------- : MYSQL BASIC : -------

mysql> show databases;

```
+--------------------+
| Database           |
+--------------------+
| anant              |
| information_schema |
| mysql              |
| performance_schema |
| sys                |
+--------------------+
5 rows in set (0.00 sec)
```

mysql> drop database anant;

Query OK, 0 rows affected (0.02 sec)

mysql> create database anantdb;

Query OK, 1 row affected (0.01 sec)

mysql> show databases;

```
+--------------------+
| Database           |
+--------------------+
| anantdb            |
| information_schema |
| mysql              |
| performance_schema |
| sys                |
+--------------------+
5 rows in set (0.00 sec)
```

mysql> use anantdb;

Database changed

mysql> create table details(id integer primary key,first_name varchar(20),name varchar(20),last_name varchar(20),proffession varchar(30),mobile_no integer(10),salary integer(10));

Query OK, 0 rows affected, 2 warnings (0.02 sec)

mysql> insert into details values(1,'soni','anant','rajeshkumar','web-developer',989658659,65000);

Query OK, 1 row affected (0.01 sec)

mysql> insert into details values(2,'rana','ashutosh','rameshkumar','app-developer',989658589,55000);

Query OK, 1 row affected (0.01 sec)

mysql> insert into details values(3,'patel','dhruv','sureshkumar','web-designer',989655589,45000);

Query OK, 1 row affected (0.01 sec)

mysql> insert into details values(4,'prajapati','kenil','dineshkumar','app-designer',989589589,58000);

Query OK, 1 row affected (0.01 sec)

mysql> insert into details values(5,'patel','kanu','ramalal','software-engineer',989578589,98000);

Query OK, 1 row affected (0.01 sec)

mysql> show tables;

```
+------------------+
| Tables_in_anantdb |
+------------------+
| details          |
+------------------+
1 row in set (0.00 sec)
```

mysql> desc details;

```
+------------+-------------+------+-----+---------+-------+
| Field      | Type        | Null | Key | Default | Extra |
+------------+-------------+------+-----+---------+-------+
| id         | int         | NO   | PRI | NULL    |       |
| first_name | varchar(20) | YES  |     | NULL    |       |
| name       | varchar(20) | YES  |     | NULL    |       |
| last_name  | varchar(20) | YES  |     | NULL    |       |
| proffession| varchar(30) | YES  |     | NULL    |       |
| mobile_no  | int         | YES  |     | NULL    |       |
| salary     | int         | YES  |     | NULL    |       |
+------------+-------------+------+-----+---------+-------+
7 rows in set (0.00 sec)
```

mysql> select*from details;

```
+----+------------+----------+-------------+------------------+-----------+--------+
| id | first_name | name     | last_name   | proffession      | mobile_no | salary |
+----+------------+----------+-------------+------------------+-----------+--------+
|  1 | soni       | anant    | rajeshkumar | web-developer    | 989658659 |  65000 |
|  2 | rana       | ashutosh | rameshkumar | app-developer    | 989658589 |  55000 |
|  3 | patel      | dhruv    | sureshkumar | web-designer     | 989655589 |  45000 |
|  4 | prajapati  | kenil    | dineshkumar | app-designer     | 989589589 |  58000 |
|  5 | patel      | kanu     | ramalal     | software-engineer| 989578589 |  98000 |
+----+------------+----------+-------------+------------------+-----------+--------+
5 rows in set (0.00 sec)
```

mysql> alter table details add roll_no int(10);

Query OK, 0 rows affected, 1 warning (0.03 sec)

Records: 0 Duplicates: 0 Warnings: 1

mysql> select*from details;

```
+----+------------+----------+-------------+-------------------+-----------+--------+---------+
| id | first_name | name     | last_name   | proffession       | mobile_no | salary | roll_no |
+----+------------+----------+-------------+-------------------+-----------+--------+---------+
|  1 | soni       | anant    | rajeshkumar | web-developer     | 989658659 |  65000 |    NULL |
|  2 | rana       | ashutosh | rameshkumar | app-developer     | 989658589 |  55000 |    NULL |
|  3 | patel      | dhruv    | sureshkumar | web-designer      | 989655589 |  45000 |    NULL |
|  4 | prajapati  | kenil    | dineshkumar | app-designer      | 989589589 |  58000 |    NULL |
|  5 | patel      | kanu     | ramalal     | software-engineer | 989578589 |  98000 |    NULL |
+----+------------+----------+-------------+-------------------+-----------+--------+---------+
```

mysql> alter table details drop column roll_no;

Query OK, 0 rows affected (0.17 sec)

