Advance Excel Assignment 2

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

Ans- In Excel, a dollar sign can denote a currency format, but it has another common use: indicating absolute cell references in formulas. Let's consider both uses of the dollar sign in Excel.

Dollar signs denoting currency

If you want to display numbers as monetary values, you must format those numbers as currency. To do this, you apply either the Currency or Accounting number format to the cells that you want to format. The number formatting options are available on the Home tab, in the Number group.

What's the difference between the two number formats? There are two main differences:

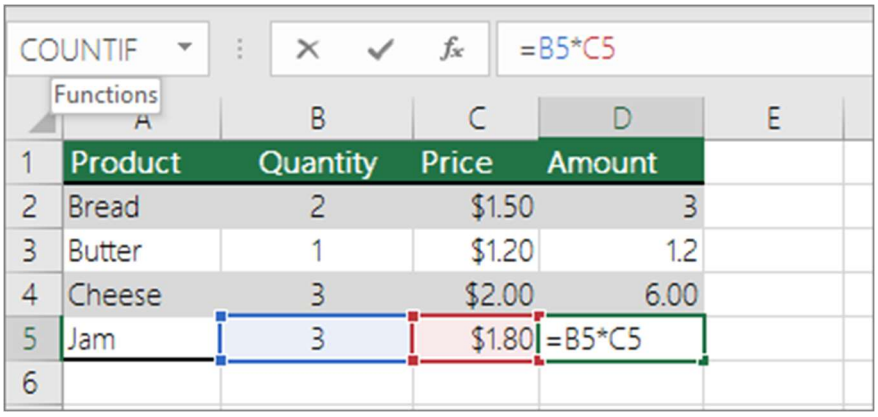
The Currency format displays the currency symbol adjacent to the number, whereas the Accounting format displays the symbol at the edge of the cell, regardless of the length of the number.

The Accounting format displays zeros as dashes and negative numbers in parentheses, whereas the Currency format displays zeros as zeros and denotes negative numbers by using a minus sign (-). For more information, see the article Display numbers as currency.

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

Ans- By default, a cell reference is a relative reference, which means that the reference is relative to the location of the cell. 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.

As an example, if you copy the formula =B4*C4 from cell D4 to D5, the formula in D5 adjusts to the right by one column and becomes =B5*C5. If you want to maintain the original cell reference in this example when you copy it, you make the cell reference absolute by preceding the columns (B and C) and row (2) with a dollar sign ($). Then, when you copy the formula =B4*C4 from D4 to D5, the formula stays exactly the same.



Less often, you may want to mixed absolute and relative cell references 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).

To change the type of cell reference:

Select the cell that contains the formula.

In the formula bar , select the reference that you want to change.

Press F4 to switch between the reference types.

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.

For a formula being copied:	If the reference is:	It changes to:
	A1 (absolute column and absolute row)	A1 (the reference is absolute)
	A$1 (relative column and absolute row)	C$1 (the reference is mixed)
	$A1 (absolute column and relative row)	$A3 (the reference is mixed)
	A1 (relative column and relative row)	C3 (the reference is relative)

3. Explain the order of operations in excel?

Ans- In some cases, the order in which a calculation is performed can affect the return value of the formula, so it's important to understand how the order is determined and how you can change the order to obtain the results you want.

Calculation order

Formulas calculate values in a specific order. A formula in Excel always begins with an equal sign (=). Excel interprets the characters that follow the equal sign as a formula. Following the equal sign are the elements to be calculated (the operands), such as constants or cell references. These are separated by calculation operators. Excel calculates the formula from left to right, according to a specific order for each operator in the formula.

Operator precedence in Excel formulas

If you combine several operators in a single formula, Excel performs the operations in the order shown in the following table. If a formula contains operators with the same precedence—for example, if a formula contains both a multiplication and division operator—Excel evaluates the operators from left to right.

