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Induction for Excel Practical Assignment

Welcome to the Excel Practical Assignment!

This assignment is designed to help you gain a deeper understanding of Excel's practical applications. Completing these tasks will enhance your skills in data manipulation, analysis, and presentation using Excel. This is a mandatory assignment and will build on the foundational knowledge you've acquired in Module 1. Only students who have fully completed Module 1 are eligible to start this assignment. Here's an overview of what you need to do:

Dataset:
https://community.tableau.com/s/question/0D54T00000CWeX8SAL/sample-superstore-sales-excelxls

Section 1: Basics of Excel

Basic Arithmetic Operations (SUM, MAX, MIN, SMALL, LARGE & MEDIAN)

Time: 00:20:00

1. Task 1: Create a dataset of sales figures for the year (monthly data). Calculate the total sales using the SUM function.
2. Task 2: Determine the highest sales month using the MAX function.
3. Task 3: Identify the lowest sales month using the MIN function.
4. Task 4: Use the SMALL function to find the month with the 2nd lowest sales.
5. Task 5: Apply the LARGE function to find the month with the 3rd highest sales and calculate the median sales using the MEDIAN function.

Transpose Vs TRANSPOSE Formula

Time: 00:13:00

1. Task 1: Create a table of monthly sales data (months as rows, sales as columns) and manually transpose it.
2. Task 2: Use the TRANSPOSE function to transpose the same table.
3. Task 3: Compare the manual transpose and the TRANSPOSE function results.
4. Task 4: Explain the advantages of using the TRANSPOSE function over manual transposing.
5. Task 5: Create a dynamic range that updates the transposed values automatically when the original data changes.

Using COUNTBLANK, COUNT & COUNTA

Time: 00:09:00

1. Task 1: Create a dataset with product names, sales numbers, and some blank cells.

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2. Task 2: Use the COUNT function to count the numerical values in the sales column.
3. Task 3: Apply the COUNTA function to count all non-blank cells in the product names column.
4. Task 4: Use the COUNTBLANK function to count the number of blank cells in the sales column.
5. Task 5: Compare the results of COUNT, COUNTA, and COUNTBLANK functions.

Quick Calculations using Status Bar

Time: 00:03:15

1. Task 1: Select a range of sales data and observe the sum, average, and count in the status bar.
2. Task 2: Compare the quick calculation results with the functions SUM, AVERAGE, and COUNT.
3. Task 3: Explore other calculations available in the status bar (e.g., Min, Max).
4. Task 4: Use the status bar to quickly verify data analysis results.
5. Task 5: Explain the benefits of using the status bar for quick calculations.

Calculating Growth Percentage YoY & Using POWER Formula

Time: 00:12:00

1. Task 1: Create a dataset of yearly revenue data for 5 years.
2. Task 2: Calculate the year-over-year growth percentage for each year.
3. Task 3: Use the POWER formula to calculate the compound annual growth rate (CAGR).
4. Task 4: Compare the manual growth percentage calculation with the POWER formula results.
5. Task 5: Explain the significance of growth percentage and CAGR in business analysis.

Section 2: Formatting Options in Excel

Ways to Format Cells

Time: 00:10:00

1. Task 1: Format the sales data cells to have a currency format.
2. Task 2: Apply a conditional format to highlight sales figures greater than a specified amount.
3. Task 3: Use different font styles and sizes for the header row.
4. Task 4: Add borders to the table to improve readability.
5. Task 5: Change the background color of the cells based on the sales performance.

Formatting Numbers in Different Ways

Time: 00:14:00

1. Task 1: Format numbers to display as percentages.
2. Task 2: Use custom number formatting to display sales figures in thousands.
3. Task 3: Format negative numbers to appear in red.

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4. Task 4: Apply number formatting to show a fixed number of decimal places.
5. Task 5: Experiment with scientific number formatting.

