

## VBA/Macros Course Content

### Advanced VBA/Macros

<b>1. Introduction to VBA/Macros in Excel</b>	<ul style="list-style-type: none"> <li>• Events</li> </ul>
<ul style="list-style-type: none"> <li>• Uses of learning Macros</li> </ul>	<ul style="list-style-type: none"> <li>• Syntax for Method with arguments</li> </ul>
<ul style="list-style-type: none"> <li>• What is Macro?</li> </ul>	<ul style="list-style-type: none"> <li>• Syntax for Method without arguments</li> </ul>
<ul style="list-style-type: none"> <li>• What is VBA?</li> </ul>	<ul style="list-style-type: none"> <li>• Syntax for Property</li> </ul>
<ul style="list-style-type: none"> <li>• Difference Between VB/VBA/VBS</li> </ul>	<ul style="list-style-type: none"> <li>• Realtime examples on Methods and Properties</li> </ul>
<ul style="list-style-type: none"> <li>• How to enable Developer Tab</li> </ul>	<ul style="list-style-type: none"> <li>• How to open Object Browser</li> </ul>
<ul style="list-style-type: none"> <li>• How to save the Macro file</li> </ul>	
<ul style="list-style-type: none"> <li>• How to enable Macros</li> </ul>	<b>9. Immediate Window</b>
<ul style="list-style-type: none"> <li>• How to open VBA Editor and what is the shortcut key?</li> </ul>	<ul style="list-style-type: none"> <li>• What is Immediate Window</li> <li>• How to use it?</li> </ul>
<b>2. Types of Windows in VBA Editor</b>	<b>10. What is Procedure?</b>
<ul style="list-style-type: none"> <li>• Project Explorer Window</li> </ul>	<ul style="list-style-type: none"> <li>• Sub Procedure</li> </ul>
<ul style="list-style-type: none"> <li>• Properties Window</li> </ul>	<ul style="list-style-type: none"> <li>• Function Procedure</li> </ul>
<ul style="list-style-type: none"> <li>• Code Window</li> </ul>	<b>11. Sub Procedure</b>
<ul style="list-style-type: none"> <li>• Sheet Code window</li> </ul>	<ul style="list-style-type: none"> <li>• Synonyms for Procedure</li> </ul>
<ul style="list-style-type: none"> <li>• Module code window</li> </ul>	<ul style="list-style-type: none"> <li>• How to start and end a Macro</li> </ul>
<ul style="list-style-type: none"> <li>• Userform code window</li> </ul>	<ul style="list-style-type: none"> <li>• How to create a simple Macro</li> </ul>
<ul style="list-style-type: none"> <li>• Class code window</li> </ul>	<b>12. Macro naming conventions</b>
<ul style="list-style-type: none"> <li>• Immediate window</li> </ul>	<b>13. Different ways to run a macro</b>
<ul style="list-style-type: none"> <li>• Object browser</li> </ul>	<ul style="list-style-type: none"> <li>• Using Play button</li> </ul>
<b>3. Project Explorer Window</b>	<ul style="list-style-type: none"> <li>• Using Default Shortcut key</li> </ul>
<ul style="list-style-type: none"> <li>• What is Project Explorer window</li> </ul>	<ul style="list-style-type: none"> <li>• Run macro from Developer Tab</li> </ul>
<ul style="list-style-type: none"> <li>• How to open it?</li> </ul>	<ul style="list-style-type: none"> <li>• Assigning our own shortcut key to Macro</li> </ul>
<b>4. Properties Window</b>	<ul style="list-style-type: none"> <li>• Assign Macro to other objects (Images, Shapes, Buttons etc.)</li> </ul>
<ul style="list-style-type: none"> <li>• What is Property window?</li> </ul>	<ul style="list-style-type: none"> <li>• Assign Macro to Quick access toolbar</li> </ul>