Records: 0 Duplicates: 0 Warnings: 0

mysql> select*from details;

```
+----+------------+----------+-------------+-------------------+-----------+--------+
| id | first_name | name     | last_name   | proffession       | mobile_no | salary |
+----+------------+----------+-------------+-------------------+-----------+--------+
|  1 | soni       | anant    | rajeshkumar | web-developer     | 989658659 |  65000 |
|  2 | rana       | ashutosh | rameshkumar | app-developer     | 989658589 |  55000 |
|  3 | patel      | dhruv    | sureshkumar | web-designer      | 989655589 |  45000 |
|  4 | prajapati  | kenil    | dineshkumar | app-designer      | 989589589 |  58000 |
|  5 | patel      | kanu     | ramalal     | software-engineer | 989578589 |  98000 |
+----+------------+----------+-------------+-------------------+-----------+--------+
5 rows in set (0.00 sec)
```

mysql> drop database anantdb;

Query OK, 1 row affected (0.02 sec)

mysql> show databases;

```
+--------------------+
| Database           |
+--------------------+
| information_schema |
| mysql              |
| performance_schema |
| sys                |
+--------------------+
4 rows in set (0.00 sec)
```

mysql> create database student_details;

Query OK, 1 row affected (0.01 sec)

mysql> show databases;

```
+--------------------+
| Database           |
+--------------------+
| information_schema |
| mysql              |
| performance_schema |
| student_details    |
| sys                |
+--------------------+
5 rows in set (0.00 sec)
```

mysql> use student_details;

Database changed

------- : CRUD : CREATE, READ, UPDATE, DELETE : -------

------- : CREATE : -------

mysql> create table students(ID int not null auto_increment,FNAME varchar(55),LNAME varchar(55),AGE int,primary key(ID));

mysql> insert into students(FNAME,LNAME,AGE)values('vinod','thapa',25);

Query OK, 1 row affected (0.01 sec)

mysql> insert into students(FNAME,LNAME

students(FNAME,LNAME,AGE)values('vinod','thapa',25);

Query OK, 1 row affected (0.01 sec)

mysql> insert into students(FNAME,LNAME,AGE)values('vinod','bahadur',25);

Query OK, 1 row affected (0.01 sec)

mysql> insert into students(FNAME,LNAME,AGE)values('naran','kc',28);

Query OK, 1 row affected (0.01 sec)

mysql> insert into students(FNAME,LNAME,AGE)values('thapa','technical',24);

Query OK, 1 row affected (0.01 sec)

mysql> insert into students(FNAME,LNAME,AGE)values('arjun','kc',26);

Query OK, 1 row affected (0.01 sec)

mysql> insert into students(FNAME,LNAME,AGE)values('binta','thapa',21);

Query OK, 1 row affected (0.01 sec)

mysql> insert into students(FNAME,LNAME,AGE)values('ramesh','thapa',22);

Query OK, 1 row affected (0.01 sec)

mysql> insert into students(FNAME,LNAME,AGE)values('amrit','thapa',23);

Query OK, 1 row affected (0.01 sec)

mysql> insert into students(FNAME,LNAME,AGE)values('ram','chettri',23);

Query OK, 1 row affected (0.01 sec)

mysql> insert into students(FNAME,LNAME,AGE)values('kanxi','thapa',25);

Query OK, 1 row affected (0.01 sec)

mysql> show tables;

```
+-------------------------+
| Tables_in_student_details |
+-------------------------+
| students                |
+-------------------------+
1 row in set (0.00 sec)
```

mysql> desc students;

```
+-------+-------------+------+-----+---------+----------------+
| Field | Type        | Null | Key | Default | Extra          |
+-------+-------------+------+-----+---------+----------------+
| ID    | int         | NO   | PRI | NULL    | auto_increment |
| FNAME | varchar(55) | YES  |     | NULL    |                |
| LNAME | varchar(55) | YES  |     | NULL    |                |
| AGE   | int         | YES  |     | NULL    |                |
+-------+-------------+------+-----+---------+----------------+
4 rows in set (0.00 sec)
```

mysql> select*from students;

```
+----+--------+-----------+------+
| ID | FNAME  | LNAME     | AGE  |
+----+--------+-----------+------+
|  1 | vinod  | thapa     |   25 |
|  2 | vinod  | bahadur   |   25 |
|  3 | naran  | kc        |   28 |
|  4 | thapa  | technical |   24 |
|  5 | arjun  | kc        |   26 |
|  6 | binta  | thapa     |   21 |
|  7 | ramesh | thapa     |   22 |
|  8 | amrit  | thapa     |   23 |
|  9 | ram    | chettri   |   23 |
| 10 | kanxi  | thapa     |   25 |
+----+--------+-----------+------+
10 rows in set (0.00 sec)
```

