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

In Microsoft Excel, the dollar sign ($) is used as an absolute reference operator in cell references.

When you enter a formula or function that references a cell, you can use the dollar sign to lock the cell reference to a specific row or column. For example, if you have a formula that references cell A1 and you want to copy it to other cells, you can use the dollar sign to keep the reference to A1 fixed, while allowing the row or column references to change as needed.

The dollar sign can be placed in front of the row number, the column letter, or both, to indicate which part of the reference should be fixed. Here are some examples:

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

To change a cell reference from relative to absolute or mixed in Microsoft Excel, you can use the dollar sign ($) operator.

Here's how to change a relative cell reference to an absolute reference using the dollar sign:

* Click on the cell that contains the formula or function with the relative reference you want to change.
* In the formula bar, click on the cell reference that you want to make absolute.
* Place the cursor in front of the column letter or row number in the reference, depending on whether you want to fix the column or the row.
* Type a dollar sign ($) and then press Enter to complete the change.

For example, if you want to change the reference from A1 to $A$1, you would click on the cell containing the formula, click on the reference in the formula bar, and then add the dollar sign before the column letter and row number.

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

In Microsoft Excel, the order of operations (also known as the operator precedence) determines the sequence in which mathematical operators are applied in a formula. The order of operations is important to ensure that the results of the formula are calculated correctly.

The order of operations in Excel is as follows:

Exponents (^): Excel calculates the results of any expressions within parentheses first, followed by any exponents (i.e., numbers raised to a power) in the formula.

Multiplication (\*) and division (/): Excel calculates any multiplication or division operations next, working from left to right in the formula.

Addition (+) and subtraction (-): Finally, Excel calculates any addition or subtraction operations, also working from left to right in the formula.

It's important to note that you can use parentheses to group certain parts of a formula and control the order of operations. Excel calculates the expressions within parentheses first, regardless of where they appear in the formula.

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

The SUBTOTAL function in Excel is used to calculate various aggregate functions such as SUM, AVERAGE, COUNT, MAX, MIN, etc. It is particularly useful when you want to perform calculations on a filtered range or exclude hidden rows from the calculation.

Here are some scenarios where you might use the SUBTOTAL function:

* When you want to calculate the sum, average, count, or other aggregate functions on a filtered range of data. In this case, the SUBTOTAL function can be used instead of the regular SUM, AVERAGE, and COUNT functions because it automatically excludes hidden rows from the calculation.
* When you have a large dataset with multiple levels of subtotals, and you want to quickly calculate the subtotal for each group. In this case, the SUBTOTAL function can be used to calculate subtotals without having to create complex formulas.
* When you want to create a dynamic summary report that automatically updates as you filter or sort the data. In this case, the SUBTOTAL function can be used to calculate the summary values, and the report can be linked to filters and sort criteria to create a dynamic report.

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

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

Here's an explanation of each term in the syntax:

* lookup\_value: This is the value you want to look up in the first column of the table\_array. It can be a reference to a cell, a text string, or a number.
* table\_array: This is the table or range of cells that contains the data you want to look up. The first column of the table\_array should contain the lookup\_value, and the columns to the right should contain the values you want to return.
* col\_index\_num: This is the column number (starting from 1) in the table\_array that contains the value you want to return. For example, if you want to return the value from the third column, you would enter 3 for col\_index\_num.
* range\_lookup: This is an optional argument that specifies whether you want an exact match or an approximate match for the lookup\_value. If you enter FALSE or 0, Excel will only return an exact match. If you enter TRUE or 1 (or leave it blank), Excel will return an approximate match based on the closest match.