**0What is SQL?**

* SQL stands for Structured Query Language
* It can access and manipulate databases
* SQL became a standard of the American National Standards Institute (ANSI) in 1986, and of the International Organization for Standardization (ISO) in 1987.

**What Can SQL do?**

* SQL can execute queries against a database
* It can retrieve data from a database
* It can insert records in a database
* It can update records in a database
* It can delete records from a database
* It can create new databases
* It can create new tables in a database
* It can create stored procedures in a database
* It can create views in a database
* It can set permissions on tables, procedures, and views

**What is database?**

* A database is an organized collection of data, so that it can be easily accessed and managed.
* You can organize data into tables, rows, columns, and index it to make it easier to find relevant information.
* Database handlers create a database in such a way that only one set of software program provides access of data to all the users.
* The main purpose of the database is to operate a large amount of information by storing, retrieving, and managing data

**What is database table?**

A database most often contains one or more tables. Each table is identified by a name (e.g. "Customers" or "Orders"). Tables contain records (rows) with data.

**What is data type?**

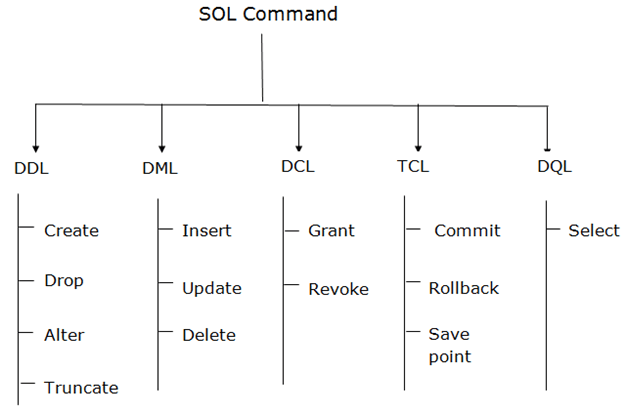
Data types define the nature of the data that can be stored in a particular column of a table MySQL has 3 main categories of data types namely

1. Numeric,

2. Text

3. Date/time

**What are types of sql is used for database?**



DDl-(Database Definition Language)

* DDL changes the structure of the table like creating a table, deleting a table, altering a table, etc.
* All the command of DDL are auto-committed that means it permanently save all the changes in the database.

commands

* CREATE
* ALTER
* DROP
* TRUNCATE

**BASIC**

mysql> create database dbfirst;

* This is first step to create database.

mysql> show databases;

* Second step to show our database

|  |
| --- |
| Database |
| dbfirst |
| dbsecond |
| dbthird |
| information\_schema |
| mysql |
| performance\_schema |
| sys |

7 rows in set (0.04 sec)

mysql> use dbthird;

* Which database is used to select

**Create table**

mysql> create table bank(b\_id int, b\_name varchar(20), b\_salary int);

mysql> select\* from bank;   //show the table

mysql> desc students;

|  |
| --- |
| +----------+-------------+------+-----+---------+-------+ |
| | Field    | Type        | Null | Key | Default | Extra | |
| +----------+-------------+------+-----+---------+-------+ |
| | b\_id     | int         | YES  |     | NULL    |       | |
| | b\_name   | varchar(20) | YES  |     | NULL    |       | |
| | b\_salary | varchar(20) | YES  |     | NULL    |       | |
| +----------+-------------+------+-----+---------+-------+ |

3 rows in set (0.01 sec)

**Alter**

add

mysql> alter table bank add(e\_address varchar(20) );

mysql> select\* from bank;

+------+---------+----------+-----------+

| b\_id | b\_name  | b\_salary | e\_address |

+------+---------+----------+-----------+

|    1 | Kajol   |    50000 | NULL      |

|    2 | prabhu  |    50000 | NULL      |

|    3 | Preetha |   120000 | NULL      |

+------+---------+----------+-----------+

3 rows in set (0.00 sec)

**Drop**

mysql> alter table learner drop column l\_id;

mysql> select\*from learner;

+---------+----------+-------+

| l\_name  | l\_degree | email |

+---------+----------+-------+

| Preetha | BA       | NULL  |

| Swetha  | BE       | NULL  |

| Kajol   | BE       | NULL  |

| Ragini  | BSc      | NULL  |

| Meena   | BTECH    | NULL  |

+---------+----------+-------+

5 rows in set (0.00 sec)

**Rename**

mysql> alter table learner rename column l\_name to l\_identity;

mysql> select \*from learner;

+------------+----------+-------+

| l\_identity | l\_degree | email |

+------------+----------+-------+

| Preetha    | BA       | NULL  |

| Swetha     | BE       | NULL  |

| Kajol      | BE       | NULL  |

| Ragini     | BSc      | NULL  |

| Meena      | BTECH    | NULL  |

+------------+----------+-------+

5 rows in set (0.00 sec)

Truncate

mysql> truncate table learner;

mysql> select\*from learner;

Empty set (0.00 sec)

Drop

mysql>  drop table bank;

mysql> select\*from bank;

ERROR 1146 (42S02): Table 'dbthird.bank' doesn't exist

**DML**

mysql> insert into doctor values(8,"chaitali","vadapalani",43),(9,"pranjal","vir

ukambakkam",45);

Query OK, 2 rows affected (0.00 sec)

Records: 2  Duplicates: 0  Warnings: 0

mysql> select \*from doctor;

+------+----------+---------------+-------+

| d\_id | d\_name   | d\_address     | d\_age |

+------+----------+---------------+-------+

|    1 | rajesh   | saligramam    |    30 |

|    2 | radha    | virukambakam  |    36 |

|    3 | rani     | virukambakkam |    45 |

|    4 | raja     | nungambakkam  |    56 |

|    5 | kumar    | adayar        |    50 |

|    6 | sridhar  | vadapalani    |    43 |

|    7 | chaithra | saligramam    |    45 |

|    8 | chaitali | vadapalani    |    43 |

|    9 | pranjal  | virukambakkam |    45 |

+------+----------+---------------+-------+

9 rows in set (0.00 sec)

mysql> select\* from doctor where d\_address='vadapalani' and d\_age=43;

+------+----------+------------+-------+

| d\_id | d\_name   | d\_address  | d\_age |

+------+----------+------------+-------+

|    6 | sridhar  | vadapalani |    43 |

|    8 | chaitali | vadapalani |    43 |

+------+----------+------------+-------+

2 rows in set (0.00 sec)

mysql> update doctor set d\_address="virugammbakkam" where d\_name="radha";

Query OK, 1 row affected (0.01 sec)

Rows matched: 1  Changed: 1  Warnings: 0

mysql> select\*from doctor;

+------+----------+----------------+-------+

| d\_id | d\_name   | d\_address      | d\_age |

+------+----------+----------------+-------+

|    1 | rajesh   | saligramam     |    30 |

|    2 | radha    | virugammbakkam |    36 |

|    3 | rani     | virukambakkam  |    45 |

|    4 | raja     | nungambakkam   |    56 |

|    5 | kumar    | adayar         |    50 |

|    6 | sridhar  | vadapalani     |    43 |

|    7 | chaithra | saligramam     |    45 |

|    8 | chaitali | vadapalani     |    43 |

|    9 | pranjal  | virukambakkam  |    45 |

+------+----------+----------------+-------+

9 rows in set (0.00 sec)

mysql> select \* from doctor where d\_address="virukambakkam" or d\_age=36;