------- : READ : -------

mysql> select*from students where age=25;

```
+----+--------+---------+------+
| ID | FNAME  | LNAME   | AGE  |
+----+--------+---------+------+
|  1 | vinod  | thapa   |   25 |
|  2 | vinod  | bahadur |   25 |
| 10 | kanxi  | thapa   |   25 |
+----+--------+---------+------+
3 rows in set (0.00 sec)
```

mysql> select FNAME from students where age=25;

```
+-------+
| FNAME |
+-------+
| vinod |
| vinod |
| kanxi |
+-------+
3 rows in set (0.00 sec)
```

mysql> select FNAME,LNAME from students where age=25;

```
+-------+---------+
| FNAME | LNAME   |
+-------+---------+
| vinod | thapa   |
| vinod | bahadur |
| kanxi | thapa   |
+-------+---------+
3 rows in set (0.00 sec)
```

mysql> update students set AGE=23 where FNAME='ramesh';

Query OK, 1 row affected (0.00 sec)

Rows matched: 1 Changed: 1 Warnings: 0

mysql> select*from students;

```
+----+--------+-----------+------+
| ID | FNAME  | LNAME     | AGE  |
+----+--------+-----------+------+
|  1 | vinod  | thapa     |   25 |
|  2 | vinod  | bahadur   |   25 |
|  3 | naran  | kc        |   28 |
|  4 | thapa  | technical |   24 |
|  5 | arjun  | kc        |   26 |
|  6 | binta  | thapa     |   21 |
|  7 | ramesh | thapa     |   23 |
|  8 | amrit  | thapa     |   23 |
|  9 | ram    | chettri   |   23 |
| 10 | kanxi  | thapa     |   25 |
+----+--------+-----------+------+
10 rows in set (0.00 sec)
```

mysql> update students set AGE=55 where ID=10;

Query OK, 1 row affected (0.00 sec)

Rows matched: 1 Changed: 1 Warnings: 0

mysql> select*from students;

```
+----+--------+-----------+------+
| ID | FNAME  | LNAME     | AGE  |
+----+--------+-----------+------+
|  1 | vinod  | thapa     |   25 |
|  2 | vinod  | bahadur   |   25 |
|  3 | naran  | kc        |   28 |
|  4 | thapa  | technical |   24 |
|  5 | arjun  | kc        |   26 |
|  6 | binta  | thapa     |   21 |
|  7 | ramesh | thapa     |   23 |
|  8 | amrit  | thapa     |   23 |
|  9 | ram    | chettri   |   23 |
| 10 | kanxi  | thapa     |   55 |
+----+--------+-----------+------+
10 rows in set (0.00 sec)
```

mysql> delete from students where FNAME='naran';

Query OK, 1 row affected (0.01 sec)

mysql> select*from students;

```
+----+--------+-----------+------+
| ID | FNAME  | LNAME     | AGE  |
+----+--------+-----------+------+
|  1 | vinod  | thapa     |   25 |
|  2 | vinod  | bahadur   |   25 |
|  4 | thapa  | technical |   24 |
|  5 | arjun  | kc        |   26 |
|  6 | binta  | thapa     |   21 |
|  7 | ramesh | thapa     |   23 |
|  8 | amrit  | thapa     |   23 |
|  9 | ram    | chettri   |   23 |
| 10 | kanxi  | thapa     |   55 |
+----+--------+-----------+------+
9 rows in set (0.00 sec)
```

mysql> delete from students where ID='7';

Query OK, 1 row affected (0.01 sec)

mysql> select*from students;

```
+----+--------+-----------+------+
| ID | FNAME  | LNAME     | AGE  |
+----+--------+-----------+------+
|  1 | vinod  | thapa     |   25 |
|  2 | vinod  | bahadur   |   25 |
|  4 | thapa  | technical |   24 |
|  5 | arjun  | kc        |   26 |
|  6 | binta  | thapa     |   21 |
|  8 | amrit  | thapa     |   23 |
|  9 | ram    | chettri   |   23 |
| 10 | kanxi  | thapa     |   55 |
+----+--------+-----------+------+
8 rows in set (0.00 sec)
```

mysql> insert into students values(7,'ramesh','thapa',23);

Query OK, 1 row affected (0.01 sec)

mysql> select*from students;

```
+----+--------+-----------+------+
| ID | FNAME  | LNAME     | AGE  |
+----+--------+-----------+------+
|  1 | vinod  | thapa     |   25 |
|  2 | vinod  | bahadur   |   25 |
|  4 | thapa  | technical |   24 |
|  5 | arjun  | kc        |   26 |
|  6 | binta  | thapa     |   21 |
|  7 | ramesh | thapa     |   23 |
|  8 | amrit  | thapa     |   23 |
|  9 | ram    | chettri   |   23 |
| 10 | kanxi  | thapa     |   55 |
+----+--------+-----------+------+
9 rows in set (0.00 sec)
```

