**SQL Queries**

**MYSQL : -**

MySQL database server manages the databases and tables, controls user

access and processes the SQL queries.

--------------------------------------------------------------------------------------------------------

mysql> **show databases ;**

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

| information\_schema |

| mysql |

| performance\_schema |

| sys |

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

**TABLES AND VIEWS : -**

* **Create : -**

mysql> **create database library ;**

Query OK, 1 row affected (0.00 sec)

mysql> **use library ;**

Database changed

mysql> **create table books** (**title** varchar(100), **name** varchar(100 ) , **price** int not null );

mysql> **describe books ;**

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

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

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

| title | varchar(100) | YES | | NULL | |

| name | varchar(100) | YES | | NULL | |

| price | int(11) | NO | | | NULL | |

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

**MYSQL QUERY TYPES : -**

* **Insert :-**

mysql> **insert into books values ("Literature" , "nimbus" , 50 );**

mysql> **insert into books values ("GRAMMER" , "BBC" , 280 );**

mysql> **insert into books values ("Math" , "trigno" , 280 );**

* **Select :-**

mysql> **select \* from books ;**

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

| title | name | price |

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

| Literature | nimbus | 50 |

| GRAMMER | BBC | 280 |

| Math | trigno | 280 |

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

mysql> **select \* from books where price = 50 ;**

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

| title | name | price |

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

| Literature | nimbus | 50 |

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

* **Alter :-**

mysql**> alter table notebook add column id int not null first;**

**mysql> alter table notebook drop id ;**

mysql> **alter table notebook change sno Sno int ;**

mysql> **alter table notebook modify Sno int auto\_increment ;**

* **Update : -**

mysql> **update notebook set quantity = 110 where Sno = 4 ;**

* **Delete :-**

**| course\_id | courses |**

**+-----------+---------+**

**| 1 | agra |**

**| 2 | delhi |**

**| 3 | bhopal |**

**mysql> delete from course where course\_id = 1 ;**

**| course\_id | courses |**

**+-----------+---------+**

**| 2 | delhi |**

**| 3 | bhopal |**

**Create table with foreign key SYNTAX : -**

create table student (

id int not null auto\_increment ,

name VARCHAR(20) not null ,

age int not null ,

city VARCHAR(40) not null ,

primary key (id ) ,

foreign key ( city ) REFERENCE City <table\_name>( c\_id ) ) ;

**MYSQL CONDITION : - CLAUSES -** distinct ,from , where , order by , group by , having .

**CONDITION : - and , or , not , like , in , between , not between , is null , not null**

* **Like Clause : -**

mysql> **select \* from notebook where brand like '%ec%' ;**

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

| Sno | BRAND | TYPE | QUANTITY |

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

| 4 | Checkmate | Rough | 110 |

| 5 | Checkmate | Fair | 150 |

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

**Group By : -**

* **Sorting :- ( order by )**

mysql> **select \* from notebook order by quantity asc ;**

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

| Sno | BRAND | TYPE | QUANTITY |

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

| 3 | Classmate | Rough | 15 |

| 4 | Checkmate | Rough | 110 |

| 2 | Classmate | fair | 130 |

| 5 | Checkmate | Fair | 150 |

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

**MYSQL JOINS : -**

* **JOIN :-**

Mysql >

**select a.quantity , a.brand from notebook a right join books b on quantity = quant ;**

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

| quantity | brand |

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

| 130 | Classmate |

| 15 | Classmate |

| 150 | Checkmate |

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

* **NULL values :-**

**IS NOT NULL−** This operator returns true, if the column value is not NULL.

mysql> SELECT \* from tcount\_tbl

WHERE tutorial\_count IS NOT NULL;

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

| tutorial\_author | tutorial\_count |

| mahran | 20 |

| Gill | 20 |

**IS NULL−** This operator returns true, if the column value is NULL.

mysql> SELECT \* FROM tcount\_tbl

-> WHERE tutorial\_count IS NULL;

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

| tutorial\_author | tutorial\_count |

| mahnaz | NULL |

| Jen | NULL |

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

**REGEXP : -** It provide a powerful and flexible pattern match that can help us implement power search utilities for our database systems.

mysql> SELECT \* FROM student ;

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

| NAME | AGE | GENDER |

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

| RAJ KUMAR | 19 | MALE |

| SARITA KUMARI | 19 | FEMALE |

| ANIL ARORA | 29 | MALE |

| MEERA KHAN | 39 | FEMALE |

| JOHN KAPOOR | 31 | MALE |

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

mysql> select \* from student where name **regexp 'khan $ |poor' ;**

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

| NAME | AGE | GENDER |

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

| MEERA KHAN | 39 | FEMALE |

| JOHN KAPOOR | 31 | MALE |

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

mysql> select \* from student where name **regexp**  **'sar'** ;

