

a table is rows and columns, a query is how you ask it a question

Database, DBMS and RDBMS

- a database is an organised collection of related data, stored so it can be found and updated easily
- a DBMS, database management system, is the software that creates, reads, updates and deletes that data on request
- an RDBMS, relational DBMS, stores data as tables made of rows and columns, and MySQL is one example of it
- a table's row is called a tuple or a record, its column is called an attribute or a field

Choosing keys for a table

- a candidate key is any column, or set of columns, whose values never repeat, it could work as the identifier
- the primary key is the one candidate key actually chosen to identify each row, it can never be left blank
- every candidate key not chosen as primary becomes an alternate key
- a foreign key is a column in one table that points to the primary key of another, it is how two tables get linked

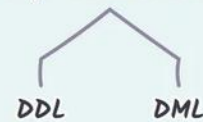


Four kinds of key branching from one root, every one of them a column or a set of columns that identifies or links rows

Two families of SQL commands

- DDL, data definition language, changes the structure of a table: CREATE builds it, ALTER changes its columns, DROP removes it entirely
- DML, data manipulation language, changes or reads the data inside a table: INSERT, UPDATE, DELETE and SELECT all belong here
- a DDL command touches the table itself, a DML command touches the rows sitting inside it, that difference is worth keeping straight

SQL commands



SQL commands split into two families, one that shapes the table and one that works with the data inside it

Choosing the right SQL command *

what does the table need done to it

define a brand new table, change a column, add a new row of data, change existing data

CREATE
TABLE

ALTER
TABLE

INSERT
INTO

UPDATE

Creating a table

Q. write SQL to create a table student with roll as an integer primary key, name as text, and marks as an integer

- 1 start with CREATE TABLE followed by the table name
- 2 list each column with its datatype inside round brackets, separated by commas
- 3 mark the column that should never repeat as PRIMARY KEY

Answer

**CREATE TABLE student (roll INT
PRIMARY KEY, name VARCHAR(30), marks
INT)**