Operator	Description
: (colon) (single space) , (comma)	Reference operators
–	Negation (as in –1)
%	Percent
^	Exponentiation
* and /	Multiplication and division
+ and –	Addition and subtraction
&	Connects two strings of text (concatenation)
= < > <= >= <>	Comparison

Using parentheses in Excel formulas

To change the order of evaluation, enclose in parentheses the part of the formula to be calculated first. For example, the following formula produces 11 because Excel performs multiplication before addition. The formula multiplies 2 by 3 and then adds 5 to the result.

=5+2*3

In contrast, if you use parentheses to change the syntax, Excel adds 5 and 2 together and then multiplies the result by 3 to produce 21.

=(5+2)*3

In the following example, the parentheses that enclose the first part of the formula force Excel to calculate B4+25 first and then divide the result by the sum of the values in cells D5, E5, and F5.

=(B4+25)/SUM(D5:F5)

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

Ans - The top 5 functions in Excel are:

SUM

AVERAGE

IF

VLOOKUP

COUNT

SUM: Returns the sum of a range of numbers. Syntax: =SUM(number1, [number2, ...])

IF: Returns one value if a condition is true and another value if it's false. Syntax: =IF(condition, value_if_true, value_if_false)

5. When would you use the subtotal function?

Ans- The SUBTOTAL function in Excel is used to perform calculations, such as SUM, AVERAGE, COUNT, MAX, MIN, etc. on a filtered list of data. It is particularly useful when you want to perform calculations on a subset of data that you have filtered, without including the values in hidden rows.

For example, if you have a large data set and you only want to perform a SUM calculation on visible rows, you can use the SUBTOTAL function with the "109" argument to do this. The syntax for the SUBTOTAL function is:

=SUBTOTAL(function_num, range)

Where "function_num" is a number that specifies the type of calculation you want to perform (e.g. SUM = 9, AVERAGE = 1, COUNT = 2, etc.), and "range" is the range of cells you want to perform the calculation on.

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

Ans- The syntax of the VLOOKUP function in Excel is:

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

lookup_value: The value you want to look up in the first column of the table_array.

table_array: The table of data that you want to search for the lookup_value.

col_index_num: The column number in the table_array that contains the return value. For example, if you want to return the value in the second column of the table_array, then the col_index_num would be 2.

[range_lookup]: An optional argument that specifies whether you want an exact match (FALSE) or an approximate match (TRUE). If you omit this argument, the default value is TRUE.

The VLOOKUP function searches the first column of the table_array for the lookup_value. If it finds a match, it returns the value from the specified column (col_index_num) in the same row. If there is no match and range_lookup is set to TRUE, it returns the closest approximate match.

There are four pieces of information that you will need in order to build the VLOOKUP syntax:

The value you want to look up, also called the lookup value.

The range where the lookup value is located. Remember that the lookup value should always be in the first column in the range for VLOOKUP to work correctly. For example, if your lookup value is in cell C2 then your range should start with C.

The column number in the range that contains the return value. For example, if you specify B2:D11 as the range, you should count B as the first column, C as the second, and so on.

Optionally, you can specify TRUE if you want an approximate match or FALSE if you want an exact match of the return value. If you don't specify anything, the default value will always be TRUE or approximate match.

Now put all of the above together as follows:

=VLOOKUP(lookup value, range containing the lookup value, the column number in the range containing the return value, Approximate match (TRUE) or Exact match (FALSE)).

Examples

Here are a few examples of VLOOKUP:

Example 1

	A	B	C	D	E
1	ID	Last name	First name	Title	Birth date
2	101	Davis	Sara	Sales Rep	12/08/68
3	102	Fontana	Olivier	VP (Sales)	02/19/52
4	103	Leal	Karina	Sales Rep	08/30/63
5	104	Patten	Michael	Sales Rep	09/19/58
6	105	Burke	Brian	Sales Manager	03/04/55
7	106	Sousa	Luis	Sales Rep	07/02/63
8					
9					
10	Formula	=VLOOKUP(B3,B2:E7,2,FALSE)			
11	Result	Olivier			
12					

VLOOKUP looks for *Fontana* in the first column (column B) in table_array B2:E7, and returns *Olivier* from the second column (column C) of the table_array. FALSE returns an exact match.