Formatting Lengthy Text using Wrap Text and Alignment

Time: 00:06:00

1. Task 1: Enter lengthy product descriptions and use the Wrap Text feature.
2. Task 2: Align text to the center of the cells.
3. Task 3: Use the Merge & Center option for the table headers.
4. Task 4: Adjust the row height and column width for better text display.
5. Task 5: Apply text rotation to the headers for a better presentation.

All About Format Painter

Time: 00:08:00

1. Task 1: Format a cell with a specific style (font, color, border).
2. Task 2: Use Format Painter to apply the same formatting to multiple cells.
3. Task 3: Experiment with copying formatting from one worksheet to another.
4. Task 4: Apply Format Painter to a range of cells.
5. Task 5: Explain the advantages of using Format Painter in Excel.

Section 3: Sort and Filter Option

Sorting Numbers and Dates in Different Ways

Time: 00:09:00

1. Task 1: Create a dataset of sales dates and amounts.
2. Task 2: Sort the sales data by date in ascending order.
3. Task 3: Sort the sales data by date in descending order.
4. Task 4: Sort the sales amounts in ascending order.
5. Task 5: Sort the sales amounts in descending order.

Sorting Text Alphabetically (A-Z) or (Z-A)

Time: 00:04:00

1. Task 1: Create a list of product names.
2. Task 2: Sort the product names alphabetically from A to Z.
3. Task 3: Sort the product names alphabetically from Z to A.
4. Task 4: Explain the impact of sorting on data analysis.
5. Task 5: Combine sorting by product name and sales amount.

Sorting by Cell Colour

Time: 00:07:30

1. Task 1: Apply different background colors to cells based on sales performance.
2. Task 2: Sort the data by cell color.
3. Task 3: Analyze the sorted data to identify trends.
4. Task 4: Use conditional formatting to apply colors and then sort.
5. Task 5: Explain how sorting by color can enhance data visualization.

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2 Level Sorting & Tricks for Sorting

Time: 00:13:00

1. Task 1: Create a dataset with multiple columns (e.g., product name, sales, date).
2. Task 2: Perform a primary sort by sales and a secondary sort by date.
3. Task 3: Use custom sort options for more complex sorting criteria.
4. Task 4: Apply a multi-level sort to organize the data hierarchically.
5. Task 5: Explain the importance of multi-level sorting in data analysis.

Section 4: Working with Dates

Dates in Excel and Calculating the Duration Using Two Dates with Timestamp

Time: 00:09:00

1. Task 1: Enter start and end dates with timestamps for various events.
2. Task 2: Calculate the duration between two dates using subtraction.
3. Task 3: Use the DATEDIF function to find the difference in days, months, and years.
4. Task 4: Apply custom date formatting to display dates and times.
5. Task 5: Compare the manual duration calculation with the DATEDIF function results.

Using Date Formulas

Time: 00:10:00

1. Task 1: Use the TODAY function to display the current date.
2. Task 2: Apply the DATE function to create a specific date.
3. Task 3: Use the YEAR, MONTH, and DAY functions to extract components from a date.
4. Task 4: Combine date functions to create dynamic date calculations.
5. Task 5: Explain the significance of using date functions in data analysis.

Section 5: Logical Functions

Basic Logical Formulas

Time: 00:16:00

1. Task 1: Use the IF function to classify sales as "High" or "Low" based on a threshold.
2. Task 2: Apply the AND function to check if sales meet multiple criteria.
3. Task 3: Use the OR function to determine if any of the conditions are met.
4. Task 4: Combine IF and AND functions for complex logical tests.
5. Task 5: Use the IFERROR function to handle errors in formulas.

Using Multiple Logical Formulas - IF, AND, OR & Implementing on Text, Numbers, & Errors Including IFERROR

Time: 00:10:00

4. Task 4: Implement logical tests on numerical data.
5. Task 5: Combine IF, AND, OR, and IFERROR to create a comprehensive logical test for your dataset.

