Advanced Excel for Productivity

VBA and Macros Reference

Referencing Workbooks

ThisWorkbook	The workbook that is currently running code
ActiveWorkbook	The workbook that is active (has a cell selected)
Workbooks("file.xlsx")	The open workbook called file.xlsx
Workbooks.Open("C:\Path\file.xlsx")	Open a workbook file

Referencing Sheets

ActiveSheet	Currently active sheet
WorkSheets("name")	Reference a sheet by its name (label)
ActiveWorkbook.Sheets("name")	Same as above; "ActiveWorkbook" part is optional
Sheets(1)	The first sheet in order; changes if you rearrange sheets
Sheet1 / Sheet2 / Sheet3 / etc	Best way to always reference the same sheet
ThisWorkbook.Sheet1.Activate	Activates Sheet1; even if you rename or rearrange sheets

Referencing Cells

Range("C2")	Cell C2; not best practice since cells can move around
Cells(2,3)	Cell in row 2, column 3, which is C2
Range("named_range")	Best way to reference cells; use a named reference cell
ActiveCell	Currently active single cell (part of Selection)
Selection	Selected cell(s)
Columns("A:B")	Reference entire columns; also works as Columns(1)
Rows("1:2")	Reference entire rows; also works as Rows(1)
.EntireRow	Reference the entire row; e.g. Selection.EntireRow
.EntireColumn	Reference the entire column; e.g. Selection.EntireColumn

Actions on Sheets/Cells

.Select	Sheet or cell becomes the current selection
.Activate	Same as .Select
.Offset(A, B)	Offset (move) the selection by A rows and B columns
.Resize(A, B)	Resize the selection to A rows by B columns size
.AutoFit	Autofit height or width (of entire rows or columns)
.RowHeight	Change height of row/cell
.ColumnWidth	Change width of column/cell
.Delete	Delete cell(s)
.ClearContents	Clear values/formulas from cell (same as DEL key)
.ClearFormats	Clear all formatting from cell (colors, borders, number)
.Copy / .Cut	Copy or Cut the selection (use with cells / ranges)
.Insert	Insert cells (rows or columns) above or to the left
ActiveSheet.Paste	Regular Paste of cut/copied range
Selection.PasteSpecial Paste:=xlPasteValues	Paste Special; in this case just values
Application.CutCopyMode = False	Turns off Cut/Copy of selection
[Sheet1].Copy	Copy Sheet1 to a new workbook by itself
[Sheet1].Move	Move Sheet1 to a new workbook by itself
[Sheet1].Copy after:= [Sheet2]	Copy Sheet1 and paste it after Sheet2
[Sheet1].Move before:= [Sheet3]	Move Sheet1 before Sheet3

Properties of Cells

.Value	Value of cell
.Formula	Formula of cell; if there's no formula then same as value
.Address	Address of cell, e.g. "A2" or "B5"
.Font.Size	Set font size (can also set Font.Color; Font.Bold; etc)
.Interior.Color	Set cell background color
.Borders(xlEdgeTop).LineStyle = True	Add regular border to the bottom edge of cell

Loops and Logic

For n = 1 to 100 … Next n	Loop a fixed number of times; iterates n
Do While [condition] … Loop	Loop as long as [condition] is true
While [condition] … Loop	Loop as long as [condition] is true
Do Until [condition] … Loop	Loop until [condition] is true
Do … Loop While [condition]	Run at least once; loop while [condition] is true
For Each wb in Workbooks … Next wb	Loop through each open Workbook
For Each s on Worksheets … Next s	Loop through each Sheet in a Workbook
For Each c in Selection … Next c	Loop through each Cell in the selected range
For Each pt in PivotTables … Next pt	Loop through each PivotTable on active sheet
If [condition] Then [do this] Else [do that] EndIf	If condition is true, execute a set of commands
If [cond1] Then [s1] ElseIf [cond2] Then [s2] EndIf	Multiple If conditions and multiple statements
Exit Sub / Exit Function	Stop executing Macro or Function

Math

Application.Min() / Application.Max()	Minimum or Maximum of multiple values
Application.Round(X, n)	Round value X to n significant digits
Math.Abs(X)	Absolute value of X

Optimize for Speed

Application.ScreenUpdating = False	Macro runs faster by not updating the screen
Application.Calculation=xlCalculationManual	Manual calculation mode; can make macro faster
Application.Calculate	Need this to force a calculation in Manual mode
Application.Calculation=xlCalculationAutomatic	Automatic calculation; this is the default

Workbook Properties and Actions

.Name	Name of the file, with extension ("file.xlsx")
.Path	Directory path of the file ("C:\Folders")
.FullName	Path + Name of file ("C:\Folders\file.xlsx")
.Save	Save the workbook
.SaveAs	Save As, specify file name and extension type
.Close	Close the workbook
.RefreshAll	Refresh all connections in workbook

Workbook Objects

.Sheets / .Worksheets	Sheets (can use with For Each)
.Charts	Charts (can use with For Each)
.Names	Named references (can use with For Each)
.Connections	External data connections (can use with For Each)

Pivot Tables

Application.EnableEvents = False	Macro runs faster; useful before any Pivot changes
PivotTables(1).RefreshTable	Refresh pivot table (first pivot on sheet)
PivotTables(1).PivotFields("Category")	Reference to pivot field Category
.PivotFields("Category").PivotItems("Blue").Visible	Filter on or off (True or False) for Category = Blue
.PivotFields("Category").CurrentPage = "Blue"	Switch filter to only Category = Blue
.PivotFields("Category").ClearAllFilters	Unfilter Category (i.e. include all values)

Keyboard Shortcuts

ALT + F11	Switch between VBA editor and Excel
F5	Run VBA macro
F9	Insert or remove break point
F8	Execute next line