<ul style="list-style-type: none"> <li>• How to Open it?</li> </ul>	<ul style="list-style-type: none"> <li>• Create New Group/New Tab to assign the Macro</li> </ul>
<ul style="list-style-type: none"> <li>• How to open object properties</li> </ul>	
<ul style="list-style-type: none"> <li>• What is the different between XISheetVisible, XISheetHidden and XISheetVeryHidden?</li> </ul>	<b>14. What is Record Macro?</b>
	<ul style="list-style-type: none"> <li>• Advantages</li> </ul>
<b>5. What is Code Window?</b>	<ul style="list-style-type: none"> <li>• Disadvantages</li> </ul>
<ul style="list-style-type: none"> <li>• How to create Sheet code window?</li> </ul>	<b>15. Different Type of Errors</b>
<ul style="list-style-type: none"> <li>• How to create Module code window?</li> </ul>	<ul style="list-style-type: none"> <li>• Compile Errors</li> </ul>
<ul style="list-style-type: none"> <li>• How to create userform code window?</li> </ul>	<ul style="list-style-type: none"> <li>• Run Time Errors</li> </ul>
<ul style="list-style-type: none"> <li>• How to create Class code window?</li> </ul>	<ul style="list-style-type: none"> <li>• Logical Errors</li> </ul>
6. What is Module?	<b>16. Reference Styles</b>
7. What is the difference between Sheet code and module code?	<ul style="list-style-type: none"> <li>• Range</li> </ul>
	<ul style="list-style-type: none"> <li>• Worksheet</li> </ul>
	<ul style="list-style-type: none"> <li>• Workbook</li> </ul>
<b>8. What is Object?</b>	<b>17. Difference ways to working with Cells</b>
<ul style="list-style-type: none"> <li>• Object Model</li> </ul>	<ul style="list-style-type: none"> <li>• ActiveCell</li> </ul>
<ul style="list-style-type: none"> <li>• Properties</li> </ul>	<ul style="list-style-type: none"> <li>• Selection</li> </ul>
<ul style="list-style-type: none"> <li>• Methods</li> </ul>	<ul style="list-style-type: none"> <li>• Range method</li> </ul>

<ul style="list-style-type: none"> <li>Cells method</li> </ul>	<ul style="list-style-type: none"> <li>Save File</li> </ul>
<ul style="list-style-type: none"> <li>Square Bracket Method []</li> </ul>	<ul style="list-style-type: none"> <li>Close File</li> </ul>
<ul style="list-style-type: none"> <li>Offset</li> </ul>	<b>Activity: 1 Task using workbook Reference</b>
<b>18. Different Methods &amp; Properties on Cells</b>	<b>27. Get and Set Properties</b>
<ul style="list-style-type: none"> <li>Assign Values to Cells</li> </ul>	<b>Activity: 1 Task using get &amp; set properties</b>
<ul style="list-style-type: none"> <li>Cut/Copy/Paste/PasteSpecial</li> </ul>	<b>28. Variables</b>
<ul style="list-style-type: none"> <li>Font Properties</li> </ul>	<ul style="list-style-type: none"> <li>Data Types in VBA (Byte, Integer, Long, Single, Double, Currency, Boolean, String, Object, Variant)</li> </ul>
<ul style="list-style-type: none"> <li>Cell Background color</li> </ul>	<ul style="list-style-type: none"> <li>Variable Declaration</li> </ul>
<ul style="list-style-type: none"> <li>Borders</li> </ul>	<ul style="list-style-type: none"> <li>Option Explicit</li> </ul>
<ul style="list-style-type: none"> <li>Text Alignments</li> </ul>	<ul style="list-style-type: none"> <li>Scope of Variables</li> </ul>
<ul style="list-style-type: none"> <li>WrapText/Merge/Unmerge Cells</li> </ul>	<ul style="list-style-type: none"> <li>Advantages &amp; Disadvantages of Variant</li> </ul>
