

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 Cassandra
 - Graph DB[Mesh nodes]
 - Ex ⇒ Arango DB,Dgraph.
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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
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Integrity Constraints

- 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.
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