

Question 1 : Explain the difference between Absolute, Relative, and Mixed Cell Referencing in Excel with examples.

## Ans. **1. Relative Cell Referencing**

### **Definition:**

Relative references change automatically when a formula is copied to another cell.

### **Example:**

Formula in cell **C2**:

=A2+B2

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If you copy this formula from **C2** to **C3**, it becomes:

=A3+B3

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### **Explanation:**

Excel adjusts the row numbers relative to the new position.

### **Use case:**

When performing the same calculation across multiple rows or columns (e.g., adding values row by row).

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## **2. Absolute Cell Referencing**

### **Definition:**

Absolute references **do not change** when a formula is copied. They are fixed using the \$ (dollar sign).

### **Syntax:**

\$Column\$Row

### **Example:**

Formula in cell **C2**:

`=A2*$B$1`

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- Copying this formula anywhere will always refer to **cell B1**.

**Explanation:**

`$B$1` remains constant regardless of where the formula is copied.

**Use case:**

When referencing a constant value like a tax rate, discount rate, or fixed multiplier.

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### 3. Mixed Cell Referencing

**Definition:**

Mixed references lock **either the row or the column**, but not both.

**Types & Examples:**

**a) Column fixed, row relative**

`=$A1`

- Column **A** is fixed
- Row changes when copied down

**b) Row fixed, column relative**

`=A$1`

- Row **1** is fixed
- Column changes when copied across

**Example Formula:**

`=$A1*B$2`

**Use case:**

Useful in tables such as multiplication tables or when applying formulas across rows and columns.

**Question 2 :** What is a Macro in Excel? How does it help in automation?

**Ans.**A Macro in Excel is a set of recorded or written instructions (code) that automates repetitive tasks. Macros are written using VBA (Visual Basic for Applications) and allow Excel to perform multiple actions automatically with a single command.

**Question 3 :** What are Text Functions in Excel? Mention any five with examples.

**Ans.**Text functions in Excel are used to **manipulate, combine, format, and extract text** from cells. They are especially useful when working with names, addresses, codes, and other text data.

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## Five Common Text Functions in Excel (with Examples)

### 1. LEFT()

**Purpose:**

Extracts a specified number of characters from the **left** side of a text.

**Example:**

```
=LEFT("Excel", 2)
```

**Result:** Ex

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### 2. RIGHT()

**Purpose:**

Extracts a specified number of characters from the **right** side of a text.

**Example:**

```
=RIGHT("Excel", 3)
```

**Result:** cel

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### 3. MID()

**Purpose:**

Extracts characters from the **middle** of a text.

**Example:**

```
=MID("Excel", 2, 3)
```

**Result:** xce

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### 4. LEN()

**Purpose:**

Counts the **number of characters** in a text (including spaces).

**Example:**

```
=LEN("Microsoft Excel")
```

**Result:** 16

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### 5. CONCAT() / CONCATENATE()

**Purpose:**

Joins two or more text strings into one.

**Example:**

```
=CONCAT("Hello", " ", "Excel")
```

**Result:** Hello Excel

**Question 4 :** What is the use of Scenario Manager in decision making?

## **Ans.** Use of Scenario Manager in Decision Making

Scenario Manager is a What-If Analysis tool in Excel that helps users make better decisions by comparing different possible outcomes when key input values change.

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### **How Scenario Manager Supports Decision Making**

**1. Evaluates Multiple Alternatives**

It allows users to create and compare scenarios such as *Best Case*, *Worst Case*, and *Most Likely Case* by changing several variables at once.

**2. Analyzes Impact of Uncertainty**

Decision makers can see how changes in factors like cost, price, or sales affect results such as profit or revenue.

**3. Improves Planning and Forecasting**

Helps in budgeting, financial planning, and forecasting by testing various assumptions before finalizing a plan.

**4. Reduces Risk**

By visualizing different outcomes, managers can choose strategies with lower risk and higher returns.

**Question 5 :** Define the purpose of VLOOKUP and HLOOKUP. How are they different from XLOOKUP? Which among XLOOKUP and INDEX-MATCH is best while usage?

**Ans.**

### **1. VLOOKUP (Vertical Lookup)**

**Purpose:**

VLOOKUP is used to **search for a value in the first column** of a table and return a corresponding value from another column in the **same row**.

**Example:**

```
=VLOOKUP(101, A2:D10, 3, FALSE)
```

Looks for value **101** in column A and returns the value from the **3rd column** of the table.

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## 2. HLOOKUP (Horizontal Lookup)

### Purpose:

HLOOKUP is used to **search for a value in the first row** of a table and return a corresponding value from another row in the **same column**.

### Example:

```
=HLOOKUP("Sales", A1:D5, 2, FALSE)
```

Looks for **Sales** in the first row and returns the value from the **2nd row**.