Excel Basics Assignment:-

1. **Explain the difference between Relative, Absolute and Mixed Cell Referencing. You have the following dataset:**

Vehicle	**Price**
Car	500000
Bicycle	10500
Auto-Rickshaw	25000

Answer:

1. **Relative Cell Referencing-** It changes automatically when copied to another cell.

   How it works, and an example is listed: If you write a formula in **C2** referring to **B2** (e.g., =B2*10%) and copy it to **C3**, it becomes =B3*10%.

   When =B2*10% is copied down, Excel automatically updates **B2** → **B3** → **B4**.

A (Vehicle)	B (Price)	C (10% Tax)
Car	500000	=B2*10% → 50000
Bicycle	10500	=B3*10% → 1050
Auto	25000	=B4*10% → 2500

1. **Absolute Cell Referencing-** It remains fixed, no matter where the formula is copied. It is written with ($ sign) à A1.

   How it works is listed below with an example: Assume that we store a **10% tax rate** in cell **C1**.

   | C1 = 10% |

   Now we want to calculate the tax for each vehicle in column C.

   Formula using absolute reference in cell C2: =B2 * C1

   - The $ signs make sure the formula always uses C1, even when copied down.
   - When you drag the formula to C3, C4, etc., only B2 changes.
   - C1 stays the same.

A (Vehicle)	B (Price)	C (10% Tax)	Tax Formula
Car	500000	=B2*10% → 50000	=B2*C1
Bicycle	10500	=B3*10% → 1050	=B3*$C $1
Auto	25000	=B4*10% → 2500	=B4*$C $1

In absolute referencing it fixes a cell and so it never moves when we copy the formula.

2. **Mixed Cell Referencing-** It is a combination of relative and absolute cell referencing.

§ $A1 = Column A fixed, row changes

§ A$1= Row 1 fixed, column changes

How it works is listed below with an example: It is helpful in tables or multiplying across both rows and columns (where we copy formulas horizontally and vertically).

Let's assume that we have a tax rate in C1, a discount rate in D1, and we want to build a small table that applies each rate to each vehicle's price.

Now, in C2, we want to write a formula that:

- Always uses row 1 (tax/discount row) → so row stays fixed.
- Uses the price from column B (which changes as we go down).

Formula in C2 (tax for Car): =B2 * C$1 (**$1** → Row 1 is fixed
That means when you copy downward, the formula will still refer to row **1**.)

C (column) can change when copied sideways.

Mixed referencing lets us freeze only a row or only a column, so formulas behave correctly when copied both down and across.

2. **Write a formula to calculate the total sales of Car and Bicycle only.**

Answer:

Vehicle	**Price**	**Sales of Car and Bicycle**
Car	500000	**510500**
Bicycle	10500	
Auto-Rickshaw	25000	

Process: This is done using the formula =SUM(b2+b3). Suppose if “Car” is in column “B”, row 2, and Bicycle is in column “B”, row 3, then this formula follows.

The answer is attached in the pdf shared.(Excel)

3. Using the data below, write a formula to calculate the average sales of items priced above 100 but less than 300:

Item	Price	Sales
Item A	90	1000
Item B	150	1200
Item C	250	1500

Answer:

The required items that meet the criteria:

Price > 100 AND Price < 300

→ Item B (150) and Item C (250)

So, we need to average the Sales of Item B and Item C.

=AVERAGEIFS(C2:C4, B2:B4, ">100", B2:B4, "<300")

Which means: Average = (1200 + 1500) / 2
Average = 1350

Explanation:

- C2:C4 → range of Sales to average
- B2:B4 → Price range to check criteria
- ">100" → first condition
- "<300" → second condition

Note : Use the following Dataset and solve the following questions.

Dataset Link : Sales Data
https://docs.google.com/spreadsheets/d/1zzlWVr4EMrUzoGfRaYd5S9k54jZcaBM5nJaMLLhTI0g/edit?gid=0#gid=0

4. Count how many customer names are recorded.

Answer: Total customer names recorded are: 50

The answer is attached in the pdf shared.(Excel)

5. Calculate the Total Sales for each row using a formula.

Answer: The answer is attached in the pdf shared.(Excel)

6. Calculate the total sales of Notebooks in the North region only.

Answer: Total Sales of Notebooks in the North region = ₹ 2,900

The answer is also attached in the pdf shared.(Excel)

7. Create a column chart showing total sales by product.

Answer: Here's a column chart that visualises total sales (Quantity × Unit Price) for each product based on the data you provided.

The products compared include:

- Notebook
- Pen
- Marker
- Pencil
- Eraser

The answer is attached in the pdf shared.(Excel)

8. Insert a line chart showing daily sales trend.

Answer: The line chart shows the total daily sales (calculated as Quantity × UnitPrice) across all orders from January to March 2024.

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The answer is attached in the pdf shared.(Excel)