Advance Excel Assignment 2

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

Ans: A dollar symbol, when added in front of the row and column number, makes it absolute (i.e., stops the row and column number from changing when copied to other cells).

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.

If we only have a couple of references to change, we may find it easy to change these references manually. So we can go to the formula bar and edit the formula. However, a faster way to do this is by using the keyboard shortcut – F4.

For example, we have the reference =A1 in a cell.

Here is what happens when we select the reference and press the F4 key.

- **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:

Order of Operations

Order	Symbols	Operation	Example
1	()	Parentheses	=(5-2)*4 = 12
2	: ,	Reference operators	=SUM(A1:A5)
3	-	Negation	=-3^2 = 9
4	%	Percent	=5%*100 = 5
5	^	Exponentiation	=5^2*2 = 50
6	* /	Multiplication and Division	=7-6/2 = 4
7	+ -	Addition and Subtraction	=6/2+1 = 4
8	&	Concatenation	="score: "&5+1 = score: 6
9	> < = <>	Logical comparisons	=3^2>5+3 = TRUE

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.

First, any expressions in parentheses are evaluated. Parentheses essentially override the normal order of operations to ensure certain operations are performed first.

Next, Excel will resolve references. This involves replacing cell references like A1 with the value from the cell, as well as evaluating range references like A1:A5, which become arrays of values. Other range operations like union (comma) and intersection (space) also happen at this time.

Next, Excel will perform exponentiation, negation, and percent conversions (in that order), followed by multiplication and division, addition and subtraction, and concatenation. Finally, Excel will evaluate logical operators, if present.
In summary, Excel solves formulas in the following order:

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

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

Ans: The top 5 functions in excel are as follows:

1. The SUM Function:

The sum function is the most used function when it comes to computing data on Excel. This function works to sum a group of numbers in a specific set of cells. This means we don't need to type a long cumbrous formula just to calculate the sum of all the data we need. Because of its popularity, newer versions of Microsoft Excel have a button specifically for this function.

2. The TEXT Function:

Text function is a useful tool that helps convert a date (or number) into a text string in a particular format. It falls in the category of string formulas that converts numerical values to a string. It is handy when users need to view numeric data in a readable format. Take note that the "TEXT" formula only works to convert numeric values to text. Therefore, its results cannot be calculated.

3. The VLOOKUP Function:

VLookup is powerful Excel function that is often overlooked. Users will find it useful when they need to find specific data on a large table. We can also use VLookup to search for names, phone number, or specific data on our sheet. Instead of manually looking for the names and wasting time scrolling through hundreds of data, the VLookup function makes this process faster and more efficient.

4. The AVERAGE Function:

The average function is an extremely useful tool for getting the average value in a range of cells. Like the sum function, it is frequently used in computing and analyzing data on spreadsheet. Basically, the average function works to find the

“arithmetic mean” for a group of cells. Aside from the average function, Excel also has the median and mode function.

5. The CONCATENATE Function:

This function is a good time saver when we need to combine data from 2 or more cells. Unlike the merge tool which physically merges two or more cells into a single cell, the concatenate function only combines the contents of the combined cells. In some version of Excel, the concatenate function has been replaced with concat function and will be incorporated in more future versions of Excel.

The basic syntax for any of two are as follows:

1. The syntax formula for sum function is “=SUM” (number1, number2, etc.).

2. The syntax formula for the average function is “=AVERAGE” (number1, number2, etc.).

5. When would you use the subtotal function?

Ans: 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 behavior 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 formula is “=VLOOKUP” (lookup_value, table_array, col_index_num, *range_lookup*).

- “**lookup_value**” is the data we want to find.
- “**table_array**” is the data column where we want to limit our search.
- “**col_index_num**” is the column number within the table that we want to return a value from.
- “**range_lookup**” is an optional argument that allows us to search for the exact match of our lookup value without sorting the table.