Assignment: Advanced Lookup Functions in Excel – VLOOKUP and INDEX-MATCH

Course Title	Data Analytics
Unit	Look Up Functions in Excel
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Due Date	19th Feb. 2025

Scenario:

Imagine you are a Data Analyst at **TechMart Solutions**, a company that sells electronic gadgets. Your manager has given you two datasets stored in separate Excel Workbooks:

1. **Workbook 1 – Sales and Product Data (VLOOKUP Assignment)**

2. **Workbook 2 – Sales and Staff Data (INDEX-MATCH Assignment)**

Your task is to merge the data from both workbooks to analyze sales performance and understand the contributions of each staff member. You will use **VLOOKUP** and **INDEX-MATCH** to complete this task.

Part 1: VLOOKUP Assignment

In **Workbook 1**, you have two sheets:

1. **Sales Sheet** – Contains:

   - **Product ID**

   - **Qty** (Quantity Sold)

   - **Price** (To be filled using VLOOKUP)

   - **Product Name** (To be filled using VLOOKUP)

   - **Total Cost** (To be calculated)

2. **Product Catalog Sheet** – Contains:

   o **Product ID**

   o **Product Name**

   o **Price**

Objective:

Your task is to use **VLOOKUP** to fill in the missing details in the Sales Sheet by referencing the Product Catalog. Specifically, you need to:

- **Fill the Price Column** in the Sales sheet by looking up the **Product ID** from the Product Catalog sheet.

- **Fill the Product Name Column** in the Sales sheet using the corresponding **Product ID**.

- **Calculate Total Cost** for each product in the Sales sheet using the formula: **Total Cost=Qty × Price**

Instructions:

1. Use **VLOOKUP** to find the **Price** for each product in the Sales sheet by matching the **Product ID** with the Product Catalog.

2. Use **VLOOKUP** to find the **Product Name** corresponding to each **Product ID**.

3. **Calculate the Total Cost** for each product in the Sales sheet using the formula: **Total Cost=Qty × Price**

4. Ensure your VLOOKUP formulas are dynamic and can adapt to changes in the data.

Part 2: INDEX-MATCH Assignment

In **Workbook 2**, you have two sheets:

1. **Sales Sheet** – Contains:

- o **Invoice ID**

- o **Product Name**

- o **Staff ID**

- o **Qty Sold**

- o **Price**

- o **Staff Name** (To be filled using INDEX-MATCH)

- o **Region** (To be filled using INDEX-MATCH)

- o **Total Cost** (To be calculated)

2. **Staff Sheet** – Contains:

- o **Staff ID**

- o **Staff Name**

- o **Region** (East, West, Central, HQ)

Objective:

Your task is to use **INDEX-MATCH** to fill in the missing information in the Sales sheet using data from the Staff sheet. Specifically, you need to:

- **Fill Staff Names** in the Sales sheet by looking up the **Staff ID** from the Staff sheet.

- **Fill Region Names** (East, West, and Central) in the Sales sheet using the corresponding **Staff ID**.

- **Calculate Total Cost** in the Sales sheet using the formula:
  $\text{Total Cost} = \text{Qty Sold} \times \text{Price}$

Instructions:

1. In the Sales sheet, use **INDEX-MATCH** to:

- Fill out the **Staff Name** column by looking up the corresponding **Staff ID** in the **Staff sheet**.

- Fill in the **Region** column by looking up the **Staff ID** in the **Staff sheet**.

2. **Calculate the Total Cost** for each row using the formula:

   Total Cost=Qty Sold × Price

3. Ensure that your **INDEX-MATCH** formulas are dynamic and can adapt to changes in the data.

Expectations:

As a Data Analyst at **TechMart Solutions**, you are expected to:

- Use **VLOOKUP** and **INDEX-MATCH** efficiently to merge data across the workbooks.

- Calculate **Total Cost** accurately for all products and sales entries.

- Present a **clean and well-organized dataset** ready for analysis, ensuring consistency across all sheets.

- Make sure your formulas are dynamic and adaptable to any changes in the datasets.

Submission Instructions:

Once you have completed the **VLOOKUP** and **INDEX-MATCH** assignments, follow these steps for submission:

1. **Save your workbooks**:

   - Save your **VLOOKUP Assignment** as **Completed VLOOKUP Assignment.xlsx**.

- Save your **INDEX-MATCH Assignment** as **Completed INDEX-MATCH.xlsx**.

2. **Create a GitHub Repository**:

   - Go to your **GitHub account** and create a new directory called **Excel Advanced Formulas**.

   - Upload the following files into the newly created directory:

     - **Completed VLOOKUP Assignment.xlsx**

     - **Completed INDEX-MATCH.xlsx**

     - **Assignment Brief** (this document)

3. **Share your GitHub repository link**:

   - After uploading the files, share the link to your **GitHub repository** where your assignments have been uploaded **here.**