SQL Lab-2

1. Create a table tasks with the following data

Column	Datatype	Constraint
task_id	int	Primary key,autoincrement
title	Varchar(255)	Not null
Start_date	date	
Due_date	date	
status	tinyint	Not null
priority	tinyint	Not null
Description	text	
Created_at	timestamp	Default (current timestamp)

Ans:

```
create table tasks(
task_id int primary key auto_increment,
title varchar(255) not null,
start_date date,
due_date date,
status tinyint not null,
priority tinyint not null,
description text,
created_at timestamp default now()
);
```

```
mysql> create table tasks(
    -> task_id int primary key auto_increment,
    -> title varchar(255) not null,
    -> start_date date,
    -> due_date date,
    -> status tinyint not null,
    -> priority tinyint not null,
    -> description text,
    -> created_at timestamp default now()
    -> );
Query OK, 0 rows affected (0.01 sec)

mysql> desc tasks;
+-------------+--------------+------+-----+-------------------+-------------------+
| Field       | Type         | Null | Key | Default           | Extra             |
+-------------+--------------+------+-----+-------------------+-------------------+
| task_id     | int          | NO   | PRI | NULL              | auto_increment    |
| title       | varchar(255) | NO   |     | NULL              |                   |
| start_date  | date         | YES  |     | NULL              |                   |
| due_date    | date         | YES  |     | NULL              |                   |
| status      | tinyint      | NO   |     | NULL              |                   |
| priority    | tinyint      | NO   |     | NULL              |                   |
| description | text         | YES  |     | NULL              |                   |
| created_at  | timestamp    | YES  |     | CURRENT_TIMESTAMP | DEFAULT_GENERATED |
+-------------+--------------+------+-----+-------------------+-------------------+
8 rows in set (0.00 sec)

mysql>
```

2. Create a table checklists with the following data

Column	Datatype	Constraint
todo_id	int	autoincrement
taskid	int	Foreign key referencing task_id column of tasks table
todo	Varchar(255)	Not Null

Ans:

```
create table checklists(
todo_id int auto_increment primary key,
task_id int,
todo varchar(255) not null,
foreign key(task_id) references tasks(task_id)
);
```

```
mysql> create table checklists(
    -> todo_id int auto_increment primary key,
    -> task_id int,
    -> todo varchar(255) not null,
    -> foreign key(task_id) references tasks(task_id)
    -> );
Query OK, 0 rows affected (0.02 sec)

mysql> desc checklists;
+---------+--------------+------+-----+---------+----------------+
| Field   | Type         | Null | Key | Default | Extra          |
+---------+--------------+------+-----+---------+----------------+
| todo_id | int          | NO   | PRI | NULL    | auto_increment |
| task_id | int          | YES  | MUL | NULL    |                |
| todo    | varchar(255) | NO   |     | NULL    |                |
+---------+--------------+------+-----+---------+----------------+
3 rows in set (0.00 sec)

mysql>
```

3. Insert,update and delete different values and check

   Ans:

   Insert-

   insert into tasks values(
   1, "abc", "2023-09-25", "2023-09-26", 1, 1, "task1", now()
   );

   insert into tasks values(
   2, "def", "2023-09-25", "2023-09-27", 0, 2, "task2", now()
   );

```
mysql>
mysql> insert into tasks values(
    -> 1,
    -> "abc",
    -> "2023-09-25",
    -> "2023-09-26",
    -> 1,
    -> 1,
    -> "task1",
    -> now()
    -> );
Query OK, 1 row affected (0.00 sec)

mysql> insert into tasks values(
    -> 2,
    -> "def",
    -> "2023-09-25",
    -> "2023-09-27",
    -> 0,
    -> 2,
    -> "task2",
    -> now()
    -> );
Query OK, 1 row affected (0.00 sec)

mysql> select * from checklists;
Empty set (0.00 sec)

mysql> select * from tasks;
+---------+-------+------------+------------+--------+----------+-------------+---------------------+
| task_id | title | start_date | due_date   | status | priority | description | created_at          |
+---------+-------+------------+------------+--------+----------+-------------+---------------------+
|       1 | abc   | 2023-09-25 | 2023-09-26 |      1 |        1 | task1       | 2023-09-25 16:16:12 |
|       2 | def   | 2023-09-25 | 2023-09-27 |      0 |        2 | task2       | 2023-09-25 16:17:43 |
+---------+-------+------------+------------+--------+----------+-------------+---------------------+
2 rows in set (0.00 sec)
```