+------+---------+----------------+-------+

| d\_id | d\_name  | d\_address      | d\_age |

+------+---------+----------------+-------+

|    2 | radha   | virugammbakkam |    36 |

|    3 | rani    | virukambakkam  |    45 |

|    9 | pranjal | virukambakkam  |    45 |

+------+---------+----------------+-------+

3 rows in set (0.00 sec)

mysql> select \* from doctor;

+------+----------+----------------+-------+

| d\_id | d\_name   | d\_address      | d\_age |

+------+----------+----------------+-------+

|    1 | rajesh   | saligramam     |    30 |

|    2 | radha    | virugammbakkam |    36 |

|    3 | rani     | virukambakkam  |    45 |

|    4 | raja     | nungambakkam   |    56 |

|    5 | kumar    | adayar         |    50 |

|    6 | sridhar  | vadapalani     |    43 |

|    7 | chaithra | saligramam     |    45 |

|    8 | chaitali | vadapalani     |    43 |

|    9 | pranjal  | virukambakkam  |    45 |

+------+----------+----------------+-------+

9 rows in set (0.00 sec)

mysql> delete from doctor where d\_address="adayar" or d\_name="kumar";

Query OK, 1 row affected (0.00 sec)

mysql> selcet \* from doctor;

ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near 'selcet \* from doctor' at line 1

mysql> delete from doctor where d\_address="adayar" or d\_name="kumar";

Query OK, 0 rows affected (0.00 sec)

mysql> select\*from doctor;

+------+----------+----------------+-------+

| d\_id | d\_name   | d\_address      | d\_age |

+------+----------+----------------+-------+

|    1 | rajesh   | saligramam     |    30 |

|    2 | radha    | virugammbakkam |    36 |

|    3 | rani     | virukambakkam  |    45 |

|    4 | raja     | nungambakkam   |    56 |

|    6 | sridhar  | vadapalani     |    43 |

|    7 | chaithra | saligramam     |    45 |

|    8 | chaitali | vadapalani     |    43 |

|    9 | pranjal  | virukambakkam  |    45 |

+------+----------+----------------+-------+

8 rows in set (0.00 sec)

**DQL or DSL or DRL**

(Data Query language )or(data selection language)or(data request or retrived language)

Create the database

Show databases

+--------------------+

| Database           |

+--------------------+

| dbfirst            |

| dbfive             |

| dbsecond           |

| dbseven            |

| dbsix              |

| dbthird            |

| information\_schema |

| mysql              |

| performance\_schema |

| sys                |

+--------------------+

Creating the table

create table doctor(d\_id int,d\_name varchar(20),d\_address varchar(20),d\_age int);

insert the values

mysql> insert into doctor values(1,"rajesh","saligramam", 30),(2,"radha","virukambakam",36),(3,"rani","virukambakkam",45),(4,"raja","nungambakkam",56),(5,"kumar","adayar",50),(6,"sridhar","vadapalani",43);

select\*from doctor;

+------+---------+---------------+-------+

| d\_id | d\_name  | d\_address     | d\_age |

+------+---------+---------------+-------+

|    1 | rajesh  | saligramam    |    30 |

|    2 | radha   | virukambakam  |    36 |

|    3 | rani    | virukambakkam |    45 |

|    4 | raja    | nungambakkam  |    56 |

|    5 | kumar   | adayar        |    50 |

|    6 | sridhar | vadapalani    |    43 |

+------+---------+---------------+-------+

insert into doctor values(7,"chaithra","saligramam",45);

Query OK, 1 row affected (0.01 sec)

mysql> select \* from doctor;

+------+----------+---------------+-------+

| d\_id | d\_name   | d\_address     | d\_age |

+------+----------+---------------+-------+

|    1 | rajesh   | saligramam    |    30 |

|    2 | radha    | virukambakam  |    36 |

|    3 | rani     | virukambakkam |    45 |

|    4 | raja     | nungambakkam  |    56 |

|    5 | kumar    | adayar        |    50 |

|    6 | sridhar  | vadapalani    |    43 |

|    7 | chaithra | saligramam    |    45 |

+------+----------+---------------+-------+

7 rows in set (0.00 sec)

Where command  should be used(=)

mysql> select d\_name from doctor where d\_age=45;

+----------+

| d\_name   |

+----------+

| rani     |

| chaithra |

+----------+

Where command  should be used(>)

ysql> select d\_name from doctor where d\_age>40;

+----------+

| d\_name   |

+----------+

| rani     |

| raja     |

| kumar    |

| sridhar  |

| chaithra |

+----------+

5 rows in set (0.00 sec)

insert into doctor values(8,"chaitali","vadapalani",43),(9,"pranjal","vir

ukambakkam",45);

select \*from doctor;

+------+----------+---------------+-------+

| d\_id | d\_name   | d\_address     | d\_age |

+------+----------+---------------+-------+

|    1 | rajesh   | saligramam    |    30 |

|    2 | radha    | virukambakam  |    36 |

|    3 | rani     | virukambakkam |    45 |

|    4 | raja     | nungambakkam  |    56 |

|    5 | kumar    | adayar        |    50 |

|    6 | sridhar  | vadapalani    |    43 |

|    7 | chaithra | saligramam    |    45 |

|    8 | chaitali | vadapalani    |    43 |

|    9 | pranjal  | virukambakkam |    45 |

+------+----------+---------------+------

**SQL "AND" example with "SELECT" statement**

select\* from doctor where d\_address='vadapalani' and d\_age=43;

+------+----------+------------+-------+

| d\_id | d\_name   | d\_address  | d\_age |

+------+----------+------------+-------+

|    6 | sridhar  | vadapalani |    43 |

|    8 | chaitali | vadapalani |    43 |

+------+----------+------------+-------+

**SQL "AND" example with "UPDATE" statement**

mysql> update doctor set d\_address="virugammbakkam" where d\_name="radha";

Query OK, 1 row affected (0.01 sec)

Rows matched: 1  Changed: 1  Warnings: 0

mysql> select\*from doctor;

+------+----------+----------------+-------+

| d\_id | d\_name   | d\_address      | d\_age |

+------+----------+----------------+-------+

|    1 | rajesh   | saligramam     |    30 |

|    2 | radha    | virugammbakkam |    36 |

|    3 | rani     | virukambakkam  |    45 |

|    4 | raja     | nungambakkam   |    56 |

|    5 | kumar    | adayar         |    50 |

|    6 | sridhar  | vadapalani     |    43 |

|    7 | chaithra | saligramam     |    45 |

|    8 | chaitali | vadapalani     |    43 |

|    9 | pranjal  | virukambakkam  |    45 |

+------+----------+----------------+-------+

9 rows in set (0.00 sec)

**Sql ‘or’ condition**

select \* from doctor where d\_address="virukambakkam" or d\_age=36;

+------+---------+----------------+-------+

| d\_id | d\_name  | d\_address      | d\_age |

+------+---------+----------------+-------+

|    2 | radha   | virugammbakkam |    36 |

|    3 | rani    | virukambakkam  |    45 |

|    9 | pranjal | virukambakkam  |    45 |

+------+---------+----------------+-------+

3 rows in set (0.00 sec)

