns("C:C")
    Columns("C:C").Select
End Sub
```

This code represents the recorded actions.

Let's take a moment to look at the code that Excel has generated :

```
Sub Macro1()
'
' Macro1 Macro
'

'
    Columns("A:A").Select
    Selection.ClearContents
    Columns("C:C").Select
    Selection.ClearContents
    Columns("B:B").Select
    Selection.Cut Destination:=Columns("A:A")
    Columns("D:D").Select
    Selection.Cut Destination:=Columns("C:C")
    Columns("C:C").Select
End Sub
```

Sub and **End Sub** mark the beginning and end of the macro, and "Macro1" is the name of this macro :

```
Sub Macro1()

End Sub
```

Let's edit the name of the macro to make it more descriptive, changing "Macro1" to "column_handling" (the name of the macro cannot contain any spaces) :

```
Sub column_handling()
```

The text in green (text preceeded by an apostrophe) is commentary, and will be ignored when the code is executed :

```
'
' Macro1 Macro
'

'
```

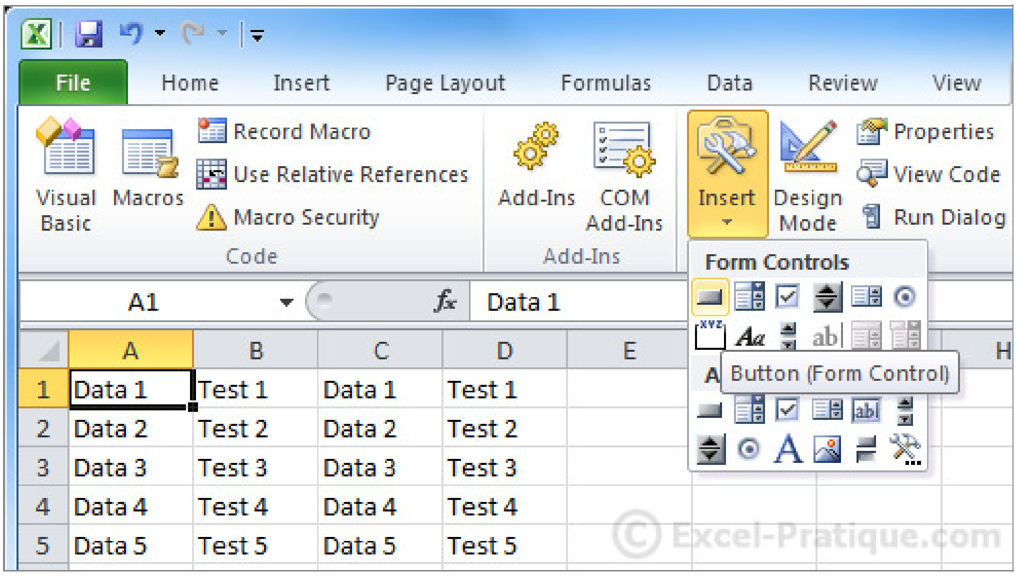
This kind of commentary can be very useful for finding things when there is a lot of code, or when you want to prevent the execution of certain lines of code without deleting them.

