

SQL

Database → collection of related information

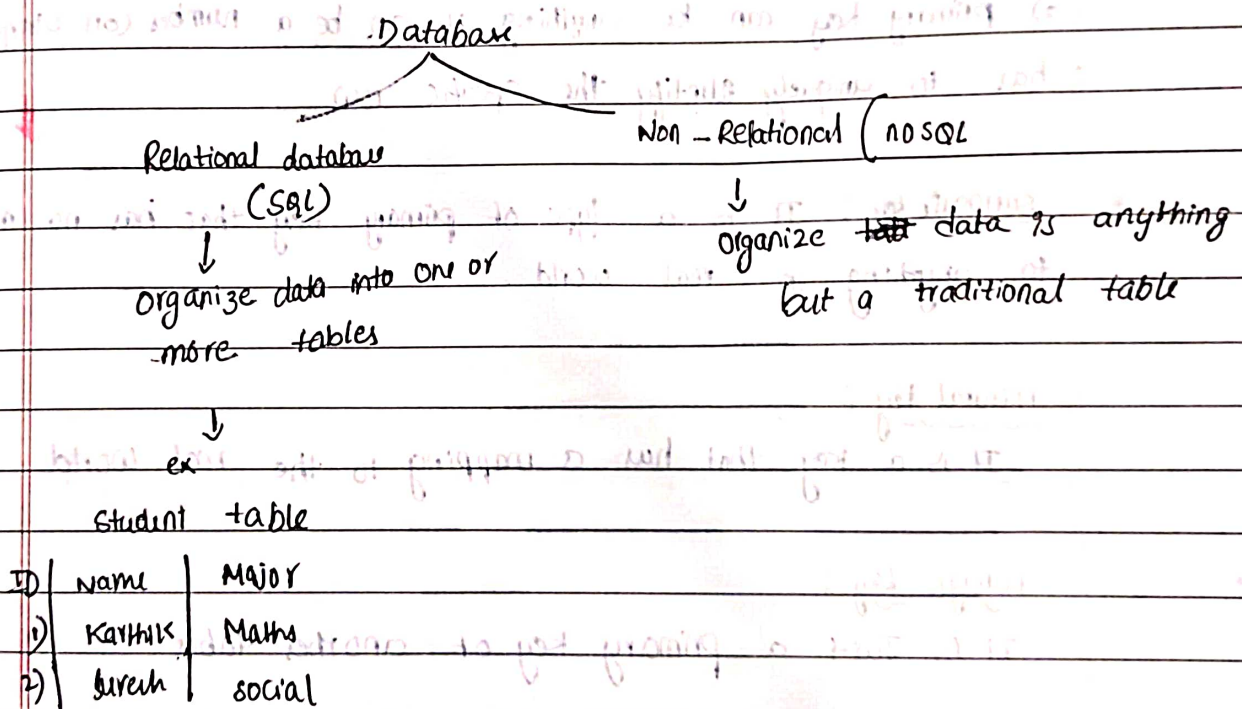
ex: - Amazon → shopping list

DBMS → Database management system

→ A special software that helps user create and maintain database.

- ex: -
- 1) handles security → [making passwords to make it usable to certain people]
 - 2) Manage large amount of information
 - 3) Import and export data

CRUD → Create Read update Delete



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Relational Database (SQL)

① Relational Database management system (RDBMS)

→ Helps to Create and maintain a relational database

ex: - mysql, Oracle, PostgreSQL

SQL → Structured Query Language.

- ↳ standardized language for interacting with RDBMS
- ↳ used to perform CRUD operations
- ↳ used to define tables and structure
- ↳ Perform administration tasks

SQL

Tables and keys

① Column represent a single attribute.

② row represent an entry.

- 1) Primary key is an attribute which uniquely defines the row in the database.
- 2) Primary key can be anything it can be a number or string but it has to uniquely identify the specific row.

* Surrogate key: It is a type of primary key that has no mapping to anything in real world.

Natural key:

It is a key that has a mapping to the real world.

Foreign key:

It is just a primary key of another table.

Structured Query language:

It is a hybrid language mixture of 4 different languages into one known as SQL.

① Data Query language: It is used to query the database for information.

② Data Definition language: used for controlling access to the data in database.

- iii) Data Definition language : used for defining database schema
 iv) Data Manipulation language : used for inserting, updating and deleting data from database.

These languages are the four types of operation performed by SQL

Datatypes

INT — whole numbers

VARCHAR — string^{of} length (-)

Decimal (M,N) → M → no of digits n → no of digits after decimal point

BLOB → Stores binary data

Date → YYYY-MM-DD

TIME STAMP — YYYY-MM-DD HH:MM:SS

TABLES:-

1) we use CREATE TABLE keyword to create table and to get information about that table we use ~~describe~~ DESCRIBE keyword

2) To delete table we use drop-table keyword with all high key.

3) we can modify the table by using ALTER keyword.

4) To insert data into table we use INSERT INTO name of table

VALUES(); syntax

5) To get all the information from the table we use

SELECT * FROM ^{Table Name} → syntax

NOT NULL : It is a keyword used for column such that value in that column can't be null

UNIQUE : It is a keyword used for column such that for each row in that table shouldn't have same value

* We can update and delete information from the table by using the keywords **UPDATE** and **DELETE**.

Steps:

- 1) **SELECT** * FROM student \rightarrow (table created.)
- 2) **UPDATE** student
SET major = 'undecided'
WHERE major = 'sai123';
- 3) **DELETE** from student WHERE student.id = 5;

Queries:

- 1) **SELECT** keyword is very special keyword - It is going to tell the relational data base management system that we want to get some information from it.
- 2) we use asterisk keyword or symbol (*) to grab all information.
- 3) From keyword is used to get information from specific table.
- 4) We can replace asterisk with column name to get information about that particular problem.