------- : DISTINCT : -------

mysql> select FNAME from students;

```
+--------+
| FNAME  |
+--------+
| vinod  |
| vinod  |
| thapa  |
| arjun  |
| binta  |
| ramesh |
| amrit  |
| ram    |
| kanxi  |
+--------+
9 rows in set (0.00 sec)
```

mysql> select distinct FNAME from students;

```
+--------+
| FNAME  |
+--------+
| vinod  |
| thapa  |
| arjun  |
| binta  |
| ramesh |
| amrit  |
| ram    |
| kanxi  |
+--------+
8 rows in set (0.00 sec)
```

mysql> select FNAME,AGE from students;

```
+--------+------+
| FNAME  | AGE  |
+--------+------+
| vinod  |   25 |
| vinod  |   25 |
| thapa  |   24 |
| arjun  |   26 |
| binta  |   21 |
| ramesh |   23 |
| amrit  |   23 |
| ram    |   23 |
| kanxi  |   55 |
+--------+------+
9 rows in set (0.00 sec)
```

mysql> select distinct AGE from students;

```
+------+
| AGE  |
+------+
|   25 |
|   24 |
|   26 |
|   21 |
|   23 |
|   55 |
+------+
6 rows in set (0.00 sec)
```

mysql> select distinct FNAME,AGE from students;

```
+--------+------+
| FNAME  | AGE  |
+--------+------+
| vinod  |   25 |
| thapa  |   24 |
| arjun  |   26 |
| binta  |   21 |
| ramesh |   23 |
| amrit  |   23 |
| ram    |   23 |
| kanxi  |   55 |
+--------+------+
8 rows in set (0.00 sec)
```

------- : ORDER BY : -------

mysql> select age from students order by age;

```
+------+
| age  |
+------+
|   21 |
|   23 |
|   23 |
|   23 |
|   24 |
|   25 |
|   25 |
|   26 |
|   55 |
+------+
9 rows in set (0.00 sec)
```

mysql> select FNAME from students order by age;

```
+--------+
| FNAME  |
+--------+
| binta  |
| ramesh |
| amrit  |
| ram    |
| thapa  |
| vinod  |
| vinod  |
| arjun  |
| kanxi  |
+--------+
9 rows in set (0.00 sec)
```

mysql> select FNAME,LNAME,AGE from students order by AGE;

```
+--------+-----------+------+
| FNAME  | LNAME     | AGE  |
+--------+-----------+------+
| binta  | thapa     |   21 |
| ramesh | thapa     |   23 |
| amrit  | thapa     |   23 |
| ram    | chettri   |   23 |
| thapa  | technical |   24 |
| vinod  | thapa     |   25 |
| vinod  | bahadur   |   25 |
| arjun  | kc        |   26 |
| kanxi  | thapa     |   55 |
+--------+-----------+------+
9 rows in set (0.00 sec)
```

mysql> select FNAME,LNAME,AGE from students order by AGE limit 5;

```
+--------+-----------+------+
| FNAME  | LNAME     | AGE  |
+--------+-----------+------+
| binta  | thapa     |   21 |
| ramesh | thapa     |   23 |
| amrit  | thapa     |   23 |
| ram    | chettri   |   23 |
| thapa  | technical |   24 |
+--------+-----------+------+
5 rows in set (0.00 sec)
```

------- : LIKE : -------

mysql> select FNAME from students where FNAME like'%in%';

```
+--------+
| FNAME  |
+--------+
| vinod  |
| vinod  |
| binta  |
+--------+
3 rows in set (0.00 sec)
```

mysql> select LNAME from students where FNAME like '%ha%';

```
+-----------+
| LNAME     |
+-----------+
| technical |
+-----------+
1 row in set (0.00 sec)
```

mysql> select LNAME from students where LNAME like '%ha%';

```
+---------+
| LNAME   |
+---------+
| thapa   |
| bahadur |
| thapa   |
| thapa   |
| thapa   |
| thapa   |
+---------+
6 rows in set (0.00 sec)
```

mysql> select max(age) from students;

```
+----------+
| max(age) |
+----------+
|       55 |
+----------+
1 row in set (0.00 sec)
```

mysql> select min(age) from students;

```
+----------+
| min(age) |
+----------+
|       21 |
+----------+
1 row in set (0.00 sec)
```

mysql> select sum(age) from students;

```
+----------+
| sum(age) |
+----------+
|      245 |
+----------+
1 row in set (0.00 sec)
```

mysql> select count(id) from students;

```
+-----------+
| count(id) |
+-----------+
|         9 |
+-----------+
1 row in set (0.00 sec)
```

mysql> select avg(age) from students;

```
+----------+
| avg(age) |
+----------+
|  27.2222 |
+----------+
1 row in set (0.00 sec)
```