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Section 6: Practical Data Cleaning

Removing Duplicate Values and Error Values

Time: 00:10:00

1. Task 1: Create a dataset with duplicate values.
2. Task 2: Use the Remove Duplicates feature to clean up the data.
3. Task 3: Identify and remove error values from the dataset.
4. Task 4: Use conditional formatting to highlight duplicate values.
5. Task 5: Verify the data cleanliness after removing duplicates and errors.

Using Data Cleaning Formulas UPPER, PROPER, LOWER, TRIM, VALUE, LEN, RIGHT, LEFT & MID

Time: 00:11:00

1. Task 1: Use the UPPER function to convert text to uppercase.
2. Task 2: Apply the PROPER function to format text with proper case.
3. Task 3: Use the LOWER function to convert text to lowercase.
4. Task 4: Apply the TRIM function to remove extra spaces from text.
5. Task 5: Use VALUE, LEN, RIGHT, LEFT, and MID functions for various data cleaning tasks.

SEARCH vs FIND and SEARCH & MID

Time: 00:11:00

1. Task 1: Use the SEARCH function to find a substring within a text string.
2. Task 2: Apply the FIND function to locate the position of a substring.
3. Task 3: Compare the results of SEARCH and FIND functions.
4. Task 4: Combine SEARCH and MID functions to extract a substring.
5. Task 5: Explain the differences and use cases for SEARCH vs FIND.

Using Go To (Special) Technique

Time: 00:09:00

1. Task 1: Use the Go To (Special) technique to select cells with specific attributes (e.g., blanks, constants).
2. Task 2: Apply the technique to find and replace blank cells.
3. Task 3: Use Go To (Special) to highlight cells with formulas.
4. Task 4: Select cells with conditional formatting using Go To (Special).
5. Task 5: Explain the benefits of using Go To (Special) for data cleaning.

Splitting Data Values Using Text to Column Feature

Time: 00:08:00

1. Task 1: Create a dataset with concatenated text values (e.g., "FirstName LastName").
2. Task 2: Use the Text to Columns feature to split the data into separate columns.
3. Task 3: Experiment with different delimiters (e.g., space, comma).
4. Task 4: Apply Text to Columns to a larger dataset for practice.

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5. Task 5: Explain the advantages of using Text to Columns for data manipulation.

Using CONCATENATE and Ampersand (&) to Join Values

Time: 00:06:00

1. Task 1: Create a dataset with separate first and last names.
2. Task 2: Use the CONCATENATE function to join first and last names.
3. Task 3: Apply the ampersand (&) operator to achieve the same result.
4. Task 4: Compare the CONCATENATE function and ampersand (&) operator.
5. Task 5: Explain when to use CONCATENATE vs ampersand (&).

Using Find & Replace Feature

Time: 00:11:00

1. Task 1: Create a dataset with various instances of specific text (e.g., product codes).
2. Task 2: Use the Find feature to locate all instances of a specific text.
3. Task 3: Apply the Replace feature to change all instances of a specific text.
4. Task 4: Experiment with finding and replacing text using wildcards.
5. Task 5: Explain the benefits of using Find & Replace for data cleaning.

Section 7: Pivot Table A-2-Z

Getting Started with Pivot Table

Time: 00:11:00

1. Task 1: Create a dataset with sales data (e.g., product, date, sales amount).
2. Task 2: Insert a Pivot Table to analyze the sales data.
3. Task 3: Add fields to the Pivot Table for analysis (e.g., product, sales amount).
4. Task 4: Apply filters to the Pivot Table to refine the data analysis.
5. Task 5: Explain the basic components and functionalities of a Pivot Table.

Grouping and Multiple Tables in Pivot Table

Time: 00:10:00

1. Task 1: Use the Pivot Table to group sales data by month.
2. Task 2: Create multiple tables within the Pivot Table for different analyses.
3. Task 3: Experiment with grouping data by different periods (e.g., quarter, year).
4. Task 4: Use multiple tables to compare sales across different products.
5. Task 5: Explain the benefits of grouping and using multiple tables in Pivot Tables.

