**Advance Excel Part 5**

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

The dollar sign `$ in Excel is used to make cell references absolute, meaning it locks the reference to a specific row, column, or both when you copy a formula. For instance, `$A$1` locks both the row and column, so even if you copy the formula, it will still refer to cell A1. `$A1` locks only the column, while `A$1` locks only the row.

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

To switch between relative, absolute, and mixed references, select the cell containing the formula, then click on the reference in the formula bar and press `F4`. Each press of `F4` will cycle through different reference types:

- `A1` (relative)

- `$A$1` (absolute)

- `$A1` (mixed, column absolute)

- `A$1` (mixed, row absolute)

3. Explain the order of operations in Excel.

In Excel, calculations follow the standard order of operations, often remembered as PEMDAS (Parentheses, Exponents, Multiplication and Division, Addition and Subtraction). This means:

- Operations inside \*\*Parentheses\*\* are performed first.

- \*\*Exponents\*\* are calculated next.

- \*\*Multiplication and Division\*\* come after, evaluated from left to right.

- \*\*Addition and Subtraction\*\* are completed last, also from left to right.

This ensures consistent calculation across formulas.

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

The top 5 functions in Excel are often:

- \*\*SUM\*\*: Adds up values in a range. Syntax: `=SUM(A1:A10)`

- \*\*AVERAGE\*\*: Calculates the average of a range. Syntax: `=AVERAGE(A1:A10)`

- \*\*IF\*\*: Performs a logical test and returns one value if true, another if false.

- \*\*VLOOKUP\*\*: Searches for a value in the first column of a range and returns a value in the same row from another column.

- \*\*COUNTIF\*\*: Counts the number of cells in a range that meet a specified condition.

5. When would you use the subtotal function?

The `SUBTOTAL` function is helpful when working with filtered data, as it performs calculations (like SUM, AVERAGE, etc.) on only the visible rows. This is particularly useful for analyzing data subsets within a filtered list without affecting the underlying data.

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

The syntax for `VLOOKUP` is: `=VLOOKUP(lookup\_value, table\_array, col\_index\_num, [range\_lookup])`

- \*\*lookup\_value\*\*: The value you want to search for.

- \*\*table\_array\*\*: The range containing the data, with the lookup column on the left.

- \*\*col\_index\_num\*\*: The column number within the table from which to return the value.

- \*\*range\_lookup\*\*: Optional; set to `TRUE` for an approximate match or `FALSE` for an exact match.