mysql> select * from students where AGE=25;

```
+----+-------+---------+------+
| ID | FNAME | LNAME   | AGE  |
+----+-------+---------+------+
|  1 | vinod | thapa   |   25 |
|  2 | vinod | bahadur |   25 |
+----+-------+---------+------+
2 rows in set (0.00 sec)
```

mysql> select * from students where AGE!=25;

```
+----+--------+-----------+------+
| ID | FNAME  | LNAME     | AGE  |
+----+--------+-----------+------+
|  4 | thapa  | technical |   24 |
|  5 | arjun  | kc        |   26 |
|  6 | binta  | thapa     |   21 |
|  7 | ramesh | thapa     |   23 |
|  8 | amrit  | thapa     |   23 |
|  9 | ram    | chettri   |   23 |
| 10 | kanxi  | thapa     |   55 |
+----+--------+-----------+------+
7 rows in set (0.00 sec)
```

mysql> select * from students where LNAME='thapa';

```
+----+--------+-------+------+
| ID | FNAME  | LNAME | AGE  |
+----+--------+-------+------+
|  1 | vinod  | thapa |   25 |
|  6 | binta  | thapa |   21 |
|  7 | ramesh | thapa |   23 |
|  8 | amrit  | thapa |   23 |
| 10 | kanxi  | thapa |   55 |
+----+--------+-------+------+
5 rows in set (0.00 sec)
```

mysql> select * from students where LNAME!='thapa';

```
+----+-------+-----------+------+
| ID | FNAME | LNAME     | AGE  |
+----+-------+-----------+------+
|  2 | vinod | bahadur   |   25 |
|  4 | thapa | technical |   24 |
|  5 | arjun | kc        |   26 |
|  9 | ram   | chettri   |   23 |
+----+-------+-----------+------+
4 rows in set (0.00 sec)
```

mysql> select*from students where age>25;

```
+----+-------+-------+------+
| ID | FNAME | LNAME | AGE  |
+----+-------+-------+------+
|  5 | arjun | kc    |   26 |
| 10 | kanxi | thapa |   55 |
+----+-------+-------+------+
2 rows in set (0.00 sec)
```

mysql> select*from students where age>=25;

```
+----+-------+---------+------+
| ID | FNAME | LNAME   | AGE  |
+----+-------+---------+------+
|  1 | vinod | thapa   |   25 |
|  2 | vinod | bahadur |   25 |
|  5 | arjun | kc      |   26 |
| 10 | kanxi | thapa   |   55 |
+----+-------+---------+------+
4 rows in set (0.00 sec)
```

mysql> select*from students where age<25;

```
+----+--------+-----------+------+
| ID | FNAME  | LNAME     | AGE  |
+----+--------+-----------+------+
|  4 | thapa  | technical |   24 |
|  6 | binta  | thapa     |   21 |
|  7 | ramesh | thapa     |   23 |
|  8 | amrit  | thapa     |   23 |
|  9 | ram    | chettri   |   23 |
+----+--------+-----------+------+
5 rows in set (0.00 sec)
```

mysql> select*from students where age<=25;

```
+----+--------+-----------+------+
| ID | FNAME  | LNAME     | AGE  |
+----+--------+-----------+------+
|  1 | vinod  | thapa     |   25 |
|  2 | vinod  | bahadur   |   25 |
|  4 | thapa  | technical |   24 |
|  6 | binta  | thapa     |   21 |
|  7 | ramesh | thapa     |   23 |
|  8 | amrit  | thapa     |   23 |
|  9 | ram    | chettri   |   23 |
+----+--------+-----------+------+
7 rows in set (0.00 sec)
```

mysql> select*from students where age=25;

```
+----+-------+---------+------+
| ID | FNAME | LNAME   | AGE  |
+----+-------+---------+------+
|  1 | vinod | thapa   |   25 |
|  2 | vinod | bahadur |   25 |
+----+-------+---------+------+
2 rows in set (0.00 sec)
```

mysql> select*from students where age not between 22 and 50;

```
+----+-------+-------+------+
| ID | FNAME | LNAME | AGE  |
+----+-------+-------+------+
|  6 | binta | thapa |   21 |
| 10 | kanxi | thapa |   55 |
+----+-------+-------+------+
2 rows in set (0.00 sec)
```

mysql> select*from students where age between 21 and 24;

```
+----+--------+-----------+------+
| ID | FNAME  | LNAME     | AGE  |
+----+--------+-----------+------+
|  4 | thapa  | technical |   24 |
|  6 | binta  | thapa     |   21 |
|  7 | ramesh | thapa     |   23 |
|  8 | amrit  | thapa     |   23 |
|  9 | ram    | chettri   |   23 |
+----+--------+-----------+------+
5 rows in set (0.00 sec)
```

mysql> select*from students where FNAME in('vinod','binita');

```
+----+-------+---------+------+
| ID | FNAME | LNAME   | AGE  |
+----+-------+---------+------+
|  1 | vinod | thapa   |   25 |
|  2 | vinod | bahadur |   25 |
+----+-------+---------+------+
2 rows in set (0.00 sec)
```

mysql> select*from students where FNAME='vinod' or 'binita';

```
+----+-------+---------+------+
| ID | FNAME | LNAME   | AGE  |
+----+-------+---------+------+
|  1 | vinod | thapa   |   25 |
|  2 | vinod | bahadur |   25 |
+----+-------+---------+------+
2 rows in set, 1 warning (0.00 sec)
```

