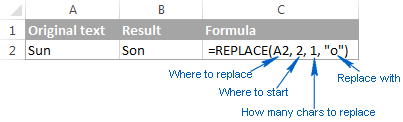
Short Questions

CO1

Q1. How to replace one value with another in MS Excel?

**REPLACE(old\_text, start\_num, num\_chars, new\_text)**

**=REPLACE(A2, 2, 1, "o")**  


Q2. What is Freeze Panes in MS-Excel?

Freeze Panes is a useful tool located in View Bar. In larger sheets, we have the data headers in the top rows and first columns. And on scrolling down or to the right, these headers do not appear.

The Excel Freeze Panes tool allows us to freeze the column/row or multiple columns/rows headings so that when we scroll down or move to the right to view the rest of the sheet, the rows/columns are that are frozen remain on the screen.

Q3. How is sorting different from filtering in MS excel?

(i) Sorting means to arrange data in a particular order which could be ascending or descending order.  
For example, sorting a list of names of students alphabetically or marks in descending order from the highest to the lowest.  
  
(ii) Filtering is a quick and efficient method where you display only that data that meets a given criteria. Ms excel uses two types of filtering methods, that is, Auto filter and Advanced filter.

Q4. Can you protect cells of a sheet from being copied? If yes, then write steps.

Yes, it is possible. In order to protect your worksheet from getting copied, you need to go into Menu bar >Review > Protect sheet > Password

CO2

1)Which function is used in excel to determine the current date?

**=TODAY()**

2. Explain the sum function with suitable example.

**=SUM(A2:A10)** Adds the values in cells A2:10.

3. Which formula you will prefer to count the no. of students present in class. Show.

 =COUNT()

4.Explain the MID function using an example.

The Excel MID function extracts a given number of characters from the middle of a supplied text string. For example, =MID("apple",2,3) returns "ppl".

CO3 , CO4

1. What do you mean by visualization?

**Data Visualization**is the representation of data in a graphical format. It makes the data easier to understand. Data Visualization can be done using tools like Tableau, Google charts, DataWrapper, and many more

2. Name different data sources supported by Tableau.

* **File Systems** such as CSV, Excel, etc.
* **Relational Systems** such as Oracle, Sql Server, DB2, etc.
* **Cloud Systems** such as Windows Azure, Google BigQuery, etc.
* **Other Sources** using ODBC

3. Explain advantages of data visualization?

**quick, clear understanding of the information**

**identify emerging trends and act quickly based on what we see**.

**identify relationships and patterns within digital assets,**

**can share our story with others**

**analysis at various levels of detail**.

4. Differentiate bar chart and line chart.

**Line Graph**

(i) A smooth line drawn, joining points achieved from the Y- axis and X-axis representing value and time respectively.

(ii) It is a continuous line.

(iii) It is qualitative.

(iv) It is drawn to represent pro­duction of crops, temperature and population, etc.

**Bar Graph**

(i) Vertical or horizontal elon­gated rectangular columns are drawn. They are of uniform width, and are equidistant to each other. The length of the bar is proportional to the value it represents.

(ii) The bars are discreet.

(iii) It is quantitative.

(iv) It represents rainfall, imports and exports, etc.

5. How to connect a worksheet for visualization? Explain.

**Steps for visualizing data in Excel:**

* Open the Excel Spreadsheet and enter the data or select the data you want to visualize.
* Click on the Insert tab and select the chart from the list of charts available or the shortcut key for creating chart is by simply selecting a cell in the Excel data and press the **F11 function key**.
* A chart with the data entered in the excel sheet is obtained.
* You can design and style your chart with different types of styles and colors by selecting the design tab.
* In Excel 2010, the design tab option is visible by clicking on the chart.

1)What is Tableau?

**Tableau** is a powerful and fastest growing data visualization tool used in the Business Intelligence Industry.

It helps in simplifying raw data in a very easily understandable format. Tableau helps create the data that can be understood by professionals at any level in an organization. It also allows non-technical users to create customized dashboards.

Data analysis is very fast with Tableau tool and the visualizations created are in the form of dashboards and worksheets.

2) Explain Measure?

*Measures* contain numeric, quantitative values that you can measure. Measures can be aggregated. When you drag a measure into the view, Tableau applies an aggregation to that measure (by default).

3)Explain Dimension?

*Dimensions* contain qualitative values (such as names, dates, or geographical data). You can use dimensions to categorize, segment, and reveal the details in your data. Dimensions affect the level of detail in the view.

4. Differentiate .twb and .twbx extension?

Tableau Workbook File (TWB) is an XML document. It contains the information about your sheets, dashboards and stories. The TWB file references a data source file such as Excel or TDE, and when you save the TWB file, it is linked to the source.

Tableau Packaged Workbook (TWBX) is a package of files “compressed” together. It includes a data source file, TWB, and any other file used to produce the workbook (including images).