Pivot Table for Grouping Via Date, Blank Cells

Time: 00:13:00

1. Task 1: Group sales data by date in the Pivot Table.
2. Task 2: Handle blank cells in the Pivot Table.
3. Task 3: Analyze the impact of blank cells on data grouping.
4. Task 4: Use different date formats for grouping data.
5. Task 5: Explain the importance of managing blank cells in Pivot Table analysis.

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Custom Grouping, Conditional Formatting in Pivot Table

Time: 00:14:00

1. Task 1: Create custom groups in the Pivot Table (e.g., grouping products by category).
2. Task 2: Apply conditional formatting to highlight key data points.
3. Task 3: Experiment with different conditional formatting rules.
4. Task 4: Use custom grouping to create a more detailed data analysis.
5. Task 5: Explain how custom grouping and conditional formatting enhance Pivot Table analysis.

Section 8: Everything about LOOKUP Formulas

Basics of VLOOKUP

Time: 00:13:00

1. Task 1: Create a dataset with product information (e.g., product ID, name, price).
2. Task 2: Use the VLOOKUP function to find the price of a product based on its ID.
3. Task 3: Experiment with different lookup values in the VLOOKUP function.
4. Task 4: Handle errors in VLOOKUP results using IFERROR.
5. Task 5: Explain the basic syntax and functionality of the VLOOKUP function.

More about VLOOKUP

Time: 00:06:00

1. Task 1: Use VLOOKUP with approximate match (TRUE) to find data in a range.
2. Task 2: Compare exact match (FALSE) vs approximate match (TRUE) in VLOOKUP.
3. Task 3: Use named ranges with VLOOKUP for better readability.
4. Task 4: Combine VLOOKUP with other functions for advanced data retrieval.
5. Task 5: Explain when to use approximate match vs exact match in VLOOKUP.

VLOOKUP vs. HLOOKUP

Time: 00:10:00

1. Task 1: Create a dataset suitable for both VLOOKUP and HLOOKUP.
2. Task 2: Use VLOOKUP to retrieve data from a vertical dataset.
3. Task 3: Use HLOOKUP to retrieve data from a horizontal dataset.
4. Task 4: Compare the syntax and usage of VLOOKUP vs HLOOKUP.
5. Task 5: Explain the scenarios where VLOOKUP or HLOOKUP would be more appropriate.

Section 9: Conditional Aggregation

Basics of COUNTIF, SUMIF, AVERAGEIF Formula

Time: 00:07:00

1. Task 1: Create a dataset with sales data (e.g., product, sales amount).
2. Task 2: Use COUNTIF to count the number of sales above a certain amount.

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3. Task 3: Apply SUMIF to calculate the total sales for a specific product.
4. Task 4: Use AVERAGEIF to find the average sales amount for a certain product category.
5. Task 5: Compare COUNTIF, SUMIF, and AVERAGEIF formulas and their use cases.

COUNTIFS & SUMIFS

Time: 00:06:00

1. Task 1: Create a dataset with multiple criteria (e.g., product, region, sales amount).
2. Task 2: Use COUNTIFS to count the number of sales meeting multiple criteria.
3. Task 3: Apply SUMIFS to calculate total sales meeting multiple criteria.
4. Task 4: Experiment with different combinations of criteria in COUNTIFS and SUMIFS.
5. Task 5: Explain the importance of using COUNTIFS and SUMIFS for complex data analysis.

Section 10: Conditional Formatting

Conditional Formatting - Color Cells Using Conditions

Time: 00:11:00

1. Task 1: Create a dataset with sales data (e.g., product, sales amount).
2. Task 2: Apply conditional formatting to highlight sales greater than a specified amount.
3. Task 3: Use color scales to represent different ranges of sales amounts.
4. Task 4: Experiment with data bars to visually represent sales data.
5. Task 5: Apply icon sets to show trends and performance indicators in the data.

