**Advance Excel Assignment 2**

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

The dollar sign ($) in Excel is used to create an absolute reference in a cell reference. It is used to lock a specific row or column in a cell reference, making it stay fixed when you copy or drag the formula to other cells. There are two types of absolute references:

- `$A$1`: The dollar signs before both the column letter and row number make both the column and row absolute. When you copy the formula, the reference will not change.

- `A$1` or `$A1`: The dollar sign before either the column letter or row number makes either the column or row absolute. When you copy the formula horizontally or vertically, the locked part remains constant.

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

To change the reference from relative to absolute (or mixed) in Excel, you can manually add or remove dollar signs ($) in the cell reference within a formula. Here's how:

- Absolute Reference: To make a reference absolute, add dollar signs before both the column letter and row number (e.g., `$A$1`).

- Mixed Reference (column absolute, row relative): Add a dollar sign before the column letter only (e.g., `$A1`).

- Mixed Reference (column relative, row absolute): Add a dollar sign before the row number only (e.g., `A$1`).

- Relative Reference: Leave the cell reference without any dollar signs (e.g., `A1`).

1. Explain the order of operations in excel?

The order of operations in Excel, often referred to as the "precedence of operators," determines the sequence in which Excel calculates formulas. It follows the acronym PEMDAS:

- P: Parentheses - Excel calculates expressions within parentheses first.

- E: Exponents - Excel calculates exponentiation operations next.

- MD: Multiplication and Division - Excel performs multiplication and division from left to right.

- AS: Addition and Subtraction - Excel performs addition and subtraction from left to right.

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

Top 5 Excel functions:

a. SUM Function:

Syntax: `=SUM(number1, number2, ...)`

Example: `=SUM(A1:A5)` adds the values in cells A1 through A5.

b. VLOOKUP Function (as requested):

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

- `lookup\_value`: The value you want to find in the first column of the table.

- `table\_array`: The range or table containing the data.

- `col\_index\_num`: The column number from which to return a value.

- `[range\_lookup]`: Optional. TRUE for approximate match (default) or FALSE for exact match.

1. When would you use the subtotal function?

The SUBTOTAL function in Excel is used when you want to perform calculations (e.g., SUM, AVERAGE, COUNT) on a filtered range of data. It's particularly useful when you have a filtered dataset, and you want to calculate values only for the visible rows after applying a filter. You can choose from various functions (e.g., SUM, AVERAGE, COUNT) using different numbers as the first argument of the SUBTOTAL function.

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

Syntax of the VLOOKUP function:

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

- `lookup\_value`: The value you want to find in the first column of the table.

- `table\_array`: The range or table containing the data. The first column of this range is where Excel will search for the lookup\_value.

- `col\_index\_num`: The column number from which to return a value in the table\_array.

- `[range\_lookup]`: This is an optional argument. If set to TRUE (or omitted), Excel performs an approximate match (default). If set to FALSE, Excel performs an exact match.

For example: `=VLOOKUP(A2, B2:D10, 2, FALSE)` searches for the value in cell A2 in the first column of the range B2:D10 and returns the value from the second column of the same range if an exact match is found.

