Advance Excel Assignment 2

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

Ans) In Excel, a dollar sign can denote a currency format, but it has another common use: indicating absolute cell references in formulas.

An **absolute reference** in Excel is a cell address with the dollar sign ($) in the row or column coordinates, like *A1*.

The dollar sign fixes the reference to a given cell, so that it **remains unchanged** no matter where the formula moves. In other words, using $ in cell references allows you to copy the formula in Excel without changing references.

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

Ans) To change the reference from relative to absolute, we need to add the dollar sign before the column notation and the row number. For example, A1 is a relative cell reference, and it would become absolute when we make it A1.

Short-cut Key: When we select a cell reference (in the formula bar or in the cell in edit mode) and press F4, it changes the reference.

Suppose you have the reference =A1 in a cell.

- **Press F4 key once:** The cell reference changes from A1 to A1 (becomes ‘absolute’ from ‘relative’).
- **Press F4 key two times:** The cell reference changes from A1 to A$1 (changes to mixed reference where the row is locked).
- **Press F4 key three times:** The cell reference changes from A1 to $A1 (changes to mixed reference where the column is locked).
- **Press F4 key four times:** The cell reference becomes A1 again.

3. Explain the order of operations in excel?

Ans) When evaluating a formula, Excel follows a standard math protocol called "order of operations". In general, Excel's order of operation follows the acronym PEMDAS (Parentheses, Exponents, Multiplication, Division, Addition, Subtraction) but with some customization to handle the formula syntax in a spreadsheet.

Excel solves formulas in the following order:

- Parentheses

- Reference operators
- Exponents
- Negation
- Percent
- Multiplication and Division
- Addition and Subtraction
- Concatenation
- Logical operators

If a formula contains multiple operators with the same priority (e.g. multiplication and division, or addition and subtraction), Excel will evaluate the operators from left to right.

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

Ans) According to me, the top 5 functions in excel are:

a. SUMIF() function:
   The syntax of the SUMIF function is:
   =SUMIF(range,criteria, [sum_range])
b. VLOOKUP() function:
   The VLOOKUP function has the following syntax for its four arguments:
   = VLOOKUP(lookup_value,table_array,col_index_num,[range_lookup])
c. IF() function
d. COUNTIF() function
e. DATEDIF() function

5. When would you use the subtotal function?

Ans) The Excel SUBTOTAL function returns an aggregate calculation for supplied values. Despite the name, SUBTOTAL can perform a variety of calculations, including SUM, AVERAGE, COUNT, MAX, MIN, and others.

The SUBTOTAL function is used when we display a Total row in an Excel Table. Excel inserts the SUBTOTAL function automatically, and we can use a drop-down menu to switch behaviour and show max, min, average, etc. Excel uses SUBTOTAL for calculations in the Total row of an Excel Table because SUBTOTAL *automatically* excludes rows hidden by the filter controls at the top of the table. That is, as we filter rows in a table with a Total row, calculations automatically respect the filter.

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

Ans) The VLOOKUP function has the following syntax for its four arguments:

- **VLOOKUP(lookup_value,table_array,col_index_num,[range_lookup])**

The first 3 are required arguments, and the last one is an optional argument:

1. **lookup_value**: what it should look for, such as the product code — this can be a value, or a cell reference.
2. **table_array**: where the lookup data is located (2 or more columns) — this can be a range reference or a range name, with 2 or more columns.
3. **col_index_num**: the column that has the value you want returned, based on the column number within the table.

   This column index number can be different from the worksheet column number
4. **[range_lookup]**: for an exact match, use FALSE or 0; for an approximate match, use TRUE or 1, with the lookup value column sorted in ascending order.

   If we omit the range_lookup argument, VLOOKUP will return an approximate match.