insert into checklists values(1,2,"task2 done");

```
mysql> insert into checklists values(1,2,"task2 done");
Query OK, 1 row affected (0.00 sec)

mysql> select * from checklists;
+---------+---------+------------+
| todo_id | task_id | todo       |
+---------+---------+------------+
|       1 |       2 | task2 done |
+---------+---------+------------+
1 row in set (0.00 sec)
```

Update-

Update tasks set priority=3

where task_id=2;

```
mysql> Update tasks set priority=3
    -> where task_id=2;
Query OK, 1 row affected (0.02 sec)
Rows matched: 1  Changed: 1  Warnings: 0

mysql> select * from tasks;
+---------+-------+------------+------------+--------+----------+-------------+---------------------+
| task_id | title | start_date | due_date   | status | priority | description | created_at          |
+---------+-------+------------+------------+--------+----------+-------------+---------------------+
|       1 | abc   | 2023-09-25 | 2023-09-26 |      1 |        1 | task1       | 2023-09-25 16:16:12 |
|       2 | def   | 2023-09-25 | 2023-09-27 |      0 |        3 | task2       | 2023-09-25 16:17:43 |
+---------+-------+------------+------------+--------+----------+-------------+---------------------+
2 rows in set (0.00 sec)
```

Update checklists set todo=”task 2 remains”

where todo_id=1;

```
mysql> Update checklists set todo="task 2 remains"
    -> where todo_id=1;
Query OK, 1 row affected (0.00 sec)
Rows matched: 1  Changed: 1  Warnings: 0

mysql> select * from checklists;
+---------+---------+----------------+
| todo_id | task_id | todo           |
+---------+---------+----------------+
|       1 |       2 | task 2 remains |
+---------+---------+----------------+
1 row in set (0.00 sec)
```

Delete-

Delete from tasks

where task_id=1;

```
mysql> Delete from tasks
    -> where task_id=1;
Query OK, 1 row affected (0.00 sec)

mysql> select * from tasks;
+---------+-------+------------+------------+--------+----------+-------------+---------------------+
| task_id | title | start_date | due_date   | status | priority | description | created_at          |
+---------+-------+------------+------------+--------+----------+-------------+---------------------+
|       2 | def   | 2023-09-25 | 2023-09-27 |      0 |        3 | task2       | 2023-09-25 16:17:43 |
+---------+-------+------------+------------+--------+----------+-------------+---------------------+
1 row in set (0.00 sec)
```

Delete from checklists

where todo_id=1;

```
mysql> Delete from checklists
    -> where todo_id=1;
Query OK, 1 row affected (0.00 sec)

mysql> select * from checklists;
Empty set (0.00 sec)

mysql>
```

4. Create a table named parts with columns part_no varchar(18),description varchar(40), cost decimal(10,2), price decimal(10,2). Make part_no s the primary key.Rows should be inserted into the table only if the value of cost is greater than 0,price is greater than 0 and the value of price is greater than or equal to 0

   Ans:

   Create table parts(
   part_no varchar(18) primary key,
   description varchar(40),
   cost decimal(10,2),
   price decimal(10,2),
   constraint ch_1 check (cost > 0 and price >=0)
   );

```
mysql> Create table parts(
    -> part_no varchar(18) primary key,
    -> description varchar(40),
    -> cost decimal(10,2),
    -> price decimal(10,2),
    -> constraint ch_1 check (cost > 0 and price >=0 )
    -> );
Query OK, 0 rows affected (0.01 sec)

mysql> desc parts;
+-------------+---------------+------+-----+---------+-------+
| Field       | Type          | Null | Key | Default | Extra |
+-------------+---------------+------+-----+---------+-------+
| part_no     | varchar(18)   | NO   | PRI | NULL    |       |
| description | varchar(40)   | YES  |     | NULL    |       |
| cost        | decimal(10,