------- : STRING FUNCTION : -------

mysql> select concat('vinod','thapa');

```
+----------------------+
| concat('vinod','thapa') |
+----------------------+
| vinodthapa           |
+----------------------+
1 row in set (0.00 sec)
```

mysql> select concat('anant','soni');

```
+----------------------+
| concat('anant','soni') |
+----------------------+
| anantsoni            |
+----------------------+
1 row in set (0.00 sec)
```

mysql> select concat('vinod','','thapa');

```
+--------------------------+
| concat('vinod','','thapa') |
+--------------------------+
| vinodthapa               |
+--------------------------+
1 row in set (0.00 sec)
```

mysql> select concat('anant',' ','soni');

```
+--------------------------+
| concat('anant',' ','soni') |
+--------------------------+
| anant soni               |
+--------------------------+
1 row in set (0.00 sec)
```

mysql> select concat(FNAME,LNAME,' ',AGE) from students;

```
+---------------------------+
| concat(FNAME,LNAME,' ',AGE) |
+---------------------------+
| vinodthapa 25             |
| vinodbahadur 25           |
| thapatechnical 24         |
| arjunkc 26                |
| bintathapa 21             |
| rameshthapa 23            |
| amritthapa 23             |
| ramchettri 23             |
| kanxithapa 55             |
+---------------------------+
9 rows in set (0.00 sec)
```

mysql> select reverse('thapa');

```
+-----------------+
| reverse('thapa') |
+-----------------+
| apaht           |
+-----------------+
1 row in set (0.00 sec)
```

mysql> select reverse('thapa') as reverse;

```
+---------+
| reverse |
+---------+
| apaht   |
+---------+
1 row in set (0.00 sec)
```

mysql> select concat ('thapa',reverse('thapa')) as palindrome;

```
+------------+
| palindrome |
+------------+
| thapaapaht |
+------------+
1 row in set (0.00 sec)
```

mysql> select concat ('thapa',' ',reverse('thapa')) as palindrome;

```
+-------------+
| palindrome  |
+-------------+
| thapa apaht |
+-------------+
1 row in set (0.00 sec)
```

mysql> select char_length('sonianantrajeshkumar');

```
+-----------------------------------+
| char_length('sonianantrajeshkumar') |
+-----------------------------------+
|                                20 |
+-----------------------------------+
1 row in set (0.00 sec)
```

mysql> select char_length('soni anant rajeshkumar');

```
+---------------------------------------+
| char_length('soni anant rajeshkumar') |
+---------------------------------------+
|                                    22 |
+---------------------------------------+
1 row in set (0.00 sec)
```

------- : DATE TIME DATA TYPES : -------

mysql> create table datestudents(NAME varchar(55),DOB date,DOT time,BD datetime);

Query OK, 0 rows affected (0.03 sec)

mysql> insert into datestudents values('vinod','1994-01-05','05:25:45','1994-01-05 05:25:45');

Query OK, 1 row affected (0.01 sec)

mysql> insert into datestudents values('anant','2004-07-10','01:07:17','2004-07-10 01:07:17');

Query OK, 1 row affected (0.01 sec)

mysql> select*from datestudents;

```
+-------+------------+----------+---------------------+
| NAME  | DOB        | DOT      | BD                  |
+-------+------------+----------+---------------------+
| vinod | 1994-01-05 | 05:25:45 | 1994-01-05 05:25:45 |
| anant | 2004-07-10 | 01:07:17 | 2004-07-10 01:07:17 |
+-------+------------+----------+---------------------+
2 rows in set (0.00 sec)
```

mysql> insert into datestudents values('vinod',curdate(),curtime(),now());

Query OK, 1 row affected (0.01 sec)

mysql> select*from datestudents;

```
+-------+------------+----------+---------------------+
| NAME  | DOB        | DOT      | BD                  |
+-------+------------+----------+---------------------+
| vinod | 1994-01-05 | 05:25:45 | 1994-01-05 05:25:45 |
| anant | 2004-07-10 | 01:07:17 | 2004-07-10 01:07:17 |
| vinod | 2023-04-27 | 10:21:03 | 2023-04-27 10:21:03 |
+-------+------------+----------+---------------------+
3 rows in set (0.00 sec)
```

mysql> insert into datestudents values('dhruv',curdate(),curtime(),now());

