**Data:** Statistics or other information represented in a form that can be processed by computers.

**Database:** It is a collection of logically related information.

**DBMS:** The database management systems is a set of applications which provide us with a way to store, retrieve and manipulate the data from database effectively and in a secure way. In simple terms DBMS is a computerized data keeping system.

Types of DBMS:

* Hierarchical DBMS (tree-like structed information example: IBM’s Information Management System)
* Relational DBMS (data organized in tables example: MySQL, Oracle and Microsoft SQL Server)
* Object-oriented DBMS (MongoDB and Apache Cassandra)
* NoSQL DBMS (MongoDB and Apache Cassandra)

**Note:** When mentioning advantages or disadvantages of DBMS, compare it with file system. Do not directly jump into RDBMS (tables), try to cover each type of DBMS mentioned above.

**Advantages of DBMS:**

1. Controls database redundancy: All the data is stored in one place, and that recorded in the database and hence controls the redundancy in the database.
2. Data sharing: DBMS allows users with authority to share the data in the database with multiple users.
3. Backup: It automatically backs up data to maintain its integrity in case of failure.

**Disadvantages of DBMS:**

1. Cost of software and hardware: It requires a number of high powered processors and large size memory to run DBMS.
2. Complexity: DBMS adds an additional layer of complexity to the data.

**RDBMS:** It is a type of DBMS in which data is stored in from of tables and the relationship among the data is also stored in the form of tables.

Advantages of a RDBMS:

1. Reduced Data Redundancy
2. Reduced risk of Data Inconsistency
3. Provides Data Consistency
4. Data Backup and Recovery mechanism
5. Authorized Data Access

**SQL vs MySQL**

**SQL:** Structured Query Language is designed specifically for interacting with relational databases.

SQL is a language for storing, manipulating, and retrieving data in relational database management systems. You can use the SQL language to modify and create tables in the database, insert new data, modify existing data, delete data from the tables, and query those tables for specific information.

**MySQL:** MySQL is a RDBMS technology. SQL is the default query language used by MySQL.

**Types of database languages:** The database language SQL, which is the standard programming language for many databases, comprises of sublanguages that serve different functions to execute a task.

**DQL:** Select

**DDL:** Create, Drop, Alter, Truncate

**DML:** Insert, Update, Delete

**TCL:** Commit, Rollback, Savepoint

**DCL:** Grant, Revoke