Excel VBA

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# Syntax

* **‘** xxx // quote - comment
* xxx **\_** // underscore - break lines
* function **()** // () when more than 1 parameters and need result
* **Dim** variable, variable **As** type
* **Set** variable = Range(“A4”) // passing object
* **Dim** var(5 / 18 **To** 28) **As** Integer // **array with 6 / 11 item**
* **Dim** var(0 **To** 5, 1 **To** 4) **As Variant** // 2D-array
  + **Dim** var **As Variant**
  + var **= [ {** 1,2,21,2; 4,1232,2,2 **} ]** // **index begins at 1 if assigned to Range**
* **If** condition **Then** … **Else** … **End If**
* **While** condition … **Wend** // can’t exit
* **Do While** condition … **Loop** / **Do** … **Loop While** condition
* **Do Until** condition … **Loop** / **Do** … **Loop Until** condition
* **Exit Do**
* **For** index = start **To** end **Step** step … **Next** index
* **Exit For**
* **Class**
  + **Dim** var **As** class; **Set** var **= New** class
  + var.Initialize “xxx”, “xxx”, 100

# Functions and Subroutines

* **Function** function(variable / **ByVal** variable **As** type) **As** type … function = xxx … **End Function**
* **Sub** subroutine() …  **End Sub** // no output
* =OFFSET(Cell, row, col)
* **Option Base 1** //arrayindex begin at 1
* Mod
* Int() / CLng()
* Randomize()
* Rnd() // 0 <= x < 1
* Array
  + LBound() / UBound() // array indexes
* String
  + Len(“xxx”)
  + InStr(index,”Text”,”SubString”) // x = InStr(1,”xcxcx”,”c”) 🡪 x = 2
* MsgBox “text” & vbNewLine
* InputBox(“text”)
* LCase(“text”) // lowercase
* Worksheets(“SheetName”)
  + .Activate
  + .Shapes.Count
  + .Shapes.AddShape() // AddShape(msoShapeRectangle, x, y, width, height)
  + .Shapes.AddShape // AddShape integer, x, y, width, height
* ActiveSheet // currently activated sheet
* Range(“A1”) / Cells(row,column)
  + .Value {get;set;} // default
  + .Formula // = “=2+2”
  + .Font.Size
  + .Font.Bold // = True
  + .Interior.Color // = vbRed
  + .Interior.ColorIndex // 2 = white, 1 = black
  + .Select // use inside the activated sheet **only**
  + .ClearContents
* Range(“A1:B1”) / Range(“CellName”)
* Cells(row,column) // C2 = (2,3)
* ActiveCell
  + .Row
  + .Offset(row,column)
* Selection // currently selected cell(s)
* Shape
  + .Fill.Visible // = msoFalse
  + .Rotation

# GUI Controls

* Form // less flexibility
  + ComboBox // index start from 1
* ActiveX // in design mode; need permission
  + ComboBox
    - .ListIndex // index start from 0