**Advance Excel Assignment 2**

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

The dollar sign in Excel is used to format cell references in formulas and functions. It is used to make a cell reference absolute, which means that the reference will not change when the formula is copied or moved to other cells.

In Excel, a cell reference is made up of a column letter and a row number, such as A1 or C5. When a cell reference is entered into a formula without any dollar signs, it is known as a relative reference. This means that when the formula is copied to another cell, the cell reference will change relative to the new cell.

To make a cell reference absolute, you can add dollar signs before the column letter and/or row number. For example, if you want to reference cell A1 in a formula and make it absolute, you can write it as $A$1. This ensures that the cell reference will always point to cell A1, no matter where the formula is copied or moved to.

You can also use a mixed reference, where you make either the row or column absolute by adding a dollar sign to one of them. For example, if you want to make the column absolute but allow the row to change, you can write it as $A1.

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 add dollar signs to the cell reference manually or by using keyboard shortcuts. Here are the steps:

* Select the cell or range of cells that contain the formula with the relative reference that you want to change.
* Click in the formula bar at the top of the screen to edit the formula.
* Place your cursor at the point in the formula where you want to add the dollar sign(s).
* To make the reference absolute, add dollar signs before the column letter and row number, such as $A$1. To make the reference mixed, add a dollar sign before either the column letter or row number, such as $A1 or A$1.
* Alternatively, you can use keyboard shortcuts to add the dollar signs to the reference. With the cursor in the cell reference, press the F4 key on your keyboard to toggle between relative, absolute, and mixed references.
* Once you have made the necessary changes to the reference, press Enter on your keyboard to save the updated formula.
* The cell reference in the formula will now be absolute or mixed, and will not change when the formula is copied or moved to other cells.

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

The order of operations in Excel refers to the sequence in which mathematical operations are performed within a formula. Excel follows the same order of operations as most other programming languages, which is also known as "PEMDAS" or "BEDMAS".

The order of operations in Excel is:

* Parentheses: Excel evaluates expressions inside parentheses first.
* Exponents: Excel calculates any expressions that involve exponentiation or raising a number to a power.
* Multiplication and Division: Excel performs any multiplication or division operations from left to right.
* Addition and Subtraction: Excel performs any addition or subtraction operations from left to right.

It's important to note that the order of operations in Excel can be overridden by using parentheses to group expressions and force a specific order of calculation. If a formula contains multiple operations of the same level of precedence (e.g. multiple additions or multiplications), Excel evaluates them from left to right, following the order in which they appear in the formula.

To avoid any confusion about the order of operations in complex formulas, it's a good practice to use parentheses to group expressions explicitly and ensure that the formula is calculated correctly.

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

here are five of the most commonly used functions in Excel:

1. SUM: This function adds up the values in a range of cells.

Basic Syntax: =SUM(range)

Example: =SUM(A1:A10)

1. AVERAGE: This function calculates the average (arithmetic mean) of the values in a range of cells.

Basic Syntax: =AVERAGE(range)

Example: =AVERAGE(A1:A10)

1. IF: This function tests whether a condition is true or false and performs different actions depending on the result.

Basic Syntax: =IF(condition, value\_if\_true, value\_if\_false)

Example: =IF(A1>10, "Yes", "No")

1. VLOOKUP: This function looks up a value in a table and returns a corresponding value from a specified column.

Basic Syntax: =VLOOKUP(lookup\_value, table\_array, column\_index\_number, [range\_lookup])

Example: =VLOOKUP(A1, B1:C10, 2, FALSE)

1. COUNTIF: This function counts the number of cells in a range that meet a specified criteria.

Basic Syntax: =COUNTIF(range, criteria)

Example: =COUNTIF(A1:A10, ">50")

Here is the basic syntax for two of the functions mentioned above:

1. SUM:

=SUM(range)

Where "range" is the range of cells that you want to add up. For example, =SUM(A1:A10) adds up the values in cells A1 through A10.

1. IF:

=IF(condition, value\_if\_true, value\_if\_false)

Where "condition" is the logical test or comparison that you want to perform, "value\_if\_true" is the value or action that Excel should take if the condition is true, and "value\_if\_false" is the value or action that Excel should take if the condition is false. For example, =IF(A1>10, "Yes", "No") tests whether the value in cell A1 is greater than 10, and returns "Yes" if true and "No" if false.

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

The SUBTOTAL function in Excel is used to calculate a subtotal for a range of data based on one of the many different functions. It allows you to calculate subtotals for individual groups within a larger set of data, and is often used in reports or analyses where you need to display summary information.

You can use the SUBTOTAL function in Excel in situations where you need to perform calculations on groups of data. For example, you might use it to:

* Calculate subtotals for a range of data based on different functions, such as SUM, AVERAGE, COUNT, MAX, MIN, etc.
* Calculate subtotals for a range of data that has been sorted into groups, such as sales data by region or product category.
* Exclude hidden rows or filtered rows from the subtotal calculation, so that you only see subtotals for the visible data.
* Nest the SUBTOTAL function within other functions or formulas to perform more complex calculations.
* The advantage of using the SUBTOTAL function over other functions like SUM or AVERAGE is that it allows you to easily calculate subtotals for different groups of data within a larger set of data, while also giving you more control over how the calculation is performed.

Overall, the SUBTOTAL function is a powerful tool for performing calculations on groups of data in Excel, and can save you a lot of time and effort when working with large sets of data.

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

The VLOOKUP function in Microsoft Excel is used to search for a specific value in a table and return a corresponding value from the same row.

The syntax for the VLOOKUP function is:

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

Here's an explanation of each term:

* **lookup\_value:** This is the value that you want to search for in the leftmost column of the table. It can be a value, a reference to a cell, or a text string.
* **table\_array:** This is the range of cells that contains the table from which you want to retrieve data. The table\_array must include the lookup\_value column and the column from which you want to return data.
* **col\_index\_num:** This is the number of the column in the table\_array from which you want to return data. The first column is 1, the second is 2, and so on.
* **range**\_**lookup**: This is an optional argument that specifies whether you want an exact match or an approximate match. If range\_lookup is omitted or set to TRUE, an approximate match is used. If range\_lookup is set to FALSE, an exact match is used.