5. What are the different types of joins in Tableau?

|  |  |
| --- | --- |
| **Join Type** | **Result** |
| Inner | When you use an inner join to combine tables, the result is a table that contains values that have matches in both tables.  When a value doesn't match across both tables, it is dropped entirely. |
| Left | When you use a left join to combine tables, the result is a table that contains all values from the left table and corresponding matches from the right table.  When a value in the left table doesn't have a corresponding match in the right table, you see a null value in the data grid. |
| Right | When you use a right join to combine tables, the result is a table that contains all values from the right table and corresponding matches from the left table.  When a value in the right table doesn't have a corresponding match in the left table, you see a null value in the data grid. |
| Full outer | When you use a full outer join to combine tables, the result is a table that contains all values from both tables.  When a value from either table doesn't have a match with the other table, you see a null value in the data grid. |
| *Union* | Though union is not a type of join, union is another method for combining two or more tables by appending rows of data from one table to another. Ideally, the tables that you union have the same number of fields, and those fields have matching names and data types. For more information about union, see [Union Your Data](https://help.tableau.com/current/pro/desktop/en-us/union.htm). |

1.What is histogram and why it is used?

A histogram is the most commonly used graph to show frequency distributions. It looks very much like a bar chart

Use a histogram when:

* The data are numerical
* You want to see the shape of the data’s distribution, especially when determining whether the output of a process is distributed approximately normally
* Analyzing whether a process can meet the customer’s requirements
* Analyzing what the output from a supplier’s process looks like
* Seeing whether a process change has occurred from one time period to another
* Determining whether the outputs of two or more processes are different
* You wish to communicate the distribution of data quickly and easily to others

**Q)what do you understand by interval in case of moving average and what role does it play?**

Moving averages are a common way for technical traders to begin the process of price analysis. It is often one of the first indicators that traders will add to their charts and will serve as a measure on its own or in comparison with other indicators.

A moving average is the average price of a futures contract or stock over a set period of time. Traders can add just one moving average or have many different time frames on one chart.

2.What are bins in context to histogram in Excel?

A histogram is used to summarize discrete or continuous data. In other words, it provides a [visual interpretation](https://corporatefinanceinstitute.com/resources/knowledge/other/data-presentation-guide/)of numerical data by showing the number of data points that fall within a specified range of values (called “bins”). It is similar to a vertical bar graph. However, a histogram, unlike a vertical bar graph, shows no gaps between the bars.

3.What are statistical function available in MS Excel?

COUNT function, COUNTA function, COUNTBLANK function, COUNTIF

**Q1. Examine the Use of Scatter Plots in Tableau.**

The scatter plot is a visualization used to compare two measures. Scatter plots offer a good way to do ad hoc analysis.

A scatter plot (aka scatter chart, scatter graph) uses dots to represent values for two different numeric variables. The position of each dot on the horizontal and vertical axis indicates values for an individual data point. Scatter plots are used to observe relationships between variables.

Scatter plots’ primary uses are to observe and show relationships between two numeric variables.

Q2. What types of data does a Scatter Plot require in Tableau?

numeric

Q3. Examine the use of Graphs in Tableau.

Today, you have a lot of data and even more questions about it. You know there’s a chart or graph out there that will show you the data you want to see, but it’s not always easy knowing which chart or graph is best without some trial and error.

Q4. What type of Graphs can be created using Tableau?

* + [Bar Charts](https://www.edureka.co/blog/tableau-charts/#BarCharts)
  + [Line Charts](https://www.edureka.co/blog/tableau-charts/#LineCharts)
  + [Pareto Charts](https://www.edureka.co/blog/tableau-charts/#ParetoCharts)
  + [Area Charts](https://www.edureka.co/blog/tableau-charts/#AreaCharts)
  + [Histograms](https://www.edureka.co/blog/tableau-charts/#Histograms)
  + [Pie Charts](https://www.edureka.co/blog/tableau-charts/#PieCharts)
  + [Tree Maps](https://www.edureka.co/blog/tableau-charts/#TreeMaps)
  + [Scatter Plots](https://www.edureka.co/blog/tableau-charts/#ScatterPlots)
  + [Bubble Charts](https://www.edureka.co/blog/tableau-charts/#BubbleCharts)
  + [Heat Maps](https://www.edureka.co/blog/tableau-charts/#HeatMaps)
  + [Maps](https://www.edureka.co/blog/tableau-charts/#Maps)
  + [Bullet Charts](https://www.edureka.co/blog/tableau-charts/#BulletCharts)
  + [Gantt Charts](https://www.edureka.co/blog/tableau-charts/#GanttCharts)
  + [Box and Whisker Plots](https://www.edureka.co/blog/tableau-charts/#BoxAndWhiskerPlots)
  + [Waterfall Charts](https://www.edureka.co/blog/tableau-charts/#WaterfallCharts)
  + [Motion Charts](https://www.edureka.co/blog/tableau-charts/#MotionCharts)

1.Explain Linear regression equation.

**regression analysis** is used to estimate the relationships between two or more variables:

Linear regression equation

Mathematically, a linear regression is defined by this equation:

**y = bx + a + ε**

Where:

* *x* is an independent variable.
* *y* is a dependent variable.
* *a*is the *Y-intercept*, which is the expected mean value of *y* when all *x* variables are equal to 0. On a regression graph, it's the point where the line crosses the Y axis.
* b is the *slope* of a regression line, which is the rate of change for *y* as *x* changes.
* *ε* is the random error term, which is the difference between the actual value of a dependent variable and its predicted value.

*Q)correalation*

 tells you how strongly two variables are related to each other

Q)regrestion

[Regression analysis](https://statisticsbyjim.com/glossary/regression-analysis/) describes the relationships between a set of independent variables and the dependent variable. It produces an equation where the [coefficients](https://statisticsbyjim.com/glossary/regression-coefficient/) represent the relationship between each independent variable and the dependent variable. You can also use the equation to make predictions.