<ul style="list-style-type: none"> <li>Indent Level</li> </ul>	<b>29. Different Types of Loops in VBA</b>
<ul style="list-style-type: none"> <li>Insert/Delete Cells/Rows/Columns</li> </ul>	<ul style="list-style-type: none"> <li>For Loop</li> </ul>
<ul style="list-style-type: none"> <li>Row Height/Column Width</li> </ul>	<ul style="list-style-type: none"> <li>Do While</li> </ul>
<ul style="list-style-type: none"> <li>Hide/unhide rows/columns</li> </ul>	<ul style="list-style-type: none"> <li>Do Until</li> </ul>
<ul style="list-style-type: none"> <li>Number Formatting</li> </ul>	<ul style="list-style-type: none"> <li>For Each</li> </ul>
<ul style="list-style-type: none"> <li>Clear Options</li> </ul>	
<b>19. Active Window Properties</b>	<b>30. For Loop</b>
<ul style="list-style-type: none"> <li>Hide/Unhide Gridlines</li> </ul>	<ul style="list-style-type: none"> <li>For Loop Syntax</li> </ul>
<ul style="list-style-type: none"> <li>Hide/Unhide Headers</li> </ul>	<ul style="list-style-type: none"> <li>For loop examples using Range</li> </ul>
<ul style="list-style-type: none"> <li>Hide/Unhide Formulas</li> </ul>	<ul style="list-style-type: none"> <li>For Loop examples using cells</li> </ul>
<b>Activity: 1 Task using Cell Reference</b>	<ul style="list-style-type: none"> <li>Nested for Loop</li> </ul>
20. What is with block?	<ul style="list-style-type: none"> <li>What is Step (Step 1, 2, 3... &amp; Step -1, -2, -3...)</li> </ul>
21. How to give comments?	
<b>22. VBA Color codes</b>	<b>Activity: 10 Interview based Task using For Loop</b>
<ul style="list-style-type: none"> <li>Red</li> </ul>	<b>31. If Condition</b>
<ul style="list-style-type: none"> <li>Blue</li> </ul>	<ul style="list-style-type: none"> <li>IF and then in single line</li> </ul>
<ul style="list-style-type: none"> <li>Black</li> </ul>	<ul style="list-style-type: none"> <li>IF and then in multiple lines</li> </ul>
<ul style="list-style-type: none"> <li>Green</li> </ul>	<ul style="list-style-type: none"> <li>If-Else condition</li> </ul>
<b>23. Different ways to working with sheets</b>	<ul style="list-style-type: none"> <li>Nested if</li> </ul>
<ul style="list-style-type: none"> <li>Using Sheet Name</li> </ul>	32. Select - Case
<ul style="list-style-type: none"> <li>ActiveSheet</li> </ul>	<b>Activity: 3 Interview based Tasks using If &amp; Select</b>
<ul style="list-style-type: none"> <li>Using Sheet Position/Index</li> </ul>	33. Conditional Loops (using For and IF)
<ul style="list-style-type: none"> <li>Using Sheet ID</li> </ul>	34. What is Exit for?
<b>24. Different Methods &amp; Properties of Sheets</b>	<b>Activity: 5 Interview Tasks using Conditional Loop</b>
<ul style="list-style-type: none"> <li>Create a Sheet</li> </ul>	35. How to find Number of Rows/Columns in Data set (Last Row/Last Column)
<ul style="list-style-type: none"> <li>Move/Copy Sheet</li> </ul>	<b>Activity: 1 Interview based Tasks using LastRow/LastColumn</b>
<ul style="list-style-type: none"> <li>Sheet Tab Color</li> </ul>	36. How to Remove Duplicate Values
<ul style="list-style-type: none"> <li>Hide/Unhide Sheet</li> </ul>	37. How to apply Filters
<ul style="list-style-type: none"> <li>Activate Sheet</li> </ul>	38. How to sort data
<ul style="list-style-type: none"> <li>Protect/Unprotect Sheet</li> </ul>	39. What is Screen Updating?