Section 11: Report Consolidation

Hidden Trick of Consolidation Using SUM for Multiple Sheets

Time: 00:06:42

1. Task 1: Create multiple sheets with monthly sales data.
2. Task 2: Use the Consolidate feature with the SUM function to aggregate sales data from multiple sheets.
3. Task 3: Experiment with different summary functions (e.g., Average, Count) in Consolidate.
4. Task 4: Verify the consolidated data for accuracy.
5. Task 5: Explain the benefits of using the Consolidate feature for report aggregation.

Using CONSOLIDATE Feature of Excel

Time: 00:09:31

1. Task 1: Create a dataset with regional sales data across multiple sheets.
2. Task 2: Use the CONSOLIDATE feature to combine the data into a summary sheet.
3. Task 3: Experiment with consolidating data by categories.
4. Task 4: Apply the Consolidate feature to a different dataset for practice.
5. Task 5: Explain how the CONSOLIDATE feature improves data management.

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Using SUBTOTAL Feature of Excel Using One Criterion

Time: 00:07:40

1. Task 1: Create a dataset with sales data categorized by product type.
2. Task 2: Use the SUBTOTAL feature to calculate the total sales for each product type.
3. Task 3: Apply different SUBTOTAL functions (e.g., Average, Count) for analysis.
4. Task 4: Use filters in combination with the SUBTOTAL function to refine the data.
5. Task 5: Explain the importance of the SUBTOTAL feature in detailed data analysis.

Section 12: Basics of Macros

What is VBA Macros?

Time: 00:08:34

1. Task 1: Research and write a brief explanation of what VBA Macros are.
2. Task 2: List the advantages and disadvantages of using VBA Macros.
3. Task 3: Identify scenarios where VBA Macros can be particularly useful.
4. Task 4: Explain the difference between recording a macro and writing VBA code.
5. Task 5: Describe the security considerations when using VBA Macros.

How to Enable Developer Tab in Excel?

Time: 00:09:25

1. Task 1: Enable the Developer tab in Excel by customizing the ribbon.
2. Task 2: Explore the different options available in the Developer tab.
3. Task 3: Write a step-by-step guide on how to enable and use the Developer tab.
4. Task 4: Explain the importance of the Developer tab for advanced Excel users.
5. Task 5: List the key features accessible through the Developer tab.

Creating, Running and Saving a Macro

Time: 00:10:59

1. Task 1: Record a simple macro to automate a repetitive task (e.g., formatting a table).
2. Task 2: Run the recorded macro and observe its effects.
3. Task 3: Save the macro in the Personal Macro Workbook for future use.
4. Task 4: Edit the recorded macro to add or change functionality.
5. Task 5: Explain the process and benefits of recording and saving macros.

Running a Macro in Different Ways

Time: 00:05:57

1. Task 1: Assign a macro to a button on the worksheet and run it.
2. Task 2: Run a macro using a keyboard shortcut.
3. Task 3: Execute a macro from the Developer tab.
4. Task 4: Run a macro automatically when a workbook is opened.
5. Task 5: Explain the different methods of running macros and their use cases.

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Understanding VBA Workspace

Time: 00:05:46

1. Task 1: Open the Visual Basic for Applications (VBA) editor.
2. Task 2: Explore the different components of the VBA workspace (e.g., Project Explorer, Code Window).
3. Task 3: Write a simple VBA script in the editor.
4. Task 4: Run the VBA script and observe its effects.
5. Task 5: Explain the layout and functionalities of the VBA workspace.

How to Get VBA Codes?

Time: 00:09:19

1. Task 1: Research online resources for finding VBA code snippets.
2. Task 2: Identify reputable sources for VBA code examples.
3. Task 3: Copy a VBA code snippet from an online resource and customize it for your needs.
4. Task 4: Test the customized VBA code in your workbook.
5. Task 5: Explain the process of finding, copying, and using VBA code snippets.