What is SQL ?

Sql stands for structure query language

Sql is an language.

Sql is structured query language

Sql is a case in-senstive language

Ex: SELECT \* from table;

Or

Select \* from tablename;

Sql are used to create a database structured and table structure.

Sql provides sql command or query to create a database structured.

**Types of sql command.**

There are 4 types of sql command

a) DDL

b) DML

c) DQL

d) TCL

what is DDL : ddl stands for data definition language

DDL are used to create structure , definitions for any database and tables.

Commands used in DDL: create , alter, drop, truncate, change, rename

a) how to create database structure

syntax : create database databasename;

ex: create database patel\_resturents;

b) how to create table

datatype of fieldname

char => select character only size 0-255

varchar=> select char and number both size 0-255

int=> accept integer only and default size is 11

bigtint=>accept integer with defult size 20

text=>text accept more than 65365 character default size

float=> accept decimal values and size is default

date=> take date formate

datetime=>get date and time

blob=> blob is used to get images of big size =>

or accept varchar

syntax : create table tablename

(

Id int auto\_increment primary key,

Coluname datatype(size)

)

Ex: create table tbl\_city

(

ctid int AUTO\_INCREMENT primary key,

ctname varchar(155),

created\_date date

)

Tbl\_customers

create table tbl\_customers

(

id int primary key AUTO\_INCREMENT,

fname varchar(255),

lname varchar(255),

email varchar(255),

password varchar(255),

gender varchar(255),

hobby varchar(255),

address text,

mobile bigint

)

c) alter : alter is used to add , modify and rename columns name inside of any tables.

alter table tbl\_customers add photo varchar(255);

alter table tbl\_customers add confirm\_password varchar(255) after password;

alter table tbl\_customers change photo upload\_photo varchar(255);

d) rename : how to rename a table name

ex: rename table tbl\_city to city;

ex: rename table tbl\_customers to customers;

e) drop : drop are used to drop table and database

after drop we can not rollback anything

how to drop database :

drop database patel\_resturents

how to drop table

drop table tablename

drop table city;

f) truncate :

truncate is used to delete or empty all data from tables.

After truncate we can not rollback our data

Syntax : truncate table tablename;

Ex: truncate table country

**DML :DML stands for data manipulation language**

**a) insert**

insert a new rows in tables

1) single data insert or multiple data insert

Syntax : insert into tablename(columnname) values(‘value’);

Ex: insert into country (cname) value ('canada');

Or

insert into country (cname) value ('srilanka'),('china'),('europe'),('pensilvenia');

**or**

insert into country VALUES('null','pakistan');

or

insert into customers VALUES('null','vikas','pandya','v@gmail.com','v54545','v5454','male','reading','150feet ring road rajkot','9998003879','viku.jpg');

**b) update :**

**update data we used update query**

**syntax :** update tablename set columname=’value’ where id=’id’**;**

**ex:**  update customers set fname='brijesh',lname='pandya',email='brijesh@gmail.com',password='brij123',confirm\_password='brij123',gender='male',hobby='playing',address='150 feet ring road',mobile='9998003879',upload\_photo='brijesh.png' where id='1';

**c) delete :** delete are used to deleted rows or data from table after delete we can rollback our data.

a) all data deleted

delete from tablename;

b) delete from country where id=1;

c) delete from country where cid in (2,4,6);

d) delete from country where cid between 51 and 100;

e) delete from country where cid between 5 and 8;

**DQL :** DQL stands for data query language

Syntax : select

a) select \* from country;

b) select cname from country;

c) select \* from country where cid in (1);

d) select \* from country where cid between 1 and 10;

e) select \* from country where cid limit 0,10;

f) order by : order by is used to filter data in asending and desening order

a) select cname from country order by cname asc;

b) select cname from country order by cid asc;

c) select \* from country order by cid;

d) select \* from country order by cid desc;

e) select \* from country order by cname desc;

g) group by : group by is used to filter or fetch data on group of columns.

select sum(salary), department from employee GROUP by department;

sql function : there are two types of sql function

a) aggregate function

1)sum() : select sum(salary) from employee

2)count() : select count( empid) from employee;