<ul style="list-style-type: none"> <li>Delete Sheet</li> </ul>	<b>Activity: 5 Interview based Tasks</b>
<ul style="list-style-type: none"> <li>How to disable display alerts</li> </ul>	<b>Project1: Data segregation using If condition</b>
<b>Activity: 1 Task using Sheet Reference</b>	<b>Project2: Data Segregation using Filters</b>
<b>25. Different ways to working with workbooks</b>	<b>40. Set Option</b>
<ul style="list-style-type: none"> <li>ActiveWorkbook</li> </ul>	<ul style="list-style-type: none"> <li>Using Range</li> </ul>
<ul style="list-style-type: none"> <li>Thisworkbook</li> </ul>	<ul style="list-style-type: none"> <li>Using Worksheet</li> </ul>
<ul style="list-style-type: none"> <li>Using Workbook Name</li> </ul>	<ul style="list-style-type: none"> <li>Using Workbooks</li> </ul>
<ul style="list-style-type: none"> <li>ActiveWorkbook vs Thisworkbook</li> </ul>	<ul style="list-style-type: none"> <li>Using Combinations</li> </ul>
<b>26. Different Methods &amp; Properties of Workbooks</b>	
<ul style="list-style-type: none"> <li>Create a Workbook</li> </ul>	
<ul style="list-style-type: none"> <li>Open Existing Workbook</li> </ul>	

<b>41. Do-While Loop</b>	51. What is the difference between Sub Procedure/Function Procedure?
• Syntax	
• Examples	52. How to call one Sub procedure to another Sub Procedure
<b>42. Do-Until Loop</b>	53. What is ByVal and ByRef?
• Syntax	<b>54. Different Types of Boxes</b>
• Examples	• MsgBox
43. Differences between Do-While and do Until	• InputBox
44. Differences between Do-while & For Loop	<b>55. Arrays</b>
<b>45. For Each Loop</b>	• What is Array?
• Syntax	• Static Array
• For Each using Range	• Dynamic Array
• For Each using Sheet	• Option Base
• How to Refresh Pivot Tables using For Each Loop	<b>Project7: A Project using Arrays</b>
<b>Project3: Data Consolidation using For-Each Loop</b>	<b>56. File Dialog</b>
<b>46. Functions</b>	• File Picker
• Excel Functions	• Folder Picker
• VBA Functions	• File Open
• User Defined Functions (UDF)	• File Save As
<b>47. Excel Functions</b>	<b>Project8: A Project using File Dialogs</b>
• How to use Excel functions in VBA	<b>57. Controls</b>
• What is Formula Property	• What are the different controls?
<b>48. Run Time Errors</b>	• What is the difference between Form Controls and Active- X Controls?
• What is Run Time Error	<b>58. Events</b>
• How to Handle Run Time Errors using	• What is Event?
On Error Resume Next	• Different Types of Events
On Error Goto Label	• Workbook Open Event
On Error Goto 0	• Sheet Change
On Error Goto -1	• Sheet Activate
• What is the list of Errors in VBA?	• Workbook Close
• How to display user defined error message	<b>59. UserForms</b>
<b>Project4: A Project Using Error Handling</b>	• Create a Userform
<b>49. VBA Functions</b>	• How to Call One userform to another userform
• What is VBA Function?	• Store data from Userform to Excel
• How to use VBA functions?	• Hide/Unhide Excel Application
<b>50. User defined Functions</b>	• Userform Initialize Event
• Function to calculate Discount amount	• How to close Userform
• How to run user defined functions from Excel	<b>Project9: A Project using Userforms and Events</b>
• How to call User defined functions from Sub Procedure	<b>Project10: A Main Project using all concepts</b>
• Function to reverse the string	
• SpellNumber function	
<b>Project5: Create a Function to calculate Income Tax</b>	
<b>Project6: Create a Function extract Numbers/Characters</b>	

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