



## ADVANCE EXCEL

- Overview of the Basics of Excel
  - ◆ Customizing common options in Excel
  - ◆ Excel formatting
  - ◆ Cell Alignment and Orientation
  - ◆ Number and Custom Number Formatting
  - ◆ Absolute and relative cells
  - ◆ Protecting and un-protecting worksheets and cells
  - ◆ Uses of format as table and benefits
- Use Fill Series
  - ◆ Auto Fill
  - ◆ Justify
  - ◆ Flash Fill
- Page Setup
  - ◆ Margin, Orientation
  - ◆ Page Size
  - ◆ Print Area, Print Title
  - ◆ Page Breaks
- Working with Functions
  - ◆ Writing conditional expressions (using IF)
  - ◆ Using logical functions (AND, OR, NOT)
  - ◆ Using lookup and reference functions (VLOOKUP, HLOOKUP, MATCH, INDEX)
  - ◆ VlookUP with Exact Match, Approximate Match
  - ◆ Nested VlookUP with Exact Match
  - ◆ VlookUP with Tables, Dynamic Ranges
  - ◆ Nested VlookUP with Exact Match
  - ◆ Using VLookUP to consolidate Data from Multiple Sheets
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- Data Validations
  - ◆ Specifying a valid range of values for a cell
  - ◆ Specifying a list of valid values for a cell

- ◆ Specifying custom validations based on formula for a cell
- **Working with Templates**
  - ◆ Designing the structure of a template
  - ◆ Using templates for standardization of worksheets
- **Sorting and Filtering Data**
  - ◆ Sorting tables
  - ◆ Using multiple-level sorting
  - ◆ Using custom sorting
  - ◆ Filtering data for selected view (AutoFilter)
  - ◆ Using advanced filter options
  - ◆ Using Wildcard Character with advance filter
  - ◆ Using Filter fuction
  - ◆ Understanding OR and AND logic in filter function
- **Working with Reports**
  - ◆ Creating subtotals
  - ◆ Multiple-level subtotals
  - ◆ Creating Pivot tables
  - ◆ Formatting and customizing Pivot tables
  - ◆ Using advanced options of Pivot tables
  - ◆ Pivot charts
  - ◆ Consolidating data from multiple sheets and files using Pivot tables
  - ◆ Using external data sources
  - ◆ Using data consolidation feature to consolidate data
  - ◆ Show Value As ( % of Row, % of Column, Running Total, Compare with Specific Field)
  - ◆ Viewing Subtotal under Pivot
  - ◆ Creating Slicers ( Version 2010 & Above)
- **More Functions**
  - ◆ Date and time functions
  - ◆ Text functions
  - ◆ Database functions
  - ◆ Power Functions (Countif, Countifs, Sumif, Sumifs)
  - ◆ Lookup and Reference functions
  - ◆ Information functions
  - ◆ Statistical functions
- **Formatting**
  - ◆ Using auto formatting option for worksheets
  - ◆ Using conditional formatting option for rows, columns and cells
  - ◆ Uses of format as table and benefits

- **Macros**
  - ◆ Relative & Absolute Macros
  - ◆ Editing Macro
- **What-If Analysis**
  - ◆ Goal Seek
  - ◆ Data Tables
  - ◆ Scenario Manager
- **Charts**
  - ◆ Using Charts - Column, Line, Pie, Bar etc
  - ◆ Formatting Charts
  - ◆ Using 3D Graphs
  - ◆ Using Bar and Line Chart together
  - ◆ Using Secondary Axis in Graphs
  - ◆ Sharing Charts with PowerPoint / MS Word, Dynamically
  - ◆ (Data Modified in Excel, Chart would automatically get updated)
- **New Features Of Excel**
  - ◆ Sparklines, Inline Charts, data Charts
  - ◆ Overview of all the new features
- **Final Assignment**
  - ◆ The Final Assignment would test contains questions to be solved at the end of the Course

# VBA

- **VBA (VISUAL BASIC FOR APPLICATION) & MACROS**

- ◆ Create a Macro
- ◆ Swap Values
- ◆ Run Code from a Module
- ◆ Macro Recorder
- ◆ Use RelativeReferences
- ◆ FormulaR1C1
- ◆ Add a Macro to the Toolbar
- ◆ Macro Security
- ◆ Protect Macro

- **MsgBox**

- ◆ MsgBox Function
- ◆ Input Box Function

- **Workbook and Worksheet Object**

- ◆ Path and Full Name
- ◆ Close and Open
- ◆ Loop through Books and Sheets
- ◆ Sales Calculator
- ◆ Files in a Directory
- ◆ Import Sheets
- ◆ Programming Charts

- **Range Object**

- ◆ Current Region
- ◆ Dynamic Range
- ◆ Resize, Entire Rows and Columns
- ◆ Offset
- ◆ From Active Cell to Last Entry
- ◆ Union and Intersect
- ◆ Test a Selection
- ◆ Possible Football Matches
- ◆ Font,Background Colors
- ◆ Areas Collection
- ◆ Compare Ranges

