Excel Assignment #2

Ans.1 – In Excel, a dollar sign ($) can denote a currency format, but it has another common use: Indicating absolute cell references in formulas.

Dollar signs indicating absolute references , you probably know that a formula can refer to cells. That’s one reason Excel formulas are so powerful — the results can change based on changes made in other cells. When a formula refers to a cell, it uses a cell reference. In the “A1” reference style (the default), there are three kinds of cell references: Absolute, Relative, and Mixed.

Ans.2 – 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 (**$**). Then, when you copy the formula **=$B$4\*$C$4** 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:

1. Select the cell that contains the formula.
2. In the formula bar , select the reference that you want to change.
3. Press F4 to switch between the reference types.

Ans.3 – 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.

* **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)**

Ans.4 – Aside from great Excel features such as flash fill, pivot tables, and conditional formatting, Excel also has a lot of powerful functions that will help save time when creating spreadsheets.

So, here are 5 important Excel functions :

**1. The SUM Function**

The *sum* function is the most used function when it comes to computing data on Excel. This function works to sum a group of numbers in a specific set of cells. This means you don’t need to type a long cumbrous formula just to calculate the sum of all the data you need. Because of its popularity, newer versions of Microsoft Excel have a button specifically for this function.

The syntax formula for *sum*function is “=SUM” (number1, number2, etc.).

**2. The TEXT Function**

*Text* function is a useful tool that helps convert a date (or number) into a text string in a particular format. It falls in the category of string formulas that converts numerical values to a string. It is handy when users need to view numeric data in a readable format. Take note that the “TEXT” formula only works to convert numeric values to text. Therefore, its results cannot be calculated.

The syntax formula for *text*function is “=TEXT” (value, format\_text).

**3. The VLOOKUP Function**

*VLOOKUP* is powerful Excel function that is often overlooked. Users will find it useful when they need to find specific data on a large table. You can also use *VLOOKUP*to search for names, phone number, or specific data on your sheet. Instead of manually looking for the names and wasting time scrolling through hundreds of data, the VLOOKUP function makes this process faster and more efficient.

**4. The AVERAGE Function**

The *average* function is an extremely useful tool for getting the average value in a range of cells. Like the *sum*function, it is frequently used in computing and analyzing data on spreadsheet. Basically, the *average* function works to find the “arithmetic mean” for a group of cells. Aside from the *average* function, Excel also has the *median* and *mode* function.

**5. The CONCATENATE Function**

This function is a good time saver when you need to combine data from 2 or more cells. Unlike the merge tool which physically merges two or more cells into a single cell, the *concatenate* function only combines the contents of the combined cells. In the latest version of Excel ( 2016), the *concatenate* function has been replaced with *concat*function and will be incorporated in more future versions of Excel.

Ans.5 –  It is generally easier to create a list with subtotals by using the **Subtotal** command in the **Outline** group on the **Data** tab in the Excel desktop application. Once the subtotal list is created, you can modify it by editing the SUBTOTAL function.

* The SUBTOTAL function is designed for columns of data, or vertical ranges. It is not designed for rows of data, or horizontal ranges. For example, when you subtotal a horizontal range using a function num of 101 or greater, such as SUBTOTAL (109,B2:G2), hiding a column does not affect the subtotal. But, hiding a row in a subtotal of a vertical range does affect the subtotal.
* SUBTOTALS help us to get the totals of several columns of data broken down into variouscategories. For example, let's consider garment products of different sizes manufactured. The SUBTOTAL function will help you to get a count of different sizes in your warehouse.

Syntax

SUBTOTAL(function\_num,ref1,[ref2],...)

Ans.6 – Use VLOOKUP when you need to find things in a table or a range by row. For example, look up a price of an automotive part by the part number, or find an employee name based on their employee ID.

In its simplest form, the VLOOKUP function says: =VLOOKUP (**What you want to look up, where you want to look for it, the column number in the range containing the value to return, return an Approximate or Exact match – indicated as 1/TRUE, or 0/FALSE**).

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The *VLOOKUP*formula is “=VLOOKUP” (lookup\_value, table\_array, col\_index\_num, \*range\_lookup\*).

* “lookup\_value” is the data you want to find.
* “table\_array” is the data column where you want to limit your search.
* “col\_index\_num” is the column number within the table that you want to return a value from.
* “range\_lookup” is an optional argument that allows you to search for the exact match of your lookup value without sorting the table.