

Assignment 2

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

- The dollar (\$) sign in Excel is used to create absolute references in formulas. It can be applied to column letters or row numbers to lock them in place when copying or filling formulas across cells.
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- When you use a cell reference without the dollar sign, it is considered a relative reference. As you copy or fill the formula to other cells, the reference adjusts based on its relative position to the new location.
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- However, when you add a dollar sign to a reference, it becomes an absolute reference. The dollar sign can be placed before the column letter (e.g., \$A\$1) to lock both the column and row, or before the row number (e.g., A\$1) or column letter (\$A1) to lock either the row or column, respectively.

2. 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 modify the cell reference by adding the dollar sign (\$) to the appropriate parts. Here's how:
- Select the cell reference you want to modify in your formula.
- To create an absolute reference (both row and column locked):
- Place the cursor before the column letter and/or row number in the reference.
- Press the F4 key on your keyboard. This will add the dollar sign (\$) to both the column letter and row number.
- For example, if you have the reference A1 and you press F4, it will change to \$A\$1.
- To create a mixed reference (either row or column locked):
- Place the cursor before the column letter or row number in the reference, depending on which part you want to lock.
- Press the F4 key on your keyboard. This will add the dollar sign (\$) to either the column letter or row number.
- For example, if you have the reference A1 and you press F4, it will change to \$A1 (column locked) or A\$1 (row locked).
- By using the dollar sign (\$) to modify the references, you can change them from relative to absolute or mixed, depending on your needs.

3. Explain the order of operations in excel?

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- The order of operations in Excel, also known as the precedence of operators, determines the sequence in which mathematical and logical calculations are performed in formulas. Excel follows the standard order of operations known as BODMAS (Brackets, Orders, Division, Multiplication, Addition, and Subtraction), which ensures consistent and predictable calculation results. The order of operations in Excel is as follows:

- Brackets: Excel evaluates calculations inside brackets or parentheses first. If a formula contains nested brackets, it starts with the innermost set and works outward.
 - Orders: Excel calculates exponential or power operations next. For example, if a formula includes exponentiation such as 2^3 , Excel performs the power calculation.
 - Division and Multiplication: Excel performs division and multiplication from left to right, whichever comes first in the formula. If a formula has multiple division or multiplication operations, Excel evaluates them in the order they appear.
 - Addition and Subtraction: Finally, Excel performs addition and subtraction from left to right, whichever comes first in the formula. Like division and multiplication, if a formula has multiple addition or subtraction operations, Excel evaluates them in the order they appear.
4. What, according to you are the top 5 functions in excel and write a basic syntax for any of two?
- According to general consensus and based on their versatility and widespread use, the top 5 functions in Excel are:
 - SUM: Calculates the sum of a range of cells. Syntax: =SUM(number1, [number2], ...)
 - VLOOKUP: Searches for a value in the leftmost column of a table and retrieves a value in the same row from a specified column. Syntax: =VLOOKUP(lookup_value, table_array, col_index_num, [range_lookup])
 - IF: Performs a logical test and returns different values based on the result. Syntax: =IF(logical_test, value_if_true, value_if_false)
 - COUNT: Counts the number of cells in a range that contain numbers. Syntax: =COUNT(value1, [value2], ...)
 - AVERAGE: Calculates the average of a range of cells. Syntax: =AVERAGE(number1, [number2], ...)
 - Here are the basic syntaxes for two of the above functions:
 - SUM: This function adds up the values in a range of cells. Syntax: =SUM(number1, [number2], ...) Example: =SUM(A1:A5) - Adds the values in cells A1 to A5.
 - VLOOKUP: This function searches for a value in the leftmost column of a table and retrieves a corresponding value from a specified column. Syntax: =VLOOKUP(lookup_value, table_array, col_index_num, [range_lookup]) Example: =VLOOKUP(A1, B1:C10, 2, FALSE) - Searches for the value in cell A1 in column B of the range B1:C10 and retrieves the corresponding value from column C.
5. When would you use the subtotal function?
- Here are some scenarios where you would use the SUBTOTAL function:
 - Grouped Data: If you have grouped data in your worksheet, such as by months, regions, or categories, and you want to calculate subtotals within each group, the SUBTOTAL function can be used. It allows you to perform calculations on visible rows within each group, excluding hidden or collapsed rows.
 - Filtered Data: When you apply filters to your data and want to calculate subtotals based on the visible rows only, the SUBTOTAL function comes in handy. It automatically considers only the filtered (visible) rows for the calculation, while excluding the hidden rows.
 - Collapsible Data: If you have data that can be collapsed or expanded using outline features in Excel, the SUBTOTAL function helps you calculate subtotals for each level

of the outline. It considers only the visible rows at each level, disregarding the collapsed rows.

- Ignoring Errors: Another advantage of the SUBTOTAL function is its ability to ignore errors within the range. If your data contains errors (such as #DIV/0! or #N/A), the function excludes those cells from the calculation.

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

- The VLOOKUP function is a popular function in Microsoft Excel that allows you to search for a value in a specific column of a table and retrieve a corresponding value from another column in that table. The syntax of the VLOOKUP function is as follows:

VLOOKUP(lookup_value, table_array, col_index_num, [range_lookup])

- Let's break down each term used in the VLOOKUP function:
- lookup_value: This is the value you want to search for in the leftmost column of the table. 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 represents the table from which you want to retrieve data. The leftmost column of this range should contain the lookup values, and the column from which you want to retrieve data should be to the right of the lookup column. The table array can be a named range, a cell range (e.g., A1:B10), or a table reference.
- col_index_num: This is the column number in the table array from which you want to retrieve data. The leftmost column in the table array is considered column number 1. For example, if you want to retrieve data from the third column of the table array, you would specify 3 as the col_index_num.
- [range_lookup]: This is an optional argument that determines whether you want an exact match or an approximate match. If you set it to TRUE or omit it, VLOOKUP will perform an approximate match and return the closest match that is less than or equal to the lookup value. If you set it to FALSE, VLOOKUP will perform an exact match and return the exact match only.
- It's important to note that the VLOOKUP function searches for the lookup value in the leftmost column of the table array. The columns to the right of the lookup column are used to retrieve the corresponding data. Also, for the VLOOKUP function to work correctly, the lookup column should be sorted in ascending order.