1. What is Data?

Data is a collection of individual facts or statistics, and it can come in the form of text, observations, figures, images, numbers, graphs, or symbols.

1. What is Information?

Information is the result of analyzing and interpreting pieces of data.

1. What is Database (DB)?

A database is an organized collection of data stored on a computer.

1. What is the Relation Database Management System (RDBMS)?

A Relation Database Management System is a program that manages a relational database. It is a set of smaller programs designed to work together, allowing the developer to store, access, and modify data in tables.

1. Define the importance of Relation Database Management System (RDBMS)?

The importance of Relation Database Management System (RDBMS) cab be discussed briefly as;

* Simplicity of Model - it is much simpler to use in contrast to other database models.
* Ease of Use - users can easily access/ retrieve the required information within seconds.
* Accuracy - it is strictly defined and well organized, so data doesn’t get duplicated.
* Data Integrity - it is widely used for data integrity as it provides consistency across all tables.
* Normalization - RDBMS breaks down information into manageable chunks to reduce storage size.
* Collaboration – multiple users can access the database to retrieve information at the same time and even if data is being updated.
* Security – it is secure as no unauthorized user can’t access the information.

1. As we all know that there are Two types of Databases. Relational Database (SQL) AND Non-Relational DB (NO SQL). What is the difference between them?

Relational Database (SQL) stores information in tables, which you can think of as storage containers for the data. However Non Relational Database does not store and organize data in a tabular format, instead, data is stored in collections.

1. List examples of Relation Database Management System (RDBMS)?

* PostgreSQL
* Microsoft SQL Server
* MySQL
* Oracle
* SQLite

1. List examples of Non-Relational DB(NoSQL)?

* MongoDB
* Redis
* Apache Cassandra
* Google Cloud Bigtable
* Amazon DynamoDB.

1. Define and Describe is Structured Query Language (SQL)?

Structured Query Language (SQL) is a standard database language designed for managing data held in a relational database management system that consists of tables made up of rows and columns. It can manage several data transactions simultaneously where large volumes of data are written concurrently.

1. List and describe each of the different subsets of SQL (Mean DDL, DML, DCL, TCL)?

The various subsets of SQL are as follows:

* DDL (Data Definition Language) – It allows you to perform various operations on the database such as CREATE, ALTER and DELETE objects.
* DML (Data Manipulation Language) – It allows you to access and manipulate data. It helps you to insert, update, delete and retrieve data from the database.
* DCL (Data Control Language) – It allows you to control access to the database. Example: Grant, Revoke access permissions.
* TCL (Transaction Control Language) is a set of commands that perform a specific task on objects in a single unit of execution. So, TCL commands deals with transactions in database.

1. What is table in Database (DB)?

Tables are database objects that contain all the data in a database. In tables, data is logically organized in a row and column format.

1. what is column and Row(tuples) in table?

row is a series of data put out horizontally in a table while a column is a vertical series of cells in a table.