show databases;

use databasename

create database databasename

create table tablename(columname datatype primary key, columnname datatype)

SQL divided into 5 sub types

1. DDL : data definition language
   Create command is a part of DDL.

create table employee(eid int primary key,name varchar(10), age int);

drop table tablename;

drop table sample; it remove table structure as well as all records present in that table.

truncate table tablename; it delete all records present in specific table but it maintain table structure.

alter table tablename add columnname datatype

alter table employee add desg varchar(2);

alter table employee modify desg varchar(20);

alter table employee drop column age;

2. DML Data Manipulation language
   Insert, delete and update query
   Insert query
   insert into tablename values(v1,v2,v3);
   insert into employee values(1,'Ravi',21);

   insert into employee(eid,name) values(6,'Mahesh');
   or
   insert into employee values(6,'Mahesh',null);

   insert into employee(eid,age) values(7,34);
   or
   insert into employee values(7,null,34)

delete query

delete from tablename;

delete with where clause
delete from tablename where coluname ro value;

delete from employee where age=23;

update query

update tablename set columnname = value;
update employee set age = 24;

update with where clause
update employee set age = 25 where eid =1;
update employee set age =24 where age is null;
update employee set name ='Leena' where eid=7;

3. DRL or DQL (Data Retrieval language or Data Query language)

select * from tablename (* means all columns present in that table)

select * from employee; view all columns

select columname, columname from tablename;

select eid,name from employee;
select name,age from employee;
select name from employee;

to apply filter on table we need to use where clause

1. Relational operator :

>, <, >=,<=, =, !=

Select * from tablename where columname RO value;
Select * from employee where name =’ravi’;
Select * from employee where age > 25;

2. Between operator : apply condition using range

Select * from tablename where columnname between minvalue and maxvalue

select * from employee where eid between 2 and 6;

3. In operator : it is use retrieve more than conditions.

   Select * from employee where columname in (v1,v2,v3)

   select * from employee where age in (23,31,28);

4. Is null :
   select * from employee where name is null;

   select * from employee where name is not null;
5. Like operator :

select * from employee where name like ‘ravi’; name must be ravi

select * from employee where name like ‘r%’; start with r char

select * from employee where name like ‘%a’; end with a char

select * from employee where name like ‘%a%’; a character must be present.

If we want to apply more than one condition in same query we can use

and , or operators

and -→ && : all condition must be satisfies

or → || : any on condition must be satisfies

select * from employee where name like 'ravi' and age >= 30;

select * from employee where name like 'ravi' or age >= 30;

drop vs truncate vs delete

drop and truncate is part of DDL

delete is part of DML

drop : it remove all records as well as table structure

truncate : it remove all records but maintain table structure

with truncate we can't use where clause. Once we deleted all records using truncate we can't undo or rollback.

Delete : it remove all records but maintain table structure.

We can use where clause as well as we can undo or rollback using TCL (truncational control language).

table relationship or entity relationship

Normalization :

One to many relationship : one trainer can handle more than one student

In one department more than one employee are working

For one product we can place more than one orders.

Trainer

PK not null

TId TName tech

create table trainer(tid int primary key, tname varchar(20) not null, tech varchar(30) not null);

Student

PK : Primary key

In single table we can create only one column as PK

If column is PK it doesn't allow duplicate as well as null value.

FK : Foreign key is use to connect Pk (primary key of same or different table).

FK always use to refer to PK.

If column is FK it will allow only those value present in PK.

It can allow duplicate as well as null value.

In Single table we can create more than one FK.

PK FK

Sid SName Age TSID

create table trainer(tid int primary key,

tname varchar(20) not null,

tech varchar(30) not null);

create table student(sid int primary key,

sname varchar(20) not null,

age int,

tsid int,

foreign key(tsid) references trainer(tid));