**Delete command should be used in or command**

+------+----------+----------------+-------+

|    1 | rajesh   | saligramam     |    30 |

|    2 | radha    | virugammbakkam |    36 |

|    3 | rani     | virukambakkam  |    45 |

|    4 | raja     | nungambakkam   |    56 |

|    5 | kumar    | adayar         |    50 |

|    6 | sridhar  | vadapalani     |    43 |

|    7 | chaithra | saligramam     |    45 |

|    8 | chaitali | vadapalani     |    43 |

|    9 | pranjal  | virukambakkam  |    45 |

+------+----------+----------------+-------+

9 rows in set (0.00 sec)

mysql> delete from doctor where d\_address="adayar" or d\_name="kumar";

Query OK, 1 row affected (0.00 sec)

mysql> delete from doctor where d\_address="adayar" or d\_name="kumar";

Query OK, 0 rows affected (0.00 sec)

mysql> select\*from doctor;

+------+----------+----------------+-------+

| d\_id | d\_name   | d\_address      | d\_age |

+------+----------+----------------+-------+

|    1 | rajesh   | saligramam     |    30 |

|    2 | radha    | virugammbakkam |    36 |

|    3 | rani     | virukambakkam  |    45 |

|    4 | raja     | nungambakkam   |    56 |

|    6 | sridhar  | vadapalani     |    43 |

|    7 | chaithra | saligramam     |    45 |

|    8 | chaitali | vadapalani     |    43 |

|    9 | pranjal  | virukambakkam  |    45 |

+------+----------+----------------+-------+

**Sql ‘as’ to be used**

select d\_id as ID,d\_name as 'Name',d\_address as 'Address',d\_age as Age from doctor;

+------+----------+----------------+------+

| ID   | Name     | Address        | Age  |

+------+----------+----------------+------+

|    1 | rajesh   | saligramam     |   30 |

|    2 | radha    | virugammbakkam |   36 |

|    3 | rani     | virukambakkam  |   45 |

|    4 | raja     | nungambakkam   |   56 |

|    6 | sridhar  | vadapalani     |   43 |

|    7 | chaithra | saligramam     |   45 |

|    8 | chaitali | vadapalani     |   43 |

|    9 | pranjal  | virukambakkam  |   45 |

+------+----------+----------------+------+

8 rows in set (0.00 sec)

(its used to change the table name)

mysql> select sum(Age),Address from doctor group by Address;

ERROR 1054 (42S22): Unknown column 'Age' in 'field list'

mysql> select\*from doctor;

+------+----------+----------------+-------+

| d\_id | d\_name   | d\_address      | d\_age |

+------+----------+----------------+-------+

|    1 | rajesh   | saligramam     |    30 |

|    2 | radha    | virugammbakkam |    36 |

|    3 | rani     | virukambakkam  |    45 |

|    4 | raja     | nungambakkam   |    56 |

|    6 | sridhar  | vadapalani     |    43 |

|    7 | chaithra | saligramam     |    45 |

|    8 | chaitali | vadapalani     |    43 |

|    9 | pranjal  | virukambakkam  |    45 |

+------+----------+----------------+-------+

8 rows in set (0.00 sec)

**Group by**

mysql> select sum(d\_age),d\_address from doctor group by d\_address;

+------------+----------------+

| sum(d\_age) | d\_address      |

+------------+----------------+

|         75 | saligramam     |

|         36 | virugammbakkam |

|         90 | virukambakkam  |

|         56 | nungambakkam   |

|         86 | vadapalani     |

+------------+----------------+

5 rows in set (0.01 sec)

**Sql ‘order by’**

mysql> select \* from doctor;

+------+----------+----------------+-------+

| d\_id | d\_name   | d\_address      | d\_age |

+------+----------+----------------+-------+

|    1 | rajesh   | saligramam     |    30 |

|    2 | radha    | virugammbakkam |    36 |

|    3 | rani     | virukambakkam  |    45 |

|    4 | raja     | nungambakkam   |    56 |

|    6 | sridhar  | vadapalani     |    43 |

|    7 | chaithra | saligramam     |    45 |

|    8 | chaitali | vadapalani     |    43 |

|    9 | pranjal  | virukambakkam  |    45 |

+------+----------+----------------+-------+

8 rows in set (0.00 sec)

mysql> select\* from doctor order by d\_name asc;

+------+----------+----------------+-------+

| d\_id | d\_name   | d\_address      | d\_age |

+------+----------+----------------+-------+

|    8 | chaitali | vadapalani     |    43 |

|    7 | chaithra | saligramam     |    45 |

|    9 | pranjal  | virukambakkam  |    45 |

|    2 | radha    | virugammbakkam |    36 |

|    4 | raja     | nungambakkam   |    56 |

|    1 | rajesh   | saligramam     |    30 |

|    3 | rani     | virukambakkam  |    45 |

|    6 | sridhar  | vadapalani     |    43 |

+------+----------+----------------+-------+

8 rows in set (0.00 sec)

mysql> select\* from doctor order by d\_name dsc;

ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near 'dsc' at line 1

mysql> select\* from doctor order by d\_name desc;

+------+----------+----------------+-------+

| d\_id | d\_name   | d\_address      | d\_age |

+------+----------+----------------+-------+

|    6 | sridhar  | vadapalani     |    43 |

|    3 | rani     | virukambakkam  |    45 |

|    1 | rajesh   | saligramam     |    30 |

|    4 | raja     | nungambakkam   |    56 |

|    2 | radha    | virugammbakkam |    36 |

|    9 | pranjal  | virukambakkam  |    45 |

|    7 | chaithra | saligramam     |    45 |

|    8 | chaitali | vadapalani     |    43 |

+------+----------+----------------+-------+

8 rows in set (0.00 sec)

mysql> select\* from doctor order by rand() limit 1;

+------+--------+---------------+-------+

| d\_id | d\_name | d\_address     | d\_age |

+------+--------+---------------+-------+

|    3 | rani   | virukambakkam |    45 |

+------+--------+---------------+-------+

1 row in set (0.01 sec)

mysql> select\* from doctor order by d\_name asc where d\_age >40;

ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near 'where d\_age >40' at line 1

mysql> select\* from doctor order by rand();

+------+----------+----------------+-------+

| d\_id | d\_name   | d\_address      | d\_age |

+------+----------+----------------+-------+

|    9 | pranjal  | virukambakkam  |    45 |

|    7 | chaithra | saligramam     |    45 |

|    3 | rani     | virukambakkam  |    45 |

|    6 | sridhar  | vadapalani     |    43 |

|    8 | chaitali | vadapalani     |    43 |

|    1 | rajesh   | saligramam     |    30 |

|    2 | radha    | virugammbakkam |    36 |

|    4 | raja     | nungambakkam   |    56 |

+------+----------+----------------+-------+

8 rows in set (0.00 sec)

**COUNT**

select \*from doctor;