```
Sub column_handling()
'
'My first commentary !
'
    Columns("A:A").Select
    Selection.ClearContents
    Columns("C:C").Select
    Selection.ClearContents
    Columns("B:B").Select
    Selection.Cut Destination:=Columns("A:A")
    Columns("D:D").Select
    Selection.Cut Destination:=Columns("C:C")
    Columns("C:C").Select
End Sub
```

Now we want this macro to be executed at the click of a button.

Click on Insert > Button (Form controls) :

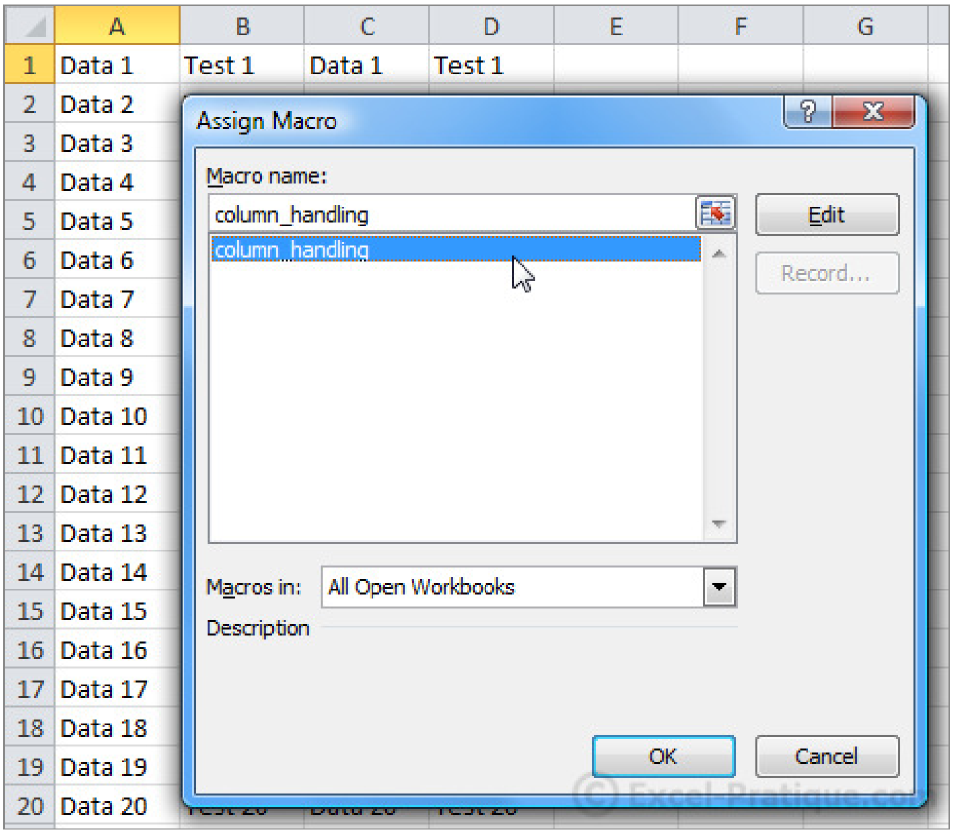
For versions of Excel lower than 2007 : "Button" from the "Formulas" toolbar.



A1: Data 1

	A	B	C	D	E
1	Data 1	Test 1	Data 1	Test 1	
2	Data 2	Test 2	Data 2	Test 2	
3	Data 3	Test 3	Data 3	Test 3	
4	Data 4	Test 4	Data 4	Test 4	
5	Data 5	Test 5	Data 5	Test 5	

Insert your button and then just select the macro that you created :



	A	B	C	D	E	F	G
1	Data 1	Test 1	Data 1	Test 1			
2	Data 2						
3	Data 3						
4	Data 4						
5	Data 5						
6	Data 6						
7	Data 7						
8	Data 8						
9	Data 9						
10	Data 10						
11	Data 11						
12	Data 12						
13	Data 13						
14	Data 14						
15	Data 15						
16	Data 16						
17	Data 17						
18	Data 18						
19	Data 19						
20	Data 20	Test 20	Data 20	Test 20			

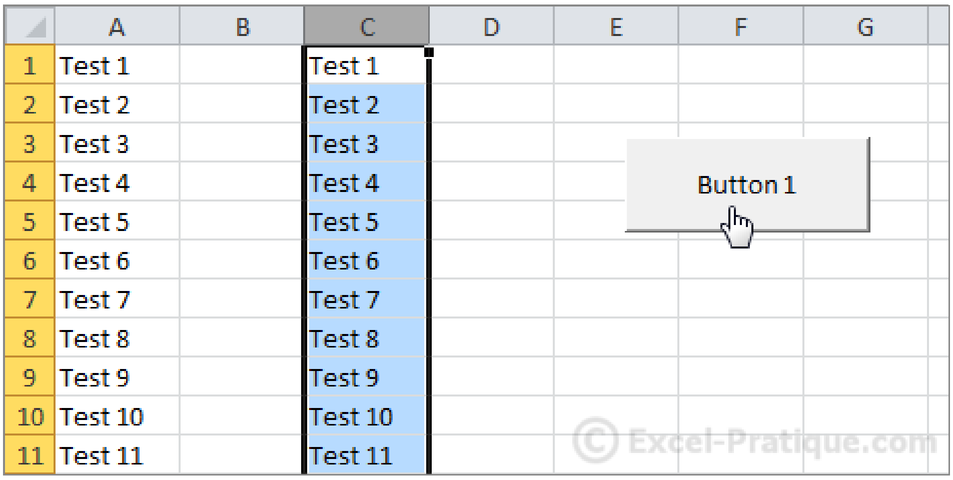
Macro name: column_handling

column_handling

Macros in: All Open Workbooks

Description

When you click on the button, your macro will be executed :



	A	B	C	D	E	F	G
1	Test 1		Test 1				
2	Test 2		Test 2				
3	Test 3		Test 3				
4	Test 4		Test 4				
5	Test 5		Test 5				
6	Test 6		Test 6				
7	Test 7		Test 7				
8	Test 8		Test 8				
9	Test 9		Test 9				
10	Test 10		Test 10				
11	Test 11		Test 11				