

Types of Data bases :-

① Relational (RDBMS)

Stores data in tables.

Eg - MySQL, Oracle, PostgreSQL

② Non-Relational (NoSQL)

Data Not Stored in tables

Eg - MongoDB

→ SQL

Use to interact with RDBMS.

It is used to perform CRUD operation:

C reate

R ead

U pdate

D elete

One database can have multiple tables in it.

Example of table:-

Student table

RollNo	Name	Class	DOB	Gender	City	Marks
1	Nanda	X	1995-06-06	M	Agra	551
2	Saurabh	XII	1993-05-07	M	Mumbai	462
3	Sonal	XI	1994-05-06	F	Delhi	400
4	Trisla	XII	1995-08-08	F	Mumbai	450
5	Store	XII	1995-10-08	M	Delhi	369
6	Marisla	XI	1994-12-12	F	Dubai	250
7	Neha	X	1995-12-08	F	Moscow	377
8	Nishant	X	1995-06-12	M	Moscow	489

8	Nishant	X	1995-06-12	M	Moscow	489
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Column \rightarrow design / Schema / Structure

row \rightarrow individual data.

* Types of SQL Command -

DDL (Data Definition Language): Create, alter, rename, truncate & drop

DQL (Data Query language): Select

DML (Data Manipulation Language): insert, update, delete

DCL (Data Control Language): grant & revoke permission to user

TCL (Transaction Control language): Commit, roll back, start transaction

* \rightarrow Keys:-

Primary Key -

- a unique id
- Only 1 PK exists for a particular table.
- PK can't be NULL.

Foreign Key-

- used to refer to the PK of another table
- Can be multiple FK.
-

→ Constraints for Data -

① Not NULL

② Unique

③ Primary Key Combination of unique and Not NULL

↳ Can be Combination of two Col.
Individual Col can have duplicate
values But the combination of cols
must be unique.

```
CREATE TABLE temp1 (  
  id INT,  
  name VARCHAR(50),  
  age INT,  
  city VARCHAR(20),  
  PRIMARY KEY (id, name)  
);
```

④ Foreign Key

```
> Run | New Tab  
CREATE TABLE temp (  
  cust_id int,  
  FOREIGN KEY (cust_id) references customer(id)  
);
```

reference table-name
temp table Col name
PK name of reference table

⑤ Default used to set Default value for a Col.

⑥ Check limit the values allows into the Column.

```
▷ Run | New Tab | Copy
CREATE TABLE city (
  id INT PRIMARY KEY,
  city VARCHAR(50),
  age INT,
  CONSTRAINT age_check CHECK (age >= 18 AND city="Delhi")
);
```

```
▷ Run | New Tab
CREATE TABLE newTab (
  age INT CHECK (age >= 18),
);
```

⑦ Aggregate Function

Count()

Max()

Min()

Sum()

Avg()

⑧ where applied on rows

⑨ Having groups

Note :- General Order of SQL -

- Select
- FROM
- WHERE
- GROUP BY
- HAVING
- ORDER BY

▷ Run | New Tab |  Active Connection

CREATE DATABASE temp1; used to create Database

▷ Run | New Tab

DROP DATABASE temp1; used to delete Database

▷ Run | New Tab

USE college; → target Database, to use

▷ Run | New Tab | Copy

CREATE Table student;

id INT PRIMARY KEY, 'id' is Primary Key for the table

name VARCHAR(50), 'name' is a str/char type data, which has max length of 50 &

age INT NOT NULL, 'age' is a int type variable, can't be NULL. Can be NULL

);

▷ Run | New Tab
INSERT INTO student **VALUES** (1, "Priyanshu", 23);

▷ Run | New Tab

INSERT INTO student **VALUES** (2, "Priyanshu", 23); } used to add entry into the table

▷ Run | New Tab | JSON

SELECT * FROM student; } display the whole Schema for student.

▷ Run | New Tab

DROP TABLE student; } used to drop student table.

▷ Run | New Tab

INSERT INTO student (**rollno**, **name**) **VALUES** (2, "Aman"), (3, "naman"); used to insert multiple rows.

▷ Run | New Tab

CREATE DATABASE IF NOT EXISTS college;

will only create if table doesn't exist else gives warning.