+------+----------+----------------+-------+

| d\_id | d\_name   | d\_address      | d\_age |

+------+----------+----------------+-------+

|    1 | rajesh   | saligramam     |    30 |

|    2 | radha    | virugammbakkam |    36 |

|    3 | rani     | virukambakkam  |    45 |

|    4 | raja     | nungambakkam   |    56 |

|    6 | sridhar  | vadapalani     |    43 |

|    7 | chaithra | saligramam     |    45 |

|    8 | chaitali | vadapalani     |    43 |

|    9 | pranjal  | virukambakkam  |    45 |

+------+----------+----------------+-------+

8 rows in set (0.00 sec)

select count(\*) from doctor where d\_age>=30;

+----------+

| count(\*) |

+----------+

|        8 |

+----------+

1 row in set (0.00 sec)

mysql> select count( distinct d\_name) from doctor;

+-------------------------+

| count( distinct d\_name) |

+-------------------------+

|                       8 |

+-------------------------+

1 row in set (0.01 sec)

mysql> select  d\_age,count(\*) from doctor group by d\_age;

+-------+----------+

| d\_age | count(\*) |

+-------+----------+

|    30 |        1 |

|    36 |        1 |

|    45 |        3 |

|    56 |        1 |

|    43 |        2 |

+-------+----------+

5 rows in set (0.00 sec)

mysql> select  d\_age,count(\*) from doctor group by d\_age having count(\*)>40;

Empty set (0.00 sec)

mysql> select  d\_age,count(\*) from doctor group by d\_age having count(\*)>30;

Empty set (0.00 sec)

**AGGREGATION**

mysql> select sum(d\_age) from doctor;

+------------+

| sum(d\_age) |

+------------+

|        343 |

+------------+

1 row in set (0.00 sec)

mysql> select avg(d\_age) from doctor;

+------------+

| avg(d\_age) |

+------------+

|    42.8750 |

+------------+

1 row in set (0.00 sec)

mysql> select MAX(d\_age) from doctor;

+------------+

| MAX(d\_age) |

+------------+

|         56 |

+------------+

1 row in set (0.00 sec)

mysql> select Min(d\_age) from doctor;

+------------+

| Min(d\_age) |

+------------+

|         30 |

+------------+

1 row in set (0.00 sec)

ql>

mysql> select  d\_age,count(\*) from doctor group by d\_age having count(\*)>40;

Empty set (0.00 sec)

mysql> select count(\*) from doctor where d\_age>=30;

+----------+

| count(\*) |

+----------+

|        8 |

+----------+

1 row in set (0.00 sec)

mysql>

mysql> select \*from doctor;

+------+----------+----------------+-------+

| d\_id | d\_name   | d\_address      | d\_age |

+------+----------+----------------+-------+

|    1 | rajesh   | saligramam     |    30 |

|    2 | radha    | virugammbakkam |    36 |

|    3 | rani     | virukambakkam  |    45 |

|    4 | raja     | nungambakkam   |    56 |

|    6 | sridhar  | vadapalani     |    43 |

|    7 | chaithra | saligramam     |    45 |

|    8 | chaitali | vadapalani     |    43 |

|    9 | pranjal  | virukambakkam  |    45 |

+------+----------+----------------+-------+

8 rows in set (0.00 sec)

mysql> select\* from doctor order by d\_name asc,d\_age desc;

+------+----------+----------------+-------+

| d\_id | d\_name   | d\_address      | d\_age |

+------+----------+----------------+-------+

|    8 | chaitali | vadapalani     |    43 |

|    7 | chaithra | saligramam     |    45 |

|    9 | pranjal  | virukambakkam  |    45 |

|    2 | radha    | virugammbakkam |    36 |

|    4 | raja     | nungambakkam   |    56 |

|    1 | rajesh   | saligramam     |    30 |

|    3 | rani     | virukambakkam  |    45 |

|    6 | sridhar  | vadapalani     |    43 |

+------+----------+----------------+-------+

8 rows in set (0.00 sec)

mysql> select \*from doctor where d\_age=45 order by name asc;

ERROR 1054 (42S22): Unknown column 'name' in 'order clause'

mysql> select \*from doctor where d\_age=45 order by d\_name asc;

+------+----------+---------------+-------+

| d\_id | d\_name   | d\_address     | d\_age |

+------+----------+---------------+-------+

|    7 | chaithra | saligramam    |    45 |

|    9 | pranjal  | virukambakkam |    45 |

|    3 | rani     | virukambakkam |    45 |

+------+----------+---------------+-------+

**TCL commands**

mysql> use dbsecond;

Database changed

mysql> select \*from students;

+------+--------+----------+

| s\_id | s\_name | s\_degree |

+------+--------+----------+

|    1 | Ruthra | BE       |

|    2 | Durga  | BE       |

|    3 | Vicky  | BE       |

|    4 | rajesh | BE       |

|    5 | Ramya  | BE       |

|    6 | Raja   | BA       |

|    7 | Ragav  | BSC      |

|    8 | vidhya | BA       |

+------+--------+----------+

8 rows in set (0.00 sec)

mysql> commit;

Query OK, 0 rows affected (0.00 sec)

mysql> insert students set s\_name='sheela' where s\_id=6;

ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near 'where s\_id=6' at line 1

mysql> update students set s\_name='sheela' where s\_id=6;

Query OK, 1 row affected (0.00 sec)

Rows matched: 1  Changed: 1  Warnings: 0

mysql> start transaction;

Query OK, 0 rows affected (0.00 sec)

mysql> savepoint A;

Query OK, 0 rows affected (0.00 sec)

mysql> update students set s\_name='srihari' where s\_id=7;

Query OK, 1 row affected (0.00 sec)

Rows matched: 1  Changed: 1  Warnings: 0

mysql> savepoint B;

Query OK, 0 rows affected (0.00 sec)

mysql> ROLLBACK to B;

Query OK, 0 rows affected (0.00 sec)

mysql> select \* from students;

+------+---------+----------+

| s\_id | s\_name  | s\_degree |

+------+---------+----------+

|    1 | Ruthra  | BE       |

|    2 | Durga   | BE       |

|    3 | Vicky   | BE       |

|    4 | rajesh  | BE       |

|    5 | Ramya   | BE       |

|    6 | sheela  | BA       |

|    7 | srihari | BSC      |

|    8 | vidhya  | BA       |

+------+---------+----------+

8 rows in set (0.00 sec)

mysql> ROLLBACK to A;

Query OK, 0 rows affected (0.00 sec)

mysql> select \* from students;

+------+--------+----------+

| s\_id | s\_name | s\_degree |

+------+--------+----------+

|    1 | Ruthra | BE       |

|    2 | Durga  | BE       |

|    3 | Vicky  | BE       |

|    4 | rajesh | BE       |

|    5 | Ramya  | BE       |

|    6 | sheela | BA       |

|    7 | Ragav  | BSC      |

|    8 | vidhya | BA       |

+------+--------+----------+

8 rows in set (0.00 sec)

mysql> select \*from students where s\_degree='BA';

+------+--------+----------+

| s\_id | s\_name | s\_degree |

+------+--------+----------+

|    6 | sheela | BA       |

|    8 | vidhya | BA       |

+------+--------+----------+

2 rows in set (0.00 sec)

mysql> alter table students add s\_salary int;

Query OK, 0 rows affected (0.06 sec)

Records: 0  Duplicates: 0  Warnings: 0

**BOOLEAN EXPRESSION**

mysql> alter table students add s\_salary int;

Query OK, 0 rows affected (0.06 sec)

