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## Database & SQL

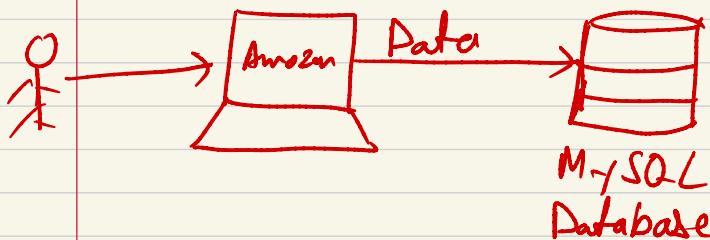
Database → It is an organized collection of data.

Database Types → RDBMS (Relational Database Management System)      NoSQL

RDBMS → Relational Database Management System

↳ Those type of software applications which helps to store & manipulate data.

Common RDBMS : MySQL, PostgreSQL, MSServer, DB2, Oracle

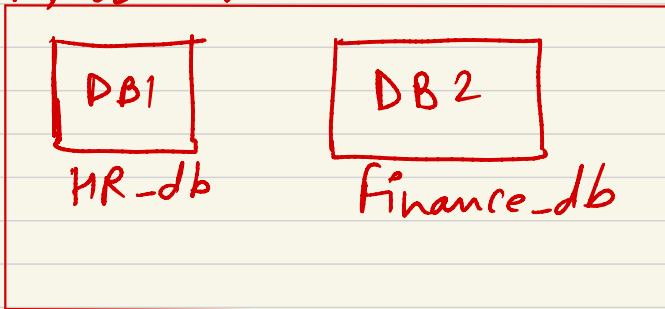


MySQL Workbench

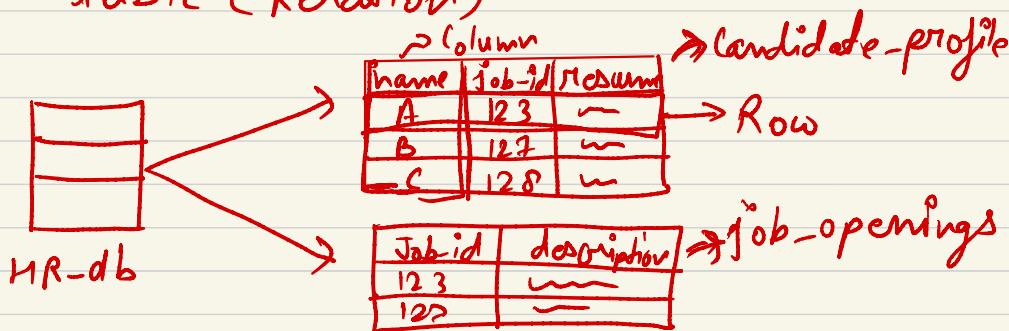


# Components of RDBMS ( MySQL )

MySQL Server



- In one MySQL Server we can have multiple databases.
- Each database can have multiple tables (Relation)



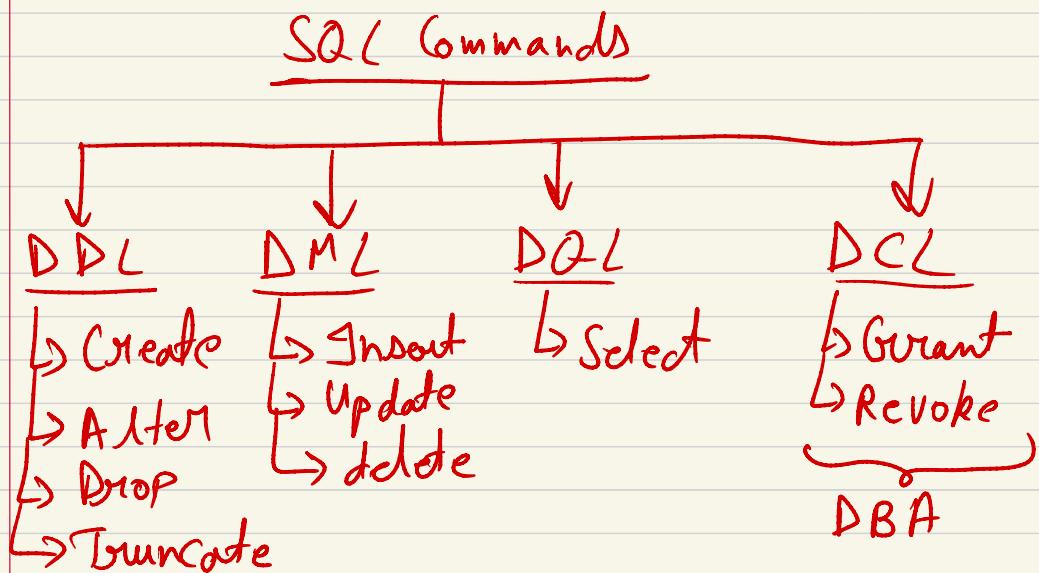
- Table: If it is made of Rows & Columns.

SQL: Structured Query Language

SQL have different set of commands,

functions and methods to manipulate data. SQL Command Category:

- DDL (Data definition Language)
- DML (Data manipulation language)
- DQL (Data Query Language)
- DCL (Data Control Language)



## Data Types in MySQL

- CHAR (size) → Storing Type of data
- VARCHAR (size)
- INT { only Integer }

- FLOAT
- DOUBLE
- BOOLEAN

## Integrity Constraints in SQL

- NOT NULL
- Check
- Default
- UNIQUE (it works like PK but it can have null as well)
- Primary Key
- Foreign Key

PK → emp-id  
 FK → dept-id

empid	name	dept-id
100	X	11
200	Y	12
300	Z	13
400	A	14

→ employee

PK → dept-id

dept-id	dept-name
11	HR
12	IT
13	Finance

→ department

x) Primary Key : Attribute / Column which uniquely identifies a record in a table.

→ In a table we can not define more than one primary key.

→ It can't be NULL.

Foreign Key : A reference to a column which is the primary key of another table.

→ In a table we can have more than 1 foreign keys.