\* SQL(Structured Query Language)

A database is a structured collection of data that can be accessed and managed easily.

\* Why we need database?

1. Data Redudancy and incosistency

2. Data Security

3. Limited data

4. Security and Integrity issues

\* Features of SQL

1. Popular and in demand technology

2. Manages and retrives data from database

3. Structured and flexible query usage

\* How SQL works?

USER --SQL Query--> Database Server --Processing--> Data Found

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SQL Engine

\* Types of SQL Commands

1. Data Definition Language (DDL)

a. CREATE

b. ALTER

c. DROP

d. TRUNCATE

2. Data Manipulation Language (DML)

a. SELECT

b. UPDATE

c. DELETE

d. INSERT

3. Data Control Language (DCL)

a. GRANT

b. REVOKE

4. Transaction Control Language (TCL)

a. COMMIT

b. ROLLBACK

c. SAVEPOINT

\* Advantages of SQL

1. High speed and fast query processing.

2. Allows multiple views.

3. Open source.

4. Efficient and Portable.

\* Disadvantages of SQL

1. Complex Interface.

2. High Operating Cost.

3. High Maintainance.

\* Applications of SQL

1. Education

2. Healthcare

3. Retail and E-Commerce

4. Banking

5. Fianace

\* Conclusions of SQL

1. Language to operate database.

2. Simple and easy to learn.

3. Minimum Coding.

\* Why we need DBMS

1. To eliminate the drawbacks of traditional file systems.

2. Effective storage and management of database.

3. Efficiency in handling high volume databases.

\* Components of DBMS

1. Data

2. Hardware

3. Software

4. User Access

5. Procedure

\* Levels of DBMS Architecture

1. User/ External Level

2. Logical/ Conceptual Level

3. Physical/ Internal Level