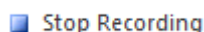## 5 steps for creating a macro

1. Know what you want
2. Know how to do it without a macro
3. Record or write a macro
4. Test the macro and clean up the code
5. Share with others

How to record a macro

1. Choose **Developer** | **Record Macro**

   Record Macro

2. Enter a macro name. No space allowed.
3. Optional: Specify a keyboard shortcut, macro location, and/or description.
4. Click **OK.**
5. Perform the actions
6. Choose **Developer** | **Stop Recording**.

   Stop Recording

VBA terms

Object	Noun	Statement	Sentence
Property	Adjective	Procedure	Paragraph
Method	Verb	Module	Chapter
Argument	Adverb	Project	Book

VBA code colors

Black	Regular code
Blue	Keywords
Green	Comments
Red	Errors

Variable data types

bln	Boolean	TRUE (1) or FALSE (0)
byt	Byte	0 and 255
int	Integer	-32,768 and 32,767
lng	Long	-2,147,483,648 and 2,147,483,647
sng	Single	Up to 7 decimal places
dbl	Double	Up to 15 decimal places
cur	Currency	Money – up to 4 decimal places.
dtm	Date / Time	1/1/0100 to 12/31/9999 00:00:00 and 23:59:59
str	String	Text up to 2 billion characters.
wkb	Workbook	A workbook
wks	Worksheet	A worksheet
rng	Range	One or more cells

Declare variables

Dim	Procedure variable
Static	Procedure variable that retains value
Private	Module variable
Public	Globally used variable

Declare procedures

Private Function	Function can only be called by other procedures in the same module
Public Function	Function can be called by the user and any procedure
Private Sub	Sub procedure can only be called by other procedures in the same module
Public Sub	Sub procedure / macro can be called by the user or Excel and any procedure

Decision Structures

```
If Condition1 Then
    statement(s)
ElseIf Condition2 Then
    statement(s)
Else
    statement(s)
End If
```

```
Select Case Variable
   Case expression1
       statement(s)
   Case expression2
       statement(s)
   Case else
       statement(s)
End Select
```

Loop Structures

```
For counter = Start to Stop Step Increment
    Statement(s)
Next counter
```

```
For Each object variable in collection
    Statement(s)
Next
```

```
Do While | Until condition
    Statement(s)
Loop
```

```
Do
    Statement(s)
Loop While | Until condition
```

	Workbook	Worksheet	Range		
Properties	ActiveChart ActiveSheet AutoUpdateFrequency Charts FileFormat FullName HasPassword HasVBAProject Name Names Path ReadOnly Saved Sheets Worksheets	AutoFilter Cells CircularReference Columns Comments Count DisplayPageBreaks EnableAutoFilter Hyperlinks Name Names PageSetup Parent Range Rows Shapes Sort StandardHeight StandardWidth Visible	AddIndent Address AllowEdit Borders Cells Characters Column Columns ColumnWidth Comment Count CurrentRegion Dependents End EntireColumn EntireRow Font Formula FormulaR1C1 HasFormula	Height Hidden Horizontal Alignment Hyperlinks IndentLevel Interior Item Locked MergeArea MergeCells Name NumberFormat Offset Orientation OutlineLevel PageBreak Parent PivotCell PivotField	PivotItem PivotTable Precedents PrefixCharacter Range Resize Row RowHeight Rows Text UseStandardHeight UseStandardWidth Validation Value VerticalAlignment Width Worksheet WrapText
Methods	Activate AddToFavorites ApplyTheme BreakLink Close OpenLinks PrintOut PrintPreview Protect Save SaveAs Unprotect	Activate Add Calculate Copy Delete Move Paste PasteSpecial PivotTableWizard PrintOut PrintPreview Protect ResetAllPageBreaks SaveAs Select Unprotect	Activate AdvancedFilter AddComment ApplyNames AutoFill AutoFilter AutoFit BorderAround Calculate CheckSpelling Clear ClearComments ClearContents ClearFormats ClearHyperlinks Copy	CreateNames Cut DataSeries Delete FillDown FillLeft FillRight FillUp Find FindNext FindPrevious Insert InsertIndent Justify Merge PasteSpecial	PrintOut PrintPreview RemoveDuplicates RemoveSubtotal Replace Select Sort Subtotal TextToColumns UnMerge
Events	Activate AfterSave BeforeClose BeforePrint BeforeSave NewChart NewSheet Open SheetCalculate SheetChange WindowActivate WindowDeactivate WindowResize	Activate BeforeDoubleClick BeforeRightClick Calculate Change PivotTableUpdate	The range object has no events.		