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

| NAME | AGE | GENDER |

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

| SARITA KUMARI | 19 | FEMALE |

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

mysql> select \* from student where name **regexp 'raj|poor|khan' ;**

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

| NAME | AGE | GENDER |

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

| RAJ KUMAR | 19 | MALE |

| MEERA KHAN | 39 | FEMALE |

| JOHN KAPOOR | 31 | MALE |

+-------------------------+----------+-------------+ `

mysql> select \* from student where name regexp **'^AN' ;**

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

| NAME | AGE | GENDER |

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

| ANIL ARORA | 29 | MALE |

| ANKUR RAI | 23 | MALE |

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

mysql> select \* from student where name regexp **'[eso]' ;**

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

| NAME | AGE | GENDER |

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

| SARITA KUMARI | 19 | FEMALE |

| ANIL ARORA | 29 | MALE |

| MEERA KHAN | 39 | FEMALE |

| JOHN KAPOOR | 31 | MALE |

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

mysql> select \* from student where name regexp **'^[sa]' ;**

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

| NAME | AGE | GENDER |

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

| SARITA KUMARI | 19 | FEMALE |

| ANIL ARORA | 29 | MALE |

| ANKUR RAI | 23 | MALE |

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

mysql> select \* from student where name regexp **'[ai]$' ;**

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

| NAME | AGE | GENDER |

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

| SARITA KUMARI | 19 | FEMALE |

| ANIL ARORA | 29 | MALE |

| ANKUR RAI | 23 | MALE |

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

mysql> select \* from student where name regexp **'n[ik]' ;**

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

| NAME | AGE | GENDER |

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

| ANIL ARORA | 29 | MALE |

| ANKUR RAI | 23 | MALE |

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

mysql> select \* from student where name regexp

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

| NAME | AGE | GENDER |

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

| RAJ KUMAR | 19 | MALE |

| SARITA KUMARI | 19 | FEMALE |

| ANIL ARORA | 29 | MALE |

| MEERA KHAN | 39 | FEMALE |

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

**OPERATOR : -** AND , OR , NOT .

mysql> select \* from student **where** name **regexp 'ar'** and **age>=19** and gender = "male";

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

| NAME | AGE | GENDER |

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

| RAJ KUMAR | 19 | MALE |

| ANIL ARORA | 29 | MALE |

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

**or : - where city =”bhopal” or city = “agra” and gender = “m” ;**

**not :- whrere not age >=20 ;**

**IN operator : -**

mysql> select \* from student where age **in** (19,39) ;

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

| NAME | AGE | GENDER |

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

| RAJ KUMAR | 19 | MALE |

| SARITA KUMARI | 19 | FEMALE |

| MEERA KHAN | 39 | FEMALE |

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

**BETWEEN operator : -** (also NOT BETWEEN)

mysql> select \* from student where age **between** 18 **and** 25 ;

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

| NAME | AGE | GENDER |

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

| RAJ KUMAR | 19 | MALE |

| SARITA KUMARI | 19 | FEMALE |

| ANKUR RAI | 23 | MALE |

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

- mysql> select \* from student where name  **between “a” and “k”**  ;

**LIKE operator : -**

mysql> select \* from student where name **like 'a%'** ;

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

| NAME | AGE | GENDER |

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

| ANIL ARORA | 29 | MALE |

| ANKUR RAI | 23 | MALE |

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

|  |  |
| --- | --- |
| LIKE Operator | Description |
| WHERE CustomerName LIKE 'a%' | Finds any values that start with "a" |
| WHERE CustomerName LIKE '%a' | Finds any values that end with "a" |
| WHERE CustomerName LIKE '%or%' | Finds any values that have "or" in any position |
| WHERE CustomerName LIKE '\_r%' | Finds any values that have "r" in the second position |
| WHERE CustomerName LIKE 'a\_%' | Finds any values that start with "a" and are at least 2 characters in length |
| WHERE CustomerName LIKE 'a\_\_%' | Finds any values that start with "a" and are at least 3 characters in length |
| WHERE ContactName LIKE 'a%o' | Finds any values that start with "a" and ends with "o" |

mysql> select \* from student order by name ;

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

| NAME | AGE | GENDER |

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

| ANIL ARORA | 29 | MALE |

| JOHN KAPOOR | 31 | MALE |

| MEERA KHAN | 39 | FEMALE |

| RAJ KUMAR | 19 | MALE |

| SARITA KUMARI | 19 | FEMALE |

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

mysql> select **distinct** age from student ;

+-----+

| age |

+-----+

| 19 |

| 29 |

| 39 |

| 31 |

| 23 |

+-----+

- mysql > select \* from student **where** city = "agra" **order by**  name limit 3 ;

mysql> select \* from student **limit 3,3 ;**

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

| NAME | AGE | GENDER |

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

| MEERA KHAN | 39 | FEMALE |

| JOHN KAPOOR | 31 | MALE |

| ANKUR RAI | 23 | MALE |

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

**AGGRIGATE FUNCTION : -**  COUNT , MAX , MIN , SUM , AVG .

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

| NAME | AGE | GENDER |

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

| RAJ KUMAR | 19 | MALE |

| SARITA KUMARI 19 | FEMALE |

| ANIL ARORA | 29 | MALE |

| MEERA KHAN | 39 | FEMALE |

| JOHN KAPOOR | 31 | MALE |

| ANKUR RAI | 23 | MALE |

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

mysql> select **count(**DISTINCT city) from student ;

mysql> select **count**(name) from student ;

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

| count(name) |

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

| 6 |

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

mysql> select **max**(age) as max\_age from student ;

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

| max\_age |

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

| 39 |

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

**INDEX : -**  To find the rows matching a WHERE clause quickly.

Automatic create the indexes of PRIMARY KEY and UNIQUE columns.

**mysql> create index studob on human (dob) ;**

**mysql> show index from human ;**

| Table | Non\_unique | Key\_name | Seq\_in\_index | Column\_name | Collation | Cardinality | Sub\_part | Packed | Null | Index\_type | Comment | Index\_comment |

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

| human | 0 | **PRIMARY**  | 1 | id | A | 4 | NULL | NULL | | BTREE | | |

| human | 1 | **studob** | 1 | dob | A | 4 | NULL | NULL | | BTREE | | |`

**SUBQUERIES : -**

**mysql> select name from student where course = (select course\_id from course**

**-> where course\_name = "B.tech" ) ;**

**+------------+**

| NAME |

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

| Ram |

| jay |

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