Records: 0  Duplicates: 0  Warnings: 0

mysql> select\* from students;

+------+--------+----------+----------+

| s\_id | s\_name | s\_degree | s\_salary |

+------+--------+----------+----------+

|    1 | Ruthra | BE       |     NULL |

|    2 | Durga  | BE       |     NULL |

|    3 | Vicky  | BE       |     NULL |

|    4 | rajesh | BE       |     NULL |

|    5 | Ramya  | BE       |     NULL |

|    6 | sheela | BA       |     NULL |

|    7 | Ragav  | BSC      |     NULL |

|    8 | vidhya | BA       |     NULL |

+------+--------+----------+----------+

8 rows in set (0.00 sec)

mysql> update students set s\_salary= 10000 where s\_id=1;

Query OK, 1 row affected (0.00 sec)

Rows matched: 1  Changed: 1  Warnings: 0

mysql> select\* from students;

+------+--------+----------+----------+

| s\_id | s\_name | s\_degree | s\_salary |

+------+--------+----------+----------+

|    1 | Ruthr | BE       |    10000 |

|    2 | Durga  | BE       |     NULL |

|    3 | Vicky  | BE       |     NULL |

|    4 | rajesh | BE       |     NULL |

|    5 | Ramya  | BE       |     NULL |

|    6 | sheela | BA       |     NULL |

|    7 | Ragav  | BSC      |     NULL |

|    8 | vidhya | BA       |     NULL |

+------+--------+----------+----------+

8 rows in set (0.00 sec)

mysql> update students set s\_salary= 20000 where s\_id=2;

Query OK, 1 row affected (0.01 sec)

Rows matched: 1  Changed: 1  Warnings: 0

mysql> update students set s\_salary= 20000 where s\_id=3;

Query OK, 1 row affected (0.00 sec)

Rows matched: 1  Changed: 1  Warnings: 0

mysql> update students set s\_salary= 25000 where s\_id=4;

Query OK, 1 row affected (0.00 sec)

Rows matched: 1  Changed: 1  Warnings: 0

mysql> update students set s\_salary= 25000 where s\_id=5;

Query OK, 1 row affected (0.00 sec)

Rows matched: 1  Changed: 1  Warnings: 0

mysql> update students set s\_salary= 15000 where s\_id=6;

Query OK, 1 row affected (0.00 sec)

Rows matched: 1  Changed: 1  Warnings: 0

mysql> update students set s\_salary= 15000 where s\_id=7;

Query OK, 1 row affected (0.00 sec)

Rows matched: 1  Changed: 1  Warnings: 0

mysql> update students set s\_salary= 10000 where s\_id=8;

Query OK, 1 row affected (0.00 sec)

Rows matched: 1  Changed: 1  Warnings: 0

mysql> select \*from students;

+------+--------+----------+----------+

| s\_id | s\_name | s\_degree | s\_salary |

+------+--------+----------+----------+

|    1 | Ruthra | BE       |    10000 |

|    2 | Durga  | BE       |    20000 |

|    3 | Vicky  | BE       |    20000 |

|    4 | rajesh | BE       |    25000 |

|    5 | Ramya  | BE       |    25000 |

|    6 | sheela | BA       |    15000 |

|    7 | Ragav  | BSC      |    15000 |

|    8 | vidhya | BA       |    10000 |

+------+--------+----------+----------+

8 rows in set (0.00 sec)

‘**WHERE’ CONDITION**

mysql> select \* from students where s\_salary=10000;

+------+--------+----------+----------+

| s\_id | s\_name | s\_degree | s\_salary |

+------+--------+----------+----------+

|    1 | Ruthra | BE       |    10000 |

|    8 | vidhya | BA       |    10000 |

+------+--------+----------+----------+

2 rows in set (0.00 sec)

**ADDITION**

mysql> select (25000+25000) as addition;

+----------+

| addition |

+----------+

|    50000 |

+----------+

1 row in set (0.00 sec)

**GET TIME**

mysql> select current\_timestamp;

+---------------------+

| current\_timestamp   |

+---------------------+

| 2023-06-28 11:26:27 |

+---------------------+

1 row in set (0.00 sec)

**ACTIVITY query**

create database dbnine;

Query OK, 1 row affected (0.01 sec)

mysql> show databases;

+--------------------+

| Database           |

+--------------------+

| dbfirst            |

| dbfive             |

| dbnine             |

| dbsecond           |

| dbseven            |

| dbsix              |

| dbthird            |

| information\_schema |

| mysql              |

| performance\_schema |

| sys                |

+--------------------+

11 rows in set (0.01 sec)

mysql> use dbnine;

Database changed

mysql> create table empdeatails(emp\_id int,emp\_names varchar(20),job\_name verchar(20),manager\_id int,hire\_date int,salry

 int,commision int,dep\_id int);

ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near 'verchar(20),manager\_id int,hire\_date int,salry int,commision int,dep\_id int)' at line 1

mysql> create table empdeatails(emp\_id int,emp\_names varchar(20),job\_name varchar(20),manager\_id int,hire\_date int,salry int,commision int,dep\_id int);

Query OK, 0 rows affected (0.03 sec)

mysql> desc empdeatails;

+------------+-------------+------+-----+---------+-------+

| Field      | Type        | Null | Key | Default | Extra |

+------------+-------------+------+-----+---------+-------+

| emp\_id     | int         | YES  |     | NULL    |       |

| emp\_names  | varchar(20) | YES  |     | NULL    |       |

| job\_name   | varchar(20) | YES  |     | NULL    |       |

| manager\_id | int         | YES  |     | NULL    |       |

| hire\_date  | int         | YES  |     | NULL    |       |

| salry      | int         | YES  |     | NULL    |       |

| commision  | int         | YES  |     | NULL    |       |

| dep\_id     | int         | YES  |     | NULL    |       |

+------------+-------------+------+-----+---------+-------+

8 rows in set (0.03 sec)

mysql> insert into empdeatails values(68319,'kayling','president', ,19-11-18,6000, ,1001);

ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near ',19-11-18,6000, ,1001)' at line 1

mysql> insert into empdeatails values(68319,'kayling','president',19-11-18,6000,1001);

ERROR 1136 (21S01): Column count doesn't match value count at row 1

mysql> insert into empdeatails values(68319,'kayling','president','null',19-11-18,6000,'null',1001);

ERROR 1366 (HY000): Incorrect integer value: 'null' for column 'manager\_id' at row 1

mysql> insert into empdeatails values(68319,'kayling','president',0,19-11-18,6000,0,1001);

Query OK, 1 row affected (0.00 sec)

mysql>insert into empdeatails values(66928,'blaze','manager',68319,1991-05-01,2750,0,3001),(67832,'clare','manager',68319,1991-06-09,2550,0,1001),(65646,'jonas','manager',68319,1991-04-02,2957,0,2001),(67858,'scarlet','analyst',65646,1997-04-19,3100,0,2001),(69062,'frank','analyst',65646,1991-12-03,3100,0,2001);

Query OK, 5 rows affected (0.00 sec)

Records: 5  Duplicates: 0  Warnings: 0

mysql> select\*from empdeatails;

+--------+-----------+-----------+------------+-----------+-------+-----------+--------+

| emp\_id | emp\_names | job\_name  | manager\_id | hire\_date | salry | commision | dep\_id |