3)max() : select max(salary), empname from employee;

4)min() : select min(salary), empname from employee;

5)avg() : select avg(salary) from employee;

How to find second highest salary

a) using subquery find second highest salary

select max(salary) from employee where salary < (select MAX(salary) from employee);

b) scalar function

a) first() : select first data from table mysql is not support

b) last() : select last data from table mysql is not support

c) ucase() : convert uppercase : select ucase(empname) from employee

d) lcase() : convert uppercase : select lcase(empname) from employee

key constraints: key constraints set a limit on any tables that are

a) primary key

b) foreign key

c) unique key

d) compound key

primary key : A PK is always defind one time in a table

A pk nevers return null value

A pk is always is autoincrements

User

uid(pk) name password gender hobby phone

Foreign key : A fK is always defined more than one times in a table

A pk set a relationalship b/w one table to another table

A fk is always repeated more than one times

country

cid(pk) cname

1 india

2 usa

state

sid (pk) sname pid(fk)

1 gujrat 1

2 california 2

city

ctid (pk) ctname cid(fk) sid(fk)

1 Rajkot 1 1

2 ahemdabad 1 1

How to create a foreign key :

create table state (

sid int AUTO\_INCREMENT primary key,

sname varchar(255),

cid int REFERENCES country(cid)

)

create table city (

ctid int AUTO\_INCREMENT primary key,

ctname varchar(255),

cid int REFERENCES country(cid),

sid int REFERENCES state(sid)

)

UNIQUE KEY :

A) uk is used to stored at list one time of null values in a table

b) we provides UK in more than one time in a table

c) a UK stored unique data on data tables

how to create a Unique key

a) ALTER TABLE `customers` ADD UNIQUE(`email`);

compound key :

compound key is also used of combiniation of pk+uk =compound key

SQL join :

Sql join are used to join more than one tables with common field if data matched from first table to second table join are happened.

Types of join :

a) inner join

b) join

c) outer join

a) left join

b) right join

c) full join

d)cross join

**join :**

Ex: select city.\*, cname,sname from city join country on city.cid=country.cid join state on city.sid=state.sid;

Or

select ctid,ctname,cname,sname from city join country on city.cid=country.cid join state on city.sid=state.sid;

**inner join :**

Ex: select city.\*, cname,sname from city inner join country on city.cid=country.cid inner join state on city.sid=state.sid;

Or

select ctid,ctname,cname,sname from city inner join country on city.cid=country.cid inner join state on city.sid=state.sid;

**outer Join :**

**left join : left join is used to join first table of left rows to match with second table of left rows if data are matched join tables data otherwise return null values**

select city.\*, cname,sname from city left join country on city.cid=country.cid left join state on city.sid=state.sid;

or

select city.\*, cname,sname from city left join country on city.cid=country.cid left join state on city.sid=state.sid order by ctname asc;

or

select city.\*, cname,sname from city left join country on city.cid=country.cid left join state on city.sid=state.sid order by ctname desc;

or

select city.\*, cname,sname from city left join country on city.cid=country.cid left join state on city.sid=state.sid order by sname desc;

or

select city.\*, cname as cityname,sname as statename from city left join country on city.cid=country.cid left join state on city.sid=state.sid order by sname desc;

or

select sum(salary),empname,password,phone,depname from employee join department on employee.department=department.depid group by department;

**right join : right join is used to join second table of right rows to match with first table of right rows if data are matched join tables data otherwise return null values**

select city.\*, cname,sname from city right join country on city.cid=country.cid right join state on city.sid=state.sid;

**full join :** left join + right join but mysql is no supported

**cross join :**

select \* from country cross join state;

**aliase name :** select empname as employeename from employee

**TCL** : transactional control language (support inside of oracle)

commit , rollback

Commit is used to save data before transactions or delete

a) start TRANSACTION;

delete from city where ctid=6;

commit;

b)

start TRANSACTION;

select from city where ctid=6;

rollback;

1) start TRANSACTION;

select \* from city where ctid=6;

rollback;

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