

# Advance Excel Assignment 2

## 1. What does the dollar (\$) sign do?

In Excel, the **dollar sign (\$)** is used to create an **absolute reference** for cells. This means the reference to a specific cell does not change when you copy or move the formula to another location.

- **Without the dollar sign** (e.g., A1), the reference is **relative**. If you copy the formula, the cell reference adjusts based on its new position.
- **With the dollar sign** (e.g., \$A\$1), the reference is **absolute**, meaning the cell will always refer to A1 no matter where you copy the formula.
- You can also use it in one direction only:
  - **\$A1**: Absolute column, relative row.
  - **A\$1**: Relative column, absolute row.

## 2. How to Change the Reference from Relative to Absolute (or Mixed)?

To change a reference:

1. Click on the formula in the **Formula Bar**.
2. Select the cell reference you want to change (e.g., **A1**).
3. Press **F4**.
  - Pressing **F4** toggles between:
    - **Relative** (A1)
    - **Absolute** (\$A\$1)
    - **Mixed** (\$A1 or A\$1)

You can also manually type the dollar signs in the formula.

## 3. Explain the order of operations in Excel?

Excel follows the **order of operations**, which is the order in which calculations are performed in formulas:

1. **Parentheses** ( ) – Excel first calculates anything inside parentheses.
2. **Exponents** ^ – Then, any exponents (like powers or roots).
3. **Multiplication and Division** \*, / – From left to right.
4. **Addition and Subtraction** +, – – Finally, from left to right.

So, if you enter a formula like `=2 + 3 * (4 + 5)`, Excel will first calculate `(4 + 5)`, then multiply by 3, and finally add 2.

## 4. What, according to you, are the top 5 functions in Excel and write a basic syntax for any of two?

Here are the **top 5 functions** in Excel, based on their usefulness:

1. **SUM()**: Adds up a range of numbers.
  - **Syntax**: `=SUM (A1 : A10)`
2. **AVERAGE()**: Calculates the average of a group of numbers.
  - **Syntax**: `=AVERAGE (A1 : A10)`
3. **VLOOKUP()**: Looks up a value in a table and returns a corresponding value.

- **Syntax:** =VLOOKUP(lookup\_value, table\_array, col\_index\_num, [range\_lookup])
- 4. **IF():** Performs a logical test and returns one value if true and another if false.
  - **Syntax:** =IF(logical\_test, value\_if\_true, value\_if\_false)
- 5. **COUNTIF():** Counts the number of cells that meet a specified condition.
  - **Syntax:** =COUNTIF(range, criteria)

#### Example of SUM:

=SUM(B1:B5) will add up the values in cells **B1** to **B5**.

#### Example of IF:

=IF(A1>10, "Yes", "No") checks if **A1** is greater than 10 and returns "Yes" if true, "No" if false.

## 5. When would you use the subtotal function?

The **SUBTOTAL()** function is used when you want to perform calculations (like sum, average, etc.) on a filtered or subset of data. It's especially useful when you have data that is grouped or filtered and you only want the subtotal for the visible data, ignoring any hidden rows.

For example, when you filter a list to show only certain values, using **SUBTOTAL** will ensure that only the visible (filtered) cells are included in the calculation, while regular functions like **SUM** will include all cells, even those hidden by a filter.

**Syntax:** =SUBTOTAL(function\_num, range)

- **function\_num** is a number that specifies the type of calculation (e.g., 1 for AVERAGE, 9 for SUM).
- **range** is the range of cells to calculate.

## 6. What is the syntax of the VLOOKUP function? Explain the terms in it?

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

**Syntax:** =VLOOKUP(lookup\_value, table\_array, col\_index\_num, [range\_lookup])

- **lookup\_value:** The value you want to search for in the first column of your table.
- **table\_array:** The range of cells that contains the data you want to search through.
- **col\_index\_num:** The column number (within the **table\_array**) from which you want to return the value. The first column is 1, the second is 2, and so on.
- **[range\_lookup]:** Optional. TRUE for approximate match or FALSE for an exact match. If omitted, TRUE is assumed.

#### Example:

=VLOOKUP("Apple", A2:C10, 2, FALSE)

- This searches for "Apple" in the first column of the range A2:C10.
- If it finds "Apple", it returns the value from the **second column** (B) of that row.
- The **FALSE** ensures it looks for an exact match.