- **Variables**

- ◆ Option Explicit
- ◆ Variable Scope
- ◆ Life of Variables

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- ◆ If Then Statement
- ◆ Logical Operators
- ◆ Select Case
- ◆ Tax Rates
- ◆ Mod Operator
- ◆ Prime Number Checker
- ◆ Find Second Highest Value
- ◆ Sum by Color
- ◆ Delete Blank Cells
- **Loop**
  - ◆ Loop through Defined Range
  - ◆ Loop through Entire Column
  - ◆ Do Until Loop
  - ◆ Step Keyword
  - ◆ Create a Pattern
  - ◆ Sort Numbers
  - ◆ Randomly Sort Data
  - ◆ Remove Duplicates
  - ◆ Complex Calculations
  - ◆ Knapsack Problem
- **Procedures and Functions**
  - ◆ Subroutines vs Functions
  - ◆ Calling procedures
  - ◆ Passing arguments (ByVal vs ByRef)
- **Macro Errors**
  - ◆ Debugging
  - ◆ Error Handling
  - ◆ Err Object
  - ◆ Interrupt a Macro
  - ◆ Macro Comments
- **String Manipulation**
  - ◆ Separate Strings
  - ◆ Reverse Strings
  - ◆ Convert to Proper Case
  - ◆ Count Words
  - ◆ Date and Time
  - ◆ Compare Dates and Times
  - ◆ DateDif Function
  - ◆ Weekdays

- ◆ Delay a Macro
- ◆ Year Occurrences
- ◆ Tasks on Schedule
- ◆ Sort Birthdays
- **Events**
  - ◆ Before DoubleClick Event
  - ◆ Highlight Active Cell
  - ◆ Create a Footer Before Printing
  - ◆ Bills and Coins
  - ◆ Rolling Average Table
- **Array**
  - ◆ Dynamic Array
  - ◆ Array Function
  - ◆ Month Names
  - ◆ Size of an Array
- **Function and Sub**
  - ◆ User Defined Function
  - ◆ Custom Average Function
  - ◆ Volatile Functions
  - ◆ ByRef and ByVal
- **Application Object**
  - ◆ Status Bar
  - ◆ Read Data from Text File
  - ◆ Write Data to Text File
- **ActiveX Controls**
  - ◆ Text Box
  - ◆ List Box
  - ◆ Combo Box
  - ◆ Check Box
  - ◆ Option Buttons
  - ◆ Spin Button
  - ◆ Loan Calculator
- **User form**
  - ◆ User form and Ranges
  - ◆ Currency Converter
  - ◆ Progress Indicator
  - ◆ Multiple List Box Selections
  - ◆ Multicolumn Combo Box

- ◆ Dependent Combo Boxes
- ◆ Loop through Controls
- ◆ Controls Collection
- ◆ User form with Multiple Pages
- ◆ Interactive User form



# AI with ChatGPT

- **Introduction to Excel+AI**
  - ◆ Overview of Excel's capabilities
  - ◆ What is AI in the context of spreadsheets?
  - ◆ Introduction to ChatGPT, Microsoft Copilot, and other
  - ◆ Automation, analysis, decision support
- **Built-in AI Features in Excel**
  - ◆ Flash Fill for pattern recognition
  - ◆ Analyze Data (Ideas) for instant insights
- **Smart Data Types for enriched datasets**
  - ◆ Power Query AI: Column from Examples
  - ◆ Dynamic Arrays: FILTER, SORT, UNIQUE, SEQUENCE
- **ChatGPT + Excel Integration**
  - ◆ Generate formulas and troubleshoot errors
  - ◆ Explain Excel functions and logic
  - ◆ Create dashboards and reports
  - ◆ Automate repetitive tasks (e.g., cleaning data)
  - ◆ Prompt engineering for Excel tasks
  - ◆ Budgeting, Forecasting, HR analytics
- **AI-Enhanced Data Analysis**
  - ◆ Predictive modeling with:
    - ◆ FORECAST.ETS
    - ◆ TREND, GROWTH, LINEST
  - ◆ Scenario analysis using:
    - ◆ Goal Seek
    - ◆ Solver
  - ◆ AI-powered conditional formatting
  - ◆ Using ChatGPT to interpret charts and trends
- **Automation with Excel + AI**
  - ◆ Introduction to Power Automate
  - ◆ Creating workflows with Excel triggers
  - ◆ Using ChatGPT to design automation logic
  - ◆ Connecting Excel with Outlook, Teams, and other apps
- **Custom AI Solutions**
  - ◆ Using LAMBDA and LET for custom functions
  - ◆ Building AI-like logic with IF, IFS, SWITCH

- ◆ ChatGPT-assisted VBA scripting
- ◆ Creating intelligent templates and tools

