SQL Ch1: RDBMS Concepts

FSN

- **Database** is the place of storage of data in form of tables
  → it is also collection of 1/more table

Data - information which is useful.

Table - Collection of rows & columns
→ also Entity, Relation

cell - intersection of row & colum

Column - field / attribute

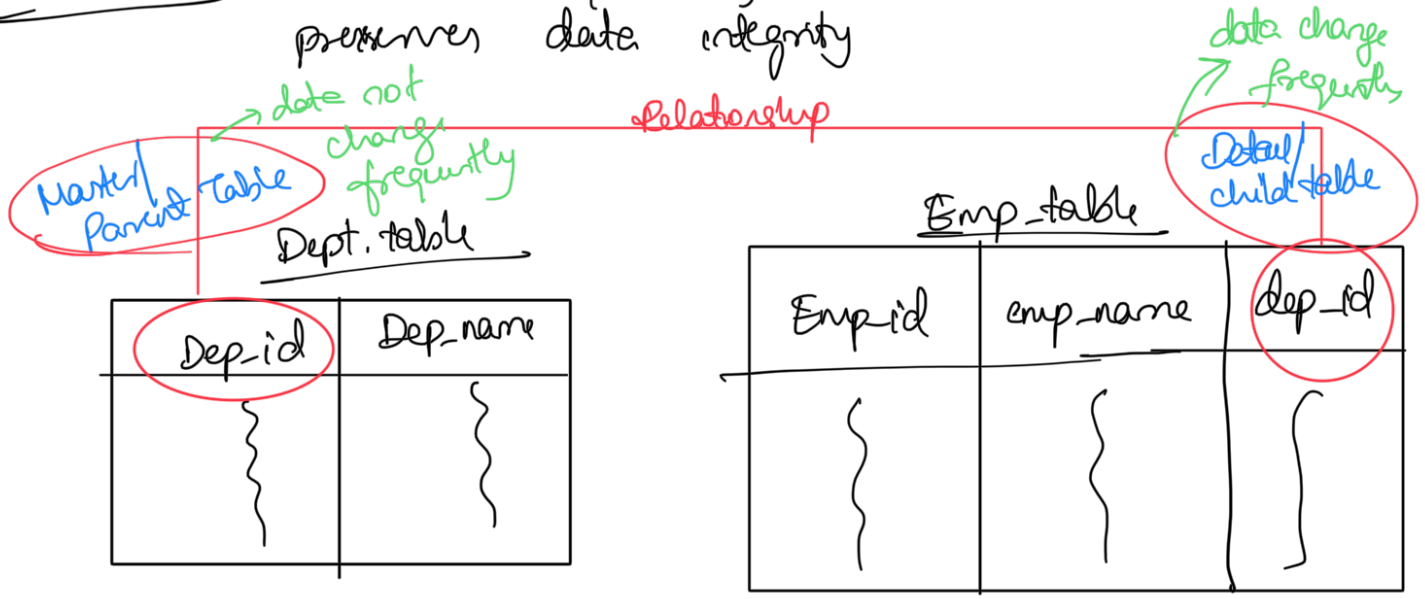
Record - row / tuple

Database can also contain Tables + Views, Indexes, Stored Procedure, Functions, Triggers.

Database Softwares
↳ oracle, SQL server, IBM dB2, MySQL, ...

latest
oracle 21g

Relationship - association b/w any 2 tables tables which preserves data integrity



- R - prevents duplicate records & incorrect data in child table
- whatever we insert to child should be present in parent table

DBMS & RDBMS

DBMS	RDBMS
- DBMS Database Management System	RDBMS Relational DBMS
- database s/w which allows us to store data in form of Table.	- database s/w which has facility to handle more data volume, good performance, enhanced security features etc when compared against DBMS - Any DBMS to qualify as RDBMS should support Codd Rules
Ex: FoxPro, Dbase	Oracle, DB2, SQL Server, MySQL

CONSTRAINTS

- condition to restrict invalid data in the table
- usually for colums of a table

Type of Constraints

- NOT NULL
- Unique
- Primary Key (PK)

NU | PFC

- Foreign Key (FK)
- Check

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① **NOT NULL** → ensure atleast some value will be present in a column

Ex: dept_name

NULL is nothing
not ~~zero~~ not ~~blank space~~
- not occupy any space in memory
- represents unknown value

② **UNIQUE**

- not allow any duplicates in a column.

Ex: emp_id.

- Unique can take multiple nulls, unless its primary key

Ex: ph_numb

Primary Key =
- combination of **NOT NULL** + **UNIQUE**
- only 1 PK is allowed in a table
- PK identifies a record uniquely in a table
- creation of PK is not mandatory, but it is highly recomended, to create. Ex: emp_id

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FOREIGN KEY / REFERENTIAL Integrity Constraints
- creates relationship b/w 2 tables.
- created on child table
- can take both NULL & duplicate values,
- to create FK, master table should have PK defined on common column of master table,
- more than 1 FK can be in a given table

ex: dept_id in emp table

CHECK
- to provide additional validations as per

customer requirement

ex: sal > 1000