+--------+-----------+-----------+------------+-----------+-------+-----------+--------+

|  68319 | kayling   | president |          0 |       -10 |  6000 |         0 |   1001 |

|  66928 | blaze     | manager   |      68319 |      1985 |  2750 |         0 |   3001 |

|  67832 | clare     | manager   |      68319 |      1976 |  2550 |         0 |   1001 |

|  65646 | jonas     | manager   |      68319 |      1985 |  2957 |         0 |   2001 |

|  67858 | scarlet   | analyst   |      65646 |      1974 |  3100 |         0 |   2001 |

|  69062 | frank     | analyst   |      65646 |      1976 |  3100 |         0 |   2001 |

+--------+-----------+-----------+------------+-----------+-------+-----------+--------+

6 rows in set (0.00 sec)

mysql> update empdeatails set hire\_date=1991-11-18 where emp\_id=68319;

Query OK, 1 row affected (0.00 sec)

Rows matched: 1  Changed: 1  Warnings: 0

mysql> select\*from empdeatails;

+--------+-----------+-----------+------------+-----------+-------+-----------+--------+

| emp\_id | emp\_names | job\_name  | manager\_id | hire\_date | salry | commision | dep\_id |

+--------+-----------+-----------+------------+-----------+-------+-----------+--------+

|  68319 | kayling   | president |          0 |      1962 |  6000 |         0 |   1001 |

|  66928 | blaze     | manager   |      68319 |      1985 |  2750 |         0 |   3001 |

|  67832 | clare     | manager   |      68319 |      1976 |  2550 |         0 |   1001 |

|  65646 | jonas     | manager   |      68319 |      1985 |  2957 |         0 |   2001 |

|  67858 | scarlet   | analyst   |      65646 |      1974 |  3100 |         0 |   2001 |

|  69062 | frank     | analyst   |      65646 |      1976 |  3100 |         0 |   2001 |

+--------+-----------+-----------+------------+-----------+-------+-----------+--------+

6 rows in set (0.00 sec)

mysql> alter table empdeatails drop column commision;

Query OK, 0 rows affected (0.02 sec)

Records: 0  Duplicates: 0  Warnings: 0

mysql> select \* from empdeatails;

+--------+-----------+-----------+------------+-----------+-------+--------+

| emp\_id | emp\_names | job\_name  | manager\_id | hire\_date | salry | dep\_id |

+--------+-----------+-----------+------------+-----------+-------+--------+

|  68319 | kayling   | president |          0 |      1962 |  6000 |   1001 |

|  66928 | blaze     | manager   |      68319 |      1985 |  2750 |   3001 |

|  67832 | clare     | manager   |      68319 |      1976 |  2550 |   1001 |

|  65646 | jonas     | manager   |      68319 |      1985 |  2957 |   2001 |

|  67858 | scarlet   | analyst   |      65646 |      1974 |  3100 |   2001 |

|  69062 | frank     | analyst   |      65646 |      1976 |  3100 |   2001 |

+--------+-----------+-----------+------------+-----------+-------+--------+

6 rows in set (0.00 sec)

mysql> alter table empdeatails add column commision;

ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near '' at line 1

mysql> alter table empdeatails add commision int;

Query OK, 0 rows affected (0.01 sec)

Records: 0  Duplicates: 0  Warnings: 0

mysql> select \* from empdeatails;

+--------+-----------+-----------+------------+-----------+-------+--------+-----------+

| emp\_id | emp\_names | job\_name  | manager\_id | hire\_date | salry | dep\_id | commision |

+--------+-----------+-----------+------------+-----------+-------+--------+-----------+

|  68319 | kayling   | president |          0 |      1962 |  6000 |   1001 |      NULL |

|  66928 | blaze     | manager   |      68319 |      1985 |  2750 |   3001 |      NULL |

|  67832 | clare     | manager   |      68319 |      1976 |  2550 |   1001 |      NULL |

|  65646 | jonas     | manager   |      68319 |      1985 |  2957 |   2001 |      NULL |

|  67858 | scarlet   | analyst   |      65646 |      1974 |  3100 |   2001 |      NULL |

|  69062 | frank     | analyst   |      65646 |      1976 |  3100 |   2001 |      NULL |

+--------+-----------+-----------+------------+-----------+-------+--------+-----------+

6 rows in set (0.00 sec)

mysql> update empdeatails set commission=4000 where dep\_id=1001 or dep\_id=3001;

ERROR 1054 (42S22): Unknown column 'commission' in 'field list'

mysql> update empdeatails set commision=4000 where dep\_id=1001 or dep\_id=3001;

Query OK, 3 rows affected (0.00 sec)

Rows matched: 3  Changed: 3  Warnings: 0

mysql> select \* from empdeatails;

+--------+-----------+-----------+------------+-----------+-------+--------+-----------+

| emp\_id | emp\_names | job\_name  | manager\_id | hire\_date | salry | dep\_id | commision |

+--------+-----------+-----------+------------+-----------+-------+--------+-----------+

|  68319 | kayling   | president |          0 |      1962 |  6000 |   1001 |      4000 |

|  66928 | blaze     | manager   |      68319 |      1985 |  2750 |   3001 |      4000 |

|  67832 | clare     | manager   |      68319 |      1976 |  2550 |   1001 |      4000 |

|  65646 | jonas     | manager   |      68319 |      1985 |  2957 |   2001 |      NULL |

|  67858 | scarlet   | analyst   |      65646 |      1974 |  3100 |   2001 |      NULL |

|  69062 | frank     | analyst   |      65646 |      1976 |  3100 |   2001 |      NULL |

+--------+-----------+-----------+------------+-----------+-------+--------+-----------+

6 rows in set (0.00 sec)

mysql> delete from empdeatails where job\_name='analyst';

Query OK, 2 rows affected (0.00 sec)

mysql> select \* from empdeatails;

+--------+-----------+-----------+------------+-----------+-------+--------+-----------+

| emp\_id | emp\_names | job\_name  | manager\_id | hire\_date | salry | dep\_id | commision |

+--------+-----------+-----------+------------+-----------+-------+--------+-----------+

|  68319 | kayling   | president |          0 |      1962 |  6000 |   1001 |      4000 |

|  66928 | blaze     | manager   |      68319 |      1985 |  2750 |   3001 |      4000 |

|  67832 | clare     | manager   |      68319 |      1976 |  2550 |   1001 |      4000 |

|  65646 | jonas     | manager   |      68319 |      1985 |  2957 |   2001 |      NULL |

+--------+-----------+-----------+------------+-----------+-------+--------+-----------+

4 rows in set (0.00 sec)

mysql> delete from empdeatails where job\_name='manager' ,emp\_name='clare';

ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near ',emp\_name='clare'' at line 1

mysql> delete from empdeatails where emp\_name='clare';

ERROR 1054 (42S22): Unknown column 'emp\_name' in 'where clause'

mysql> delete from empdeatails where emp\_names='clare';

Query OK, 1 row affected (0.00 sec)

mysql> select \* from empdeatails;

+--------+-----------+-----------+------------+-----------+-------+--------+-----------+

| emp\_id | emp\_names | job\_name  | manager\_id | hire\_date | salry | dep\_id | commision |

