1. **What is Data?**

Data is a collection of facts or statistics. It can be quantitative (numbers) or qualitative (words, images, sounds)

1. **What is Information?**

Information is a collection of data that has been processed and organized in a way that is meaningful to the recipient.

1. **What is Database (DB)?**

A database is an organized collection of data, typically stored electronically in a computer system. It is usually controlled by a database management system (DBMS), which provides users with a way to create, read, update, and delete data in the database.

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

A relational database management system (RDBMS) is a software application that organizes data in tables made up of rows and columns. Each row represents a single record, and each column represents a single attribute of that record. RDBMSs use a standard language called SQL (Structured Query Language) to access and manipulate data in the database.

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

Relational database management systems (RDBMSs) are important because they provide a reliable, scalable, and secure way to store, manage, and access data.

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

The main difference between relational databases (SQL) and non-relational databases (NoSQL) is the way they store and organize data.

**Relational databases** store data in tables with rows and columns. Each row represents a single record, and each column represents a single attribute of that record. Relational databases are good for storing and managing structured data, such as customer information, product information, financial data, and inventory data.

**Non-relational databases** use a variety of data models, such as key-value, document, column family, and graph. NoSQL databases are good for storing and managing semi-structured and unstructured data.

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

* MySQL
* PostgreSQL
* Oracle Database
* Microsoft SQL Server
* MariaDB
* Amazon Aurora
* IBM DB2
* SAP HANA
* Exadata Database Machine
* Google Cloud SQL
* Azure SQL Database
* Amazon Relational Database Service (RDS)

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

* Key-value stores: Redis, Memcached, DynamoDB
* Document databases: MongoDB, CouchDB, Elasticsearch
* Column family databases: Apache Cassandra, HBase
* Graph databases: Neo4j, OrientDB, ArangoDB

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

Structured Query Language (SQL) is a programming language that is used to communicate with and manipulate data in a relational database management system (RDBMS). It is the most widely used database language in the world.

SQL is used to perform a variety of tasks on databases, such as:

* Creating and modifying databases and tables
* Inserting, updating, and deleting data
* Querying data
* Controlling user access to data

SQL is a declarative language, which means that it tells the database what you want to do, but not how to do it. The database optimizer is responsible for choosing the most efficient way to execute your SQL statements.

SQL is a powerful and versatile language that can be used to perform a wide range of tasks on relational databases. It is an essential skill for anyone who works with data.

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

**DDL (Data Definition Language)**: DDL is used to create and modify database objects, such as tables, views, and indexes.

**DML (Data Manipulation Language)**: DML is used to insert, update, and delete data in database tables.

**DCL (Data Control Language)**: DCL is used to grant and revoke permissions to database objects.

**TCL (Transaction Control Language)**: TCL is used to manage transactions, which are a group of related database operations that must be executed as a single unit.

1. **What is table in Database(DB)?**

A table in a database is a collection of related data that is organized in rows and columns. Each row represents a single record, and each column represents a single attribute of that record.

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

**Columns** in a table represent the different attributes of the data being stored.

**Row(Tuples)** in a table represent the individual records of data. Each tuple is a row in the table, and it contains the values for all of the columns in the table.