### Phase 1: Excel Evaluation ReExam [Subjective]

#### Part A: Short Answer Questions (2 marks each)

1. Explain the difference between a worksheet and a workbook in Excel.
2. Describe the purpose and function of the following Excel functions: SUM, AVERAGE, and CONCATENATE.
3. How would you freeze panes in Excel? Explain with an example.
4. Using conditional formatting, highlight the top 10% of values in a column containing sales data.
5. What is the purpose of the VLOOKUP function in Excel? Provide syntax and an example of its usage.
6. Explain the significance of absolute cell references ($) in Excel formulas. Provide an example to illustrate.
7. Describe the steps to create a pivot table in Excel. Provide a brief example of a situation where a pivot table would be useful.
8. How can you protect an Excel workbook from unauthorized access or modifications? Explain.
9. Describe the steps to sort data in Excel. Provide an example.
10. Create a chart (e.g., bar chart, line chart, pie chart) based on the data provided in the attached Excel file. Interpret the trends or insights conveyed by the chart.

#### Part B: Long Answer Questions (5 marks each)

1. Create a basic budget spreadsheet for a household. Include categories such as income, expenses (e.g., rent, utilities, groceries), and a column for calculating the remaining balance after expenses.
2. Using conditional formatting, highlight the top 10% of values in a column containing sales data. Additionally, calculate the total sales and average sales from the dataset provided in the attached Excel file.
3. Analyze the dataset provided in the attached Excel file and answer the following questions:
   * What is the total revenue generated from the sales data?
   * What is the average revenue per transaction?
   * Which product category contributed the most to the total revenue?
4. Create a pivot table to summarize the sales data provided in the attached Excel file by product category. Interpret the insights conveyed by the pivot table.

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### **Example Answers**

#### **Part A: Short Answer Questions**

1. **Explain the difference between a worksheet and a workbook in Excel.  
   Answer:** A worksheet is a single sheet within an Excel file where data is entered, organized, and analyzed. It consists of cells arranged in rows and columns. A workbook is an Excel file that contains one or more worksheets. It serves as a container for organizing and managing multiple worksheets.
2. **Describe the purpose and function of the following Excel functions: SUM, AVERAGE, and CONCATENATE.  
   Answer:**
   * **SUM:** Adds all the numbers in a specified range of cells. Example: =SUM(A1:A10)
   * **AVERAGE:** Calculates the average (arithmetic mean) of the numbers in a specified range. Example: =AVERAGE(B1:B10)
   * **CONCATENATE:** Combines multiple text strings into one. Example: =CONCATENATE("Hello", " ", "World")
3. **How would you freeze panes in Excel? Explain with an example.  
   Answer:** To freeze panes in Excel, you select the cell below the row and to the right of the column you want to freeze. Then, go to the View tab and click on Freeze Panes. Example: To freeze the top row and the first column, select cell B2 and then click View -> Freeze Panes -> Freeze Panes.
4. **Using conditional formatting, highlight the top 10% of values in a column containing sales data.  
   Answer:** Select the column with sales data. Go to Home -> Conditional Formatting -> Top/Bottom Rules -> Top 10%. In the dialog box, ensure "Top 10%" is selected and choose the desired formatting, such as a fill color, then click OK.
5. **What is the purpose of the VLOOKUP function in Excel? Provide syntax and an example of its usage.  
   Answer:** The VLOOKUP function searches for a value in the first column of a table and returns a value in the same row from another column. Syntax: =VLOOKUP(lookup\_value, table\_array, col\_index\_num, [range\_lookup]). Example: =VLOOKUP("Product A", A1:C10, 3, FALSE)
6. **Explain the significance of absolute cell references ($) in Excel formulas. Provide an example to illustrate.  
   Answer:** Absolute cell references (e.g.,
7. A
8. 1) ensure that the reference to a cell remains constant even when the formula is copied to another cell. Example: In a formula =A1\*$B$1, the value in A1 is multiplied by the fixed value in B1 regardless of where the formula is copied.
9. **Describe the steps to create a pivot table in Excel. Provide a brief example of a situation where a pivot table would be useful.  
   Answer:** To create a pivot table:
   * Select the dataset.
   * Go to Insert -> PivotTable.
   * Choose where to place the PivotTable (new worksheet or existing one).
   * Drag and drop fields into the Rows, Columns, Values, and Filters areas.
10. **Example:** A pivot table is useful to summarize sales data by product category, allowing quick analysis of total sales per category.
11. **How can you protect an Excel workbook from unauthorized access or modifications? Explain.  
    Answer:** Protect a workbook by:
    * Go to File -> Info -> Protect Workbook.
    * Choose options like 'Encrypt with Password' to restrict access or 'Protect Workbook Structure' to prevent structural changes.
    * Set a password if required and confirm it.
12. **Describe the steps to sort data in Excel. Provide an example.  
    Answer:** To sort data:
    * Select the data range.
    * Go to Data -> Sort.
    * Choose the column to sort by, select the sort order (ascending or descending), and click OK.
13. **Example:** To sort a list of names alphabetically, select the column with names, go to Data -> Sort A to Z.
14. **Create a chart (e.g., bar chart, line chart, pie chart) based on the data provided in the attached Excel file. Interpret the trends or insights conveyed by the chart.  
    Answer:** After creating the chart (e.g., a bar chart of monthly sales), analyze it to identify trends such as sales peaks in certain months or a gradual increase/decrease in sales over time.

#### Part B: Long Answer Questions

1. **Create a basic budget spreadsheet for a household. Include categories such as income, expenses (e.g., rent, utilities, groceries), and a column for calculating the remaining balance after expenses.  
   Answer:**| Category | Amount |  
   |------------|--------|  
   | Income | 5000 |  
   | Rent | 1500 |  
   | Utilities | 300 |  
   | Groceries | 400 |  
   | Other | 800 |  
   | Total | =SUM(B2:B5) |  
   | Balance | =B1-B6 |
2. **Using conditional formatting, highlight the top 10% of values in a column containing sales data. Additionally, calculate the total sales and average sales from the dataset provided in the attached Excel file.  
   Answer:**
   * Highlight the top 10% values: Select the column, go to Home -> Conditional Formatting -> Top/Bottom Rules -> Top 10%.
   * Calculate total sales: =SUM(SalesDataColumn)
   * Calculate average sales: =AVERAGE(SalesDataColumn)
3. **Analyze the dataset provided in the attached Excel file and answer the following questions:**
   * **What is the total revenue generated from the sales data?**
   * **What is the average revenue per transaction?**
   * **Which product category contributed the most to the total revenue?**
4. **Answer:**
   * Total revenue: =SUM(RevenueColumn)
   * Average revenue per transaction: =AVERAGE(RevenueColumn)
   * Product category contributing most: Use a PivotTable to summarize total revenue by category and identify the highest value.
5. **Create a pivot table to summarize the sales data provided in the attached Excel file by product category. Interpret the insights conveyed by the pivot table.  
   Answer:**
   * Create PivotTable: Select data -> Insert -> PivotTable -> Drag 'Product Category' to Rows and 'Sales Amount' to Values.
   * Insights: Identify which categories have the highest sales and trends in sales distribution.