+--------+-----------+-----------+------------+-----------+-------+--------+-----------+

|  68319 | kayling   | president |          0 |      1962 |  6000 |   1001 |      4000 |

|  66928 | blaze     | manager   |      68319 |      1985 |  2750 |   3001 |      4000 |

|  65646 | jonas     | manager   |      68319 |      1985 |  2957 |   2001 |      NULL |

+--------+-----------+-----------+------------+-----------+-------+--------+-----------+

3 rows in set (0.00 sec)

mysql> update empdeatails set manager\_id=68310 where job\_name='president';

Query OK, 1 row affected (0.00 sec)

Rows matched: 1  Changed: 1  Warnings: 0

mysql> select \* from empdeatails;

+--------+-----------+-----------+------------+-----------+-------+--------+-----------+

| emp\_id | emp\_names | job\_name  | manager\_id | hire\_date | salry | dep\_id | commision |

+--------+-----------+-----------+------------+-----------+-------+--------+-----------+

|  68319 | kayling   | president |      68310 |      1962 |  6000 |   1001 |      4000 |

|  66928 | blaze     | manager   |      68319 |      1985 |  2750 |   3001 |      4000 |

|  65646 | jonas     | manager   |      68319 |      1985 |  2957 |   2001 |      NULL |

+--------+-----------+-----------+------------+-----------+-------+--------+-----------+

3 rows in set (0.00 sec)

mysql> truncate table empdeatails;

Query OK, 0 rows affected (0.02 sec)

mysql> select \* from empdeatails;

Empty set (0.00 sec)

mysql> drop table empdeatails;

Query OK, 0 rows affected (0.01 sec)

mysql> select \* from empdeatails;

ERROR 1146 (42S02): Table 'dbnine.empdeatails' doesn't exist

mysql>

mysql> create database DBA;

Query OK, 1 row affected (0.06 sec)

mysql> show databases;

+--------------------+

| Database           |

+--------------------+

| dba                |

| dbfirst            |

| dbfive             |

| dbnine             |

| dbsecond           |

| dbseven            |

| dbsix              |

| dbthird            |

| information\_schema |

| mysql              |

| performance\_schema |

| sys                |

+--------------------+

12 rows in set (0.03 sec)

mysql> use DBA;

Database changed

mysql> create table A(id int, name varchar(20), amount int, age int, phonenumber int);

Query OK, 0 rows affected (0.04 sec)

mysql> create table B(id int, course varchar(20), address varchar(20) );

Query OK, 0 rows affected (0.02 sec)

mysql> insert into A values(112,"ruthra",20000,23,0987),(113,"santhya",15000,21,7654),(116,"akash",34000,25,8765),(117,"sathish",20000,27,8978),(119,"suren",30000,24,9867),(210,"narmatha",23000,22,9768);

Query OK, 6 rows affected (0.01 sec)

Records: 6  Duplicates: 0  Warnings: 0

mysql> select\*from A;

+------+----------+--------+------+-------------+

| id   | name     | amount | age  | phonenumber |

+------+----------+--------+------+-------------+

|  112 | ruthra   |  20000 |   23 |         987 |

|  113 | santhya  |  15000 |   21 |        7654 |

|  116 | akash    |  34000 |   25 |        8765 |

|  117 | sathish  |  20000 |   27 |        8978 |

|  119 | suren    |  30000 |   24 |        9867 |

|  210 | narmatha |  23000 |   22 |        9768 |

+------+----------+--------+------+-------------+

6 rows in set (0.00 sec)

mysql> insert into B values(117,"phython","saligramam");

Query OK, 1 row affected (0.03 sec)

mysql> insert into B values(210,"ccna","nungambakkam");

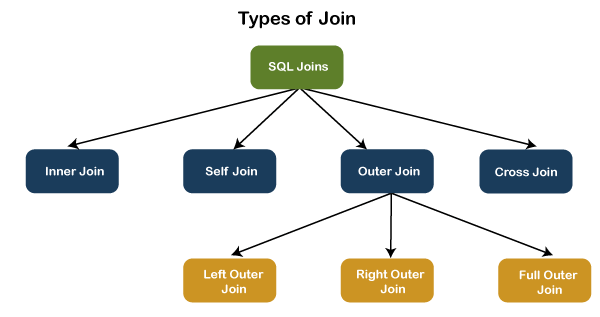
Query OK, 1 row affected (0.00 sec)

mysql> insert into B values(113," sql","nandhanam"),(220,"java","annanagar");

Query OK, 2 rows affected (0.00 sec)

Records: 2  Duplicates: 0  Warnings: 0

**JOIN**



mysql> select\*from A;

+------+----------+--------+------+-------------+

| id   | name     | amount | age  | phonenumber |

+------+----------+--------+------+-------------+

|  112 | ruthra   |  20000 |   23 |         987 |

|  113 | santhya  |  15000 |   21 |        7654 |

|  116 | akash    |  34000 |   25 |        8765 |

|  117 | sathish  |  20000 |   27 |        8978 |

|  119 | suren    |  30000 |   24 |        9867 |

|  210 | narmatha |  23000 |   22 |        9768 |

+------+----------+--------+------+-------------+

6 rows in set (0.00 sec)

mysql> SELECT \* FROM B;

+------+---------+--------------+

| id   | course  | address      |

+------+---------+--------------+

|  117 | phython | saligramam   |

|  210 | ccna    | nungambakkam |

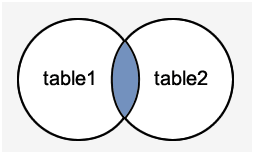
|  113 |  sql    | nandhanam    |

|  220 | java    | annanagar    |

+------+---------+--------------+

4 rows in set (0.00 sec)

**INNER JOIN**



sql> select A.name,A.amount,B.course from A inner join B on A.id = B.id;

+----------+--------+---------+

| name     | amount | course  |

+----------+--------+---------+

| santhya  |  15000 |  sql    |

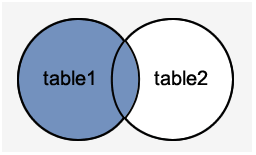
| sathish  |  20000 | phython |

| narmatha |  23000 | ccna    |

+----------+--------+---------+

3 rows in set (0.00 sec)

**LEFT OUTER JOIN**

****

mysql> select A.name,A.amount,B.course from A left outer join B on A.id = B.id;

+----------+--------+---------+

| name     | amount | course  |

+----------+--------+---------+

| ruthra   |  20000 | NULL    |

| santhya  |  15000 |  sql    |

| akash    |  34000 | NULL    |

| sathish  |  20000 | phython |

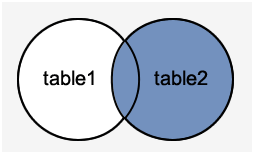
| suren    |  30000 | NULL    |

| narmatha |  23000 | ccna    |

+----------+--------+---------+

6 rows in set (0.00 sec)

**RIGHT OUTER JOIN**

****

mysql> select A.name,A.amount,B.course from A right outer join B on A.id = B.id;

