**Program 4. Data Analysis Process: Conditional Formatting, What-If Analysis, Data Tables, Charts & Graphs.**

### 1. Conditional Formatting: Conditional formatting in Excel highlights patterns and trends in your data by applying different formats to cells based on certain conditions.

#### **Highlighting Data Based on Conditions:**

1. **Select the Data:**
   * Highlight the range of cells you want to apply conditional formatting to.
2. **Go to the "Home" Tab:**
   * Navigate to the "Home" tab on the ribbon.
3. **Conditional Formatting:**
   * Click on "Conditional Formatting" in the "Styles" group.
4. **Choose a Rule:**
   * Select a rule from the menu (e.g., Highlight Cells Rules, Top/Bottom Rules).
5. **Set Conditions:**
   * Configure conditions based on which cells should be highlighted.
6. **Apply Formatting:**
   * Set the formatting options for cells that meet the conditions.

### 2. What-If Analysis: The Goal Seek feature in Excel is a What-If Analysis tool that helps you find the result you want by adjusting an input value

#### **Goal Seek:**

1. **Setup Initial Data:**
   * Enter data and formulas in your worksheet.
2. **Select the Target Cell:**
   * Click on the cell you want to set as the target (the cell you want to change).
3. **Go to "Data" Tab:**
   * Navigate to the "Data" tab on the ribbon.
4. **What-If Analysis:**
   * Click on "What-If Analysis" and then select "Goal Seek."
5. **Configure Goal Seek:**
   * Set the "Set cell" to the target cell, "To value" to the desired value, and "By changing cell" to the cell you want to adjust.
6. **Click "OK" to Perform Analysis:**
   * Excel will adjust the "By changing cell" to achieve the "To value."

### 3. Data Tables:Data tables can be used to replace the values of a formula present in the sheet with the values present in either the column or row of any table.

#### **One-Variable Data Table:**

1. **Set Up Initial Data:**
   * Enter a formula in a cell that references an input cell.
2. **Create Data Table:**
   * Select the cell with the formula.
   * Go to the "Data" tab, click on "What-If Analysis," and select "Data Table."
   * Enter the input cell reference in the "Row input cell."
3. **View Results:**
   * Excel will generate a table showing how the formula changes with different input values.

### 4. Charts & Graphs: An Excel chart or graph is a visual representation of a Microsoft Excel worksheet's data. These graphs and charts allow you to see trends, make comparisons, pinpoint patterns, and glean insights from within the raw numbers. Excel includes countless options for charts and graphs, including bar, line, and pie charts

#### **Creating a Bar Chart:**

1. **Select Data:**
   * Highlight the data you want to include in the chart.
2. **Go to "Insert" Tab:**
   * Navigate to the "Insert" tab on the ribbon.
3. **Charts Section:**
   * Choose the chart type from the "Charts" section (e.g., Bar Chart).
4. **Customize Chart:**
   * Right-click on chart elements to customize, add data labels, titles, etc.

#### **Creating a Line Chart:**

1. **Select Data:**
   * Highlight the data you want to include in the chart.
2. **Go to "Insert" Tab:**
   * Navigate to the "Insert" tab on the ribbon.
3. **Charts Section:**
   * Choose the chart type from the "Charts" section (e.g., Line Chart).
4. **Customize Chart:**
   * Right-click on chart elements to customize, add data labels, titles, etc.