Example 2

	A	B	C	D	E
1	ID	Last name	First name	Title	Birth date
2	101	Davis	Sara	Sales Rep	12/08/68
3	102	Fontana	Olivier	VP (Sales)	02/19/52
4	103	Leal	Karina	Sales Rep	08/30/63
5	104	Patten	Michael	Sales Rep	09/19/58
6	105	Burke	Brian	Sales Manager	03/04/55
7	106	Sousa	Luis	Sales Rep	07/02/63
8					
9					
10	Formula	=VLOOKUP(102,A2:C7,2,FALSE)			
11	Result	Fontana			

VLOOKUP looks for an exact match (FALSE) of the last name for 102 (lookup_value) in the second column (column B) in the A2:C7 range, and returns *Fontana*.

Example 3

	A	B	C	D	E
1	ID	Last name	First name	Title	Birth date
2	101	Davis	Sara	Sales Rep	12/08/68
3	102	Fontana	Olivier	VP (Sales)	02/19/52
4	103	Leal	Karina	Sales Rep	08/30/63
5	104	Patten	Michael	Sales Rep	09/19/58
6	105	Burke	Brian	Sales Manager	03/04/55
7	106	Sousa	Luis	Sales Rep	07/02/63
8					
9					
10	Formula	=IF(VLOOKUP(103,A1:E7,2,FALSE)="Sousa","Located","Not found")			
11	Result	Not found			

IF checks to see if VLOOKUP returns *Sousa* as the last name of employee corresponding to 103 (lookup_value) in A1:E7 (table_array). Because the last name corresponding to 103 is *Leal*, the IF condition is false, and *Not found* is displayed.

Example 4

	A	B	C	D	E
1	ID	Last name	First name	Title	Birth date
2	101	Davis	Sara	Sales Rep	12/08/68
3	102	Fontana	Olivier	VP (Sales)	02/19/52
4	103	Leal	Karina	Sales Rep	08/30/63
5	104	Patten	Michael	Sales Rep	09/19/58
6	105	Burke	Brian	Sales Manager	03/04/55
7	106	Sousa	Luis	Sales Rep	07/02/63
8					
9					
10	Formula	=INT(YEARFRAC(DATE(2014,6,30), VLOOKUP(105,A2:E7,5, FALSE), 1))			
11	Result	59			
12					
13					
14					
15					

VLOOKUP looks for the birth date of the employee corresponding to 105 (lookup_value) in the A2:E7 range (table_array), and returns 03/04/1955. Then, YEARFRAC subtracts this birth date from 2014/6/30 and returns a value, which is then converted by INT to the integer *59*.

Example 5

	A	B	C	D	E
1	ID	Last name	First name	Title	Birth date
2	101	Davis	Sara	Sales Rep	12/08/68
3	102	Fontana	Olivier	VP (Sales)	02/19/52
4	103	Leal	Karina	Sales Rep	08/30/63
5	104	Patten	Michael	Sales Rep	09/19/58
6	105	Burke	Brian	Sales Manager	03/04/55
7	106	Sousa	Luis	Sales Rep	07/02/63
8					
9					
10	Formula	=IF(ISNA(VLOOKUP(105,A2:E7,2,FALSE)) = TRUE, "Employee not found", VLOOKUP(105,A2:E7,2,FALSE))			
11	Result	Burke			
12					
13					
14					

IF checks to see if VLOOKUP returns a value for last name from column B for 105 (lookup_value). If VLOOKUP finds a last name, then IF will display the last name, otherwise IF returns *Employee not found*. ISNA makes sure that if VLOOKUP returns #N/A, then the error is replaced by *Employee not found*, instead of #N/A.

In this example, the return value is *Burke*, which is the last name corresponding to 105.