Query OK, 1 row affected (0.01 sec)

mysql> select*from datestudents;

```
+-------+------------+----------+---------------------+
| NAME  | DOB        | DOT      | BD                  |
+-------+------------+----------+---------------------+
| vinod | 1994-01-05 | 05:25:45 | 1994-01-05 05:25:45 |
| anant | 2004-07-10 | 01:07:17 | 2004-07-10 01:07:17 |
| vinod | 2023-04-27 | 10:21:03 | 2023-04-27 10:21:03 |
| dhruv | 2023-04-27 | 10:21:15 | 2023-04-27 10:21:15 |
+-------+------------+----------+---------------------+
4 rows in set (0.00 sec)
```

------- : FOREIGN KEY : -------

mysql> create table customers(CID int not null auto_increment primary key,CNAME varchar(55),EMAIL varchar(100));

Query OK, 0 rows affected (0.03 sec)

mysql> create table orders(OID int not null auto_increment primary key,ODATE date,CID int,foreign key(CID) references customers(CID));

Query OK, 0 rows affected (0.04 sec)

mysql> desc customers;

```
+-------+-------------+------+-----+---------+----------------+
| Field | Type        | Null | Key | Default | Extra          |
+-------+-------------+------+-----+---------+----------------+
| CID   | int         | NO   | PRI | NULL    | auto_increment |
| CNAME | varchar(55) | YES  |     | NULL    |                |
| EMAIL | varchar(100)| YES  |     | NULL    |                |
+-------+-------------+------+-----+---------+----------------+
3 rows in set (0.00 sec)
```

mysql> desc orders;

```
+-------+------+------+-----+---------+----------------+
| Field | Type | Null | Key | Default | Extra          |
+-------+------+------+-----+---------+----------------+
| OID   | int  | NO   | PRI | NULL    | auto_increment |
| ODATE | date | YES  |     | NULL    |                |
| CID   | int  | YES  | MUL | NULL    |                |
+-------+------+------+-----+---------+----------------+
3 rows in set (0.00 sec)
```

mysql> insert into customers values(1,'anant','anant204@gmail.com');

Query OK, 1 row affected (0.01 sec)

mysql> insert into customers values(2,'dhruv','dhruv565@gmail.com');

Query OK, 1 row affected (0.01 sec)

mysql> insert into customers values(3,'kenil','kenil585@gmail.com');

Query OK, 1 row affected (0.01 sec)

mysql> select*from customers;

```
+-----+-------+--------------------+
| CID | CNAME | EMAIL              |
+-----+-------+--------------------+
|   1 | anant | anant204@gmail.com |
|   2 | dhruv | dhruv565@gmail.com |
|   3 | kenil | kenil585@gmail.com |
+-----+-------+--------------------+
3 rows in set (0.00 sec)
```

mysql> insert into orders values(1,'2019/05/05',1);

Query OK, 1 row affected (0.01 sec)

mysql> insert into orders values(2,'2020/08/04',2);

Query OK, 1 row affected (0.00 sec)

mysql> insert into orders values(3,'2021/04/08',3);

Query OK, 1 row affected (0.00 sec)

mysql> alter table orders add amount int;

Query OK, 0 rows affected (0.03 sec)

Records: 0 Duplicates: 0 Warnings: 0

mysql> select*from orders;

```
+-----+------------+------+--------+
| OID | ODATE      | CID  | amount |
+-----+------------+------+--------+
|   1 | 2019-05-05 |    1 |   NULL |
|   2 | 2020-08-04 |    2 |   NULL |
|   3 | 2021-04-08 |    3 |   NULL |
+-----+------------+------+--------+
3 rows in set (0.00 sec)
```

mysql> update orders set amount=250 where OID=1;

Query OK, 1 row affected (0.01 sec)

Rows matched: 1 Changed: 1 Warnings: 0

mysql> update orders set amount=350 where OID=2;

Query OK, 1 row affected (0.01 sec)

Rows matched: 1 Changed: 1 Warnings: 0

mysql> update orders set amount=450 where OID=3;

Query OK, 1 row affected (0.01 sec)

Rows matched: 1 Changed: 1 Warnings: 0

mysql> select*from orders;

```
+-----+------------+------+--------+
| OID | ODATE      | CID  | amount |
+-----+------------+------+--------+
|   1 | 2019-05-05 |    1 |    250 |
|   2 | 2020-08-04 |    2 |    350 |
|   3 | 2021-04-08 |    3 |    450 |
+-----+------------+------+--------+
3 rows in set (0.00 sec)
```