+----------+--------+---------+

| name     | amount | course  |

+----------+--------+---------+

| sathish  |  20000 | phython |

| narmatha |  23000 | ccna    |

| santhya  |  15000 |  sql    |

| NULL     |   NULL | java    |

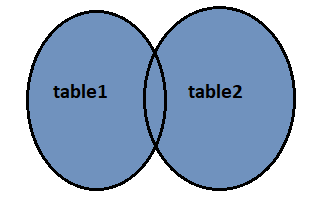
+----------+--------+---------+

4 rows in set (0.00 sec)

mysql> select A.name,A.amount,B.course from A full outer join B on A.id = B.id;

ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near 'outer join B on A.id = B.id' at line 1

FULL OUTER JOIN

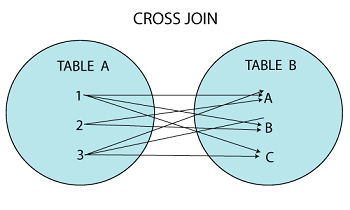


mysql>SELECT EMPLOYEE.ID, EMPLOYEE.NAME, DEPARTMENT.NAME AS DEPARTMENT\_NAME

    -> FROM EMPLOYEE

    -> FULL OUTER JOIN DEPARTMENT ON EMPLOYEE.DEPARTMENT\_ID = DEPARTMENT.ID;

CROSS JOIN

****

mysql> SELECT EMPLOYEE.ID, EMPLOYEE.NAME, DEPARTMENT.NAME AS DEPARTMENT\_NAME

    -> FROM EMPLOYEE

    -> CROSS JOIN DEPARTMENT;

+----+-----------------+-----------------+

| ID | NAME            | DEPARTMENT\_NAME |

+----+-----------------+-----------------+

|  1 | JOHN DOE        | BPO             |

|  1 | JOHN DOE        | TECHNICAL       |

|  1 | JOHN DOE        | SALES           |

|  1 | JOHN DOE        | HR              |

|  1 | JOHN DOE        | IT              |

|  2 | JANE SMITH      | BPO             |

|  2 | JANE SMITH      | TECHNICAL       |

|  2 | JANE SMITH      | SALES           |

|  2 | JANE SMITH      | HR              |

|  2 | JANE SMITH      | IT              |

|  3 | MICHAEL JOHNSON | BPO             |

|  3 | MICHAEL JOHNSON | TECHNICAL       |

|  3 | MICHAEL JOHNSON | SALES           |

|  3 | MICHAEL JOHNSON | HR              |

|  3 | MICHAEL JOHNSON | IT              |

|  4 | SARAH WILLIAMS  | BPO             |

|  4 | SARAH WILLIAMS  | TECHNICAL       |

|  4 | SARAH WILLIAMS  | SALES           |

|  4 | SARAH WILLIAMS  | HR              |

|  4 | SARAH WILLIAMS  | IT              |

|  5 | ROBERT LEE      | BPO             |

|  5 | ROBERT LEE      | TECHNICAL       |

|  5 | ROBERT LEE      | SALES           |

|  5 | ROBERT LEE      | HR              |

|  5 | ROBERT LEE      | IT              |

|  6 | ROBERT DAVE     | BPO             |

|  6 | ROBERT DAVE     | TECHNICAL       |

|  6 | ROBERT DAVE     | SALES           |

|  6 | ROBERT DAVE     | HR              |

|  6 | ROBERT DAVE     | IT              |

|  7 | SMITH           | BPO             |

|  7 | SMITH           | TECHNICAL       |

|  7 | SMITH           | SALES           |

|  7 | SMITH           | HR              |

|  7 | SMITH           | IT              |

+----+-----------------+-----------------+

35 rows in set (0.01 sec)

## SELF JOIN

mysql> SELECT e1.ID, e1.NAME FROM EMPLOYEE AS e1, EMPLOYEE e2 WHERE e1.ID = e2.ID;

+----+-----------------+

| ID | NAME            |

+----+-----------------+

|  1 | JOHN DOE        |

|  2 | JANE SMITH      |

|  3 | MICHAEL JOHNSON |

|  4 | SARAH WILLIAMS  |

|  5 | ROBERT LEE      |

|  6 | ROBERT DAVE     |

|  7 | SMITH           |

+----+-----------------+

7 rows in set (0.00 sec)

**Other function**

select\*from eb;

+----------+-----------+-----------+

| car\_Name | car\_color | car\_price |

+----------+-----------+-----------+

| hyundai  | red       |    900000 |

| KiaSonet | white     |   1000000 |

| KiaSonet | black     |   1500000 |

| hyundai  | black     |   1250000 |

+----------+-----------+-----------+

4 rows in set (0.00 sec)

**WILD CARD**

mysql> select\* from eb where car\_color like 'bla%';

+----------+-----------+-----------+

| car\_Name | car\_color | car\_price |

+----------+-----------+-----------+

| KiaSonet | black     |   1500000 |

| hyundai  | black     |   1250000 |

+----------+-----------+-----------+

2 rows in set (0.00 sec)

mysql> select \*from eb where car\_name like '%so%';

+----------+-----------+-----------+

| car\_Name | car\_color | car\_price |

+----------+-----------+-----------+

| KiaSonet | white     |   1000000 |

| KiaSonet | black     |   1500000 |

+----------+-----------+-----------+

2 rows in set (0.00 sec)

mysql> select\*from eb where car\_color like 'b\_a\_k';

+----------+-----------+-----------+

| car\_Name | car\_color | car\_price |

+----------+-----------+-----------+

| KiaSonet | black     |   1500000 |

| hyundai  | black     |   1250000 |

+----------+-----------+-----------+

2 rows in set (0.00 sec)

**CONCAT**

mysql> select concat('hyundai','kiasonet');

+------------------------------+

| concat('hyundai','kiasonet') |

+------------------------------+

| hyundaikiasonet              |

+------------------------------+

1 row in set (0.01 sec)

**UPPER**

mysql> select upper('hyundai');

+------------------+

| upper('hyundai') |

+------------------+

| HYUNDAI          |

+------------------+

1 row in set (0.01 sec)

**LOWER**

mysql> select lower('HYUNDAI');

+------------------+

| lower('HYUNDAI') |

+------------------+

| hyundai          |

+------------------+

1 row in set (0.00 sec)

**LENGTH**

mysql> select char\_length('kiasonet');

+-------------------------+

| char\_length('kiasonet') |

+-------------------------+

|                       8 |

+-------------------------+

1 row in set (0.00 sec)

**REVERSE**

mysql> select reverse(car\_name)from eb;

+-------------------+

| reverse(car\_name) |

+-------------------+

| iadnuyh           |

| tenoSaiK          |

| tenoSaiK          |

| iadnuyh           |

+-------------------+

4 rows in set (0.00 sec)

**CLAUSE**

mysql> select car\_name,car\_color,car\_price from eb order by (case when car\_color is null then car\_price else car\_color end);

+----------+-----------+-----------+

| car\_name | car\_color | car\_price |

+----------+-----------+-----------+

| KiaSonet | black     |   1500000 |

| hyundai  | black     |   1250000 |

| hyundai  | red       |    900000 |

| KiaSonet | white     |   1000000 |

+----------+-----------+-----------+

4 rows in set (0.00 sec)

**If**

Mysql>select if (900000>50000,'yes','no');

+------------------------------+

| if (900000>50000,'yes','no') |

+------------------------------+

| yes                          |

+------------------------------+

1 row in set (0.00 sec)