**Advance Excel Assignment 2**

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

1. In Excel, a dollar sign can denote a currency format, but it has another common use indicating absolute cell references in formulas.
2. 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)?*

1. By default, a cell reference is a relative reference, which means that the reference is relative to the location of the cell.
2. If, for example, you refer to cell A2 from cell C2, you are actually referring to a cell that is two columns to the left (C minus A)—in the same row (2). When you copy a formula that contains a relative cell reference, that reference in the formula will change.
3. we can change relative cell references to the mixed or absolute by preceding either the column or the row value with a dollar sign—which fixes either the column or the row (for example, $B4 or C$4).
4. To change the type of cell reference:
5. Select the cell that contains the formula.
6. In the formula bar Button image, select the reference that you want to change.
7. Press F4 to switch between the reference types.
8. The table below summarizes how a reference type updates if a formula containing the reference is copied two cells down and two cells to the right.

 Below summarizes how a reference type updates if a formula containing the reference is copied from A1 to two cells down and two cells to the right.

* If the reference is $A$1 (absolute column and absolute row) it changes to $A$1 (the reference is absolute).
* If the reference is $A1 (absolute column and relative row)it changes to C$1 (the reference is mixed).
* If the reference is A$1 (relative column and absolute row) it changes to C$1 (the reference is mixed).
* If the reference is A1 (relative column and relative row) it changes to C3 (the reference is relative)

*3. Explain the order of operations in excel?*

1. When evaluating a formula, Excel follows a standard math protocol called "order of operations".
2. 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.
3. First, any expressions in parentheses are evaluated. Parentheses essentially override the normal order of operations to ensure certain operations are performed first.
4. 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.
5. 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?*

1. **Summation Function :** When it comes to calculating data in Excel, the sum function is the most often utilised function. This function adds up a collection of integers in a certain set of cells. This implies that you don't have to create a lengthy, complicated formula in order to add up all the data you want. Newer versions of Microsoft Excel contain a button expressly for this function because of how popular it is. To use this function, type the formula in the function bar, highlight the cells you wish to sum, and press "Enter." Additionally, you must be cautious while highlighting cells since Excel will add everything you do. If this occurs, just click the "Undo" button to restore the settings to their initial state.

**=SUM (number1, number2, etc.).**

1. **The VLOOKUP Function :** Excel's strong VLookup feature is frequently disregarded. When a user needs to locate certain data on a big table, it will be helpful. one may use VLookup to look up people's names, phone numbers, or other particular information in your spreadsheet. The VLookup function speeds up and streamlines this procedure rather than requiring laborious name-finding and scrolling through hundreds of data.

**"=VLOOKUP" (lookup value, table array, col index num, \*range lookup\*) is the VLookup formula.**

The information you're looking for is "lookup value." The data column where you wish to focus your search is "table array." The column within the table that you wish to retrieve a value from is designated by "col index num." Without sorting the database, you may search for an exact match of your lookup value by using the optional input "range lookup.

1. **CONCATENATE :** When combining data from two or more cells, this function can help you save time. The concatenate function just combines the contents of the merged cells, as opposed to the merge tool, which physically merges two or more cells into a single cell. The concat function has taken the place of the concatenate function in the most recent (2016) version of Excel and will be added to other versions in the future.

The syntax formula for the concatenate function is **“CONCATENATE” (text1, [text2…text\_n])**

1. **AVERAGE :** To determine the average value over a group of cells, use the average function. It is extensively used in spreadsheet computation and data analysis, much like the sum function. The "arithmetic mean" for a collection of cells is essentially what the average function attempts to determine. Excel also provides functions for the median and mode in addition to the average function.

The average function's syntactic formula is **"AVERAGE" (number1, number2, etc.).**

The first number in the range where the average is desired is referred to as "Number 1."

The supplementary reference for the average range is "Number 2." An average of a maximum of 255 cells is possible.

1. **TEXT** : A date (or number) may be transformed into a text string in a certain format using the text function, which is a helpful tool. It belongs to the class of string formulae that stringify numerical values. When people need to display numerical data in a comprehensible style, it is useful. Remember that the "TEXT" formula can only translate numerical numbers into text. As a result, its outcomes cannot be computed. Value is the specific number that you want to convert to text.

**"=TEXT" (value, format text)** is the syntactic formula for the text function.

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

* The SUBTOTAL function in Excel is primarily used for the purpose of returning a subtotal in a database or the list, that means finding out the Subtotal of a given range of particular cells.
* The SUBTOTAL Function in Excel allows users to create groups and then perform various other Excel functions such as SUM, COUNT, AVERAGE, PRODUCT, MAX, etc. Thus, the SUBTOTAL function in Excel helps in analyzing the data provided.
* **Formula:** SUBTOTAL = (method, range1, [range2 …range\_n])

Where method is the type of subtotal you wish to obtain.

* Sometimes, we need data based on different categories. SUBTOTALS help us to get the totals of several columns of data broken down into various categories.

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

**"=VLOOKUP" (lookup value, table array, col index num, \*range lookup\*) is the VLookup formula.**

* In its simplest form, the VLOOKUP function says:

lookup value = What you want to look up,

table array = Where you want to look for it.

col index num = The column number in the range containing the value to return,

range lookup = Return an Approximate or Exact match – indicated as 1/TRUE, or 0/FALSE).