------- : SQL JOIN : -------

------- : INNER JOIN : -------

mysql> select*from customers,orders where customers.CID=orders.CID order by ODATE;

```
+-----+-------+-------------------+-----+------------+------+--------+
| CID | CNAME | EMAIL             | OID | ODATE      | CID  | amount |
+-----+-------+-------------------+-----+------------+------+--------+
|   1 | anant | anant204@gmail.com |   1 | 2019-05-05 |    1 |    250 |
|   2 | dhruv | dhruv565@gmail.com |   2 | 2020-08-04 |    2 |    350 |
|   3 | kenil | kenil585@gmail.com |   3 | 2021-04-08 |    3 |    450 |
+-----+-------+-------------------+-----+------------+------+--------+
3 rows in set (0.00 sec)
```

mysql> select CNAME,EMAIL,ODATE from customers inner join orders on customers.CID=orders.OID;

```
+-------+-------------------+------------+
| CNAME | EMAIL             | ODATE      |
+-------+-------------------+------------+
| anant | anant204@gmail.com | 2019-05-05 |
| dhruv | dhruv565@gmail.com | 2020-08-04 |
| kenil | kenil585@gmail.com | 2021-04-08 |
+-------+-------------------+------------+
3 rows in set (0.00 sec)
```

mysql> select CNAME,EMAIL,ODATE,amount from customers inner join orders on customers.CID=orders.OID;

```
+--------+---------------------+------------+--------+
| CNAME  | EMAIL               | ODATE      | amount |
+--------+---------------------+------------+--------+
| anant  | anant204@gmail.com  | 2019-05-05 |    250 |
| dhruv  | dhruv565@gmail.com  | 2020-08-04 |    350 |
| kenil  | kenil585@gmail.com  | 2021-04-08 |    450 |
+--------+---------------------+------------+--------+
3 rows in set (0.00 sec)
```

------- : Column 'CID' in fields list is ambigues : ----------

mysql> select CNAME,ODATE,amount,CID from customers join orders on customers.CID=orders.CID;

ERROR 1052 (23000): Column 'CID' in field list is ambiguous

ERROR : - { BEACUSE 2 FIELDS LIST 'CID' IN TABLE }

```
mysql>  select CNAME,ODATE,amount,CID from customers join orders on customers.CID=orders.CID;
ERROR 1052 (23000): Column 'CID' in field list is ambiguous
```

mysql> select CNAME,ODATE,amount,customers.CID from customers join orders on customers.CID=orders.CID;

```
+--------+------------+--------+-----+
| CNAME  | ODATE      | amount | CID |
+--------+------------+--------+-----+
| anant  | 2019-05-05 |    250 |   1 |
| dhruv  | 2020-08-04 |    350 |   2 |
| kenil  | 2021-04-08 |    450 |   3 |
+--------+------------+--------+-----+
3 rows in set (0.00 sec)
```

------- : LEFT JOIN : -------

mysql> insert into customers values(5,'het','het209@gmail.com');

Query OK, 1 row affected (0.01 sec)

mysql> select*from customers;

```
+-----+-------+---------------------+
| CID | CNAME | EMAIL               |
+-----+-------+---------------------+
|   1 | anant | anant204@gmail.com  |
|   2 | dhruv | dhruv565@gmail.com  |
|   3 | kenil | kenil585@gmail.com  |
|   5 | het   | het209@gmail.com    |
+-----+-------+---------------------+
4 rows in set (0.00 sec)
```

mysql> select*from customers left join orders on customers.CID=orders.CID;

```
+-----+-------+---------------------+------+------------+------+--------+
| CID | CNAME | EMAIL               | OID  | ODATE      | CID  | amount |
+-----+-------+---------------------+------+------------+------+--------+
|   1 | anant | anant204@gmail.com  |    1 | 2019-05-05 |    1 |    250 |
|   2 | dhruv | dhruv565@gmail.com  |    2 | 2020-08-04 |    2 |    350 |
|   3 | kenil | kenil585@gmail.com  |    3 | 2021-04-08 |    3 |    450 |
|   5 | het   | het209@gmail.com    | NULL | NULL       | NULL |   NULL |
+-----+-------+---------------------+------+------------+------+--------+
4 rows in set (0.00 sec)
```

------- : RIGHT JOIN : -------

mysql> select*from customers right join orders on customers.CID=orders.CID;

```
+-----+-------+---------------------+------+------------+------+--------+
| CID | CNAME | EMAIL               | OID  | ODATE      | CID  | amount |
+-----+-------+---------------------+------+------------+------+--------+
|   1 | anant | anant204@gmail.com  |    1 | 2019-05-05 |    1 |    250 |
|   2 | dhruv | dhruv565@gmail.com  |    2 | 2020-08-04 |    2 |    350 |
|   3 | kenil | kenil585@gmail.com  |    3 | 2021-04-08 |    3 |    450 |
+-----+-------+---------------------+------+------------+------+--------+
3 rows in set (0.00 sec)
```