**Advance Excel Assignment 2**

1. **What does the dollar($) sign do?   
   -** In Excel, the dollar sign ($) is used to create an absolute reference in a cell reference. When you refer to a cell in a formula, Excel uses relative referencing by default, which means that when you copy the formula to other cells, the references adjust automatically based on their relative position.

However, by adding a dollar sign before the column letter, row number, or both, you can make the reference absolute

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

* To change a reference from relative to absolute or mixed in Excel, you can manually add the dollar signs ($) to the cell reference. Here's how you can do it:
* Relative Reference: By default, when you enter a cell reference in a formula, Excel uses relative referencing. For example, if you enter "=A1" in a cell and copy the formula to other cells, the reference will adjust accordingly (e.g., "=A2", "=A3", and so on).
* Absolute Reference: To create an absolute reference, add dollar signs before both the column letter and row number. For example, if you want to refer to cell A1 as an absolute reference, you would enter "=$A$1". When you copy the formula to other cells, it will always refer to cell A1.
* Mixed Reference: A mixed reference fixes either the column or row but allows the other part to adjust. To create a mixed reference, add a dollar sign before either the column letter or the row number. For example:
* To fix the column and allow the row to adjust, use "$A1". When copied horizontally, the column reference will remain as A, but it will adjust vertically.
* To fix the row and allow the column to adjust, use "A$1". When copied vertically, the row reference will remain as 1, but it will adjust horizontally.
* To change an existing cell reference to absolute or mixed, you can manually edit the formula and add or remove the dollar signs as needed. Another method is to use the F4 key as a shortcut to cycle through the different reference types (relative, absolute, mixed) while editing a formula. Pressing F4 on the cell reference will toggle between the different reference types.

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

* In Excel, the order of operations, also known as precedence, determines the sequence in which mathematical and logical operations are performed within a formula. The order of operations in Excel follows a set of rules to ensure accurate calculation results. The order of operations is as follows:
* Parentheses: Operations within parentheses are performed first. If there are nested parentheses, the innermost parentheses are evaluated first.
* Exponents: Exponentiation, or raising a number to a power, is performed next. For example, if a formula contains expressions like "^" (caret) or the POWER function, those operations are executed after parentheses.
* Multiplication and Division: Multiplication (\*) and division (/) operations are evaluated from left to right. If a formula has multiple multiplication or division operations, they are performed in the order they appear.
* Addition and Subtraction: Addition (+) and subtraction (-) operations are evaluated from left to right. Like multiplication and division, if a formula contains multiple addition or subtraction operations, they are performed in the order they appear.
* It's important to note that within each level of precedence, the operations are performed in the order they appear in the formula, reading from left to right. If there are multiple operations at the same level, Excel does not prioritize one over the other based on commutative or associative properties.
* To change the order of operations or explicitly define the calculation order, you can use parentheses to group specific operations together and ensure they are evaluated first. By controlling the placement of parentheses, you can override the default order of operations and enforce your desired calculation sequence.

1. **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:
* SUM: The SUM function is used to add up a range of cells or values. Basic Syntax: =SUM(number1, [number2], ...)
* Example: =SUM(A1:A5) - This function will sum the values in cells A1 to A5.
* VLOOKUP: The VLOOKUP function is used to search for a value in the leftmost column of a table and retrieve a corresponding value from a specified column. Basic Syntax: =VLOOKUP(lookup\_value, table\_array, col\_index\_num, [range\_lookup])
* Example: =VLOOKUP(A2, B1:D10, 3, FALSE) - This function will search for the value in cell A2 in the range B1 to D10. It will return the value from the third column of that range.
* IF: The IF function is used to perform conditional evaluations and return different values based on a specified condition. Basic Syntax: =IF(logical\_test, value\_if\_true, value\_if\_false)
* Example: =IF(A1>10, "Greater than 10", "Less than or equal to 10") - This function will check if the value in cell A1 is greater than 10. If true, it will return "Greater than 10," otherwise "Less than or equal to 10."
* COUNT: The COUNT function is used to count the number of cells in a range that contain numeric values. Basic Syntax: =COUNT(value1, [value2], ...)
* Example: =COUNT(A1:A10) - This function will count the number of cells in the range A1 to A10 that contain numeric values.
* CONCATENATE: The CONCATENATE function is used to combine multiple text strings into a single string. Basic Syntax: =CONCATENATE(text1, [text2], ...)
* Example: =CONCATENATE(A1, " ", B1) - This function will concatenate the values in cells A1 and B1, separated by a space.
* These are just a few examples of the top functions in Excel, and their syntax can vary based on the specific requirements and parameters needed for your calculations.

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

* The SUBTOTAL function in Excel is used when you want to perform calculations on a range of data while ignoring other SUBTOTAL functions within that range. It is commonly used in scenarios where you have a large dataset with subtotals and you want to calculate aggregate values without including the subtotals themselves.

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

* The syntax of the VLOOKUP function in Excel is as follows:
* =VLOOKUP(lookup\_value, table\_array, col\_index\_num, [range\_lookup])
* Let's break down the terms used in the syntax:
* lookup\_value: This is the value you want to find or search for within the first column of the table\_array. It can be a specific value, a cell reference, or a formula that evaluates to a value.
* table\_array: This is the range of cells that contains the data you want to search in. The leftmost column of the table\_array should contain the lookup values. The table\_array can be a range of cells (e.g., A1:D10) or a named range.
* col\_index\_num: This is the column number in the table\_array from which you want to retrieve the corresponding value. The column number starts from 1 for the leftmost column of the table\_array. For example, if you want to retrieve a value from the second column, you would enter 2 as the col\_index\_num.
* range\_lookup: This is an optional argument that specifies whether you want an approximate match or an exact match. If omitted or set to TRUE (or 1), Excel assumes an approximate match and performs an approximate match using sorted data. If set to FALSE (or 0), Excel performs an exact match.
* The VLOOKUP function searches for the lookup\_value in the leftmost column of the table\_array and returns the value from the corresponding column specified by col\_index\_num. It is important to ensure that the lookup column in the table\_array is sorted in ascending order when using an approximate match (range\_lookup = TRUE).
* If a match is found, VLOOKUP returns the value from the specified column. If no match is found, it can return an #N/A error or a specified value using error handling techniques like IFERROR or IFNA.
* Note that the VLOOKUP function only searches from left to right. If you need to search from right to left, you can use the HLOOKUP function instead.
* It's essential to understand the usage and requirements of the VLOOKUP function to utilize it effectively for searching and retrieving values in Excel.

