Database

What is DBMS?

Structuring(where redundancy can be avoided)/ **Organisation** / **Management** / **Storage** of data(raw info) so that it is easy to use information by multiple users.

Oracle DB Sever

Software availables for Databsae Management System

- RDBMS - Relational DBMS
    - Codd rules [12 rules]
    - DBMS with tables
    - Ex ⇒ Oracle, MySQL, PostgreSQL, IBMDB2, Microsoft SQL server, Microsoft Azure + 370 or more
- NoSQL
    - Document Oriented [JSON]
        - Ex ⇒ MongoDB
    - White column store [key:value]
        - Ex ⇒ Apache Cassendra
    - Graph DB[Mesh nodes]
        - Ex ⇒ Arango DB,Dgraph.

Hash map

key:[multiple values]

Multiple data can be accessed using a single key.

Ex ⇒ student PRN is key and student information is value[Name, Contact details, Address].

Live SQL website

livesql

SQL → Structured QUERY Language.

ANSII - template.[Standard like IEEE or POSIX]

- DDL - Data Defination Language
    - CREATE TABLE - Used to create a table
    - ALTER - Used to modify column data or data type
        - Add/ Remove/ Rename/ Modify datatype column
    - DROP TABLE - Used to delete a table

- RENAME TABLE - Used to rename a table
- TRUNCATE TABLE - Used to delete a table permanently
- COMMENT - Used to add comments to table and column
  - Table
  - Column
- DML - Data Manipulation Language
  - INSERT - Used to insert a data in a row[No bulk insertion, only single row insertion]
  - UPDATE - Used to update a data
  - DELETE - Used to delete a data
  - MERGE - Used to merge a table into another
    - INSERT - Insert if not available
    - UPDATE - Insert if available
- DCL - Data Control Language
  - GRANT - Grant permission to user to access or edit a schema or a table.
  - REVOKE - Revoke granted permission to user to access or edit a schema or a table.
- DQL - Data Query Language
  - SELECT - Used to select a particular or a group of rows.
- TCL - Transaction Control Language
  - SAVE POINT - Used to save a
  - ROLL BACK - Just like UNDO
  - COMMIT - Commit all changes

Integrity Constants

- Primary Key - It is unique and not null value used to access data from a row.
- Foreign key - Primary key of another table.
- Not null - Can not be empty nor 'null' keyword.
- Unique - Must be unique data.
- Check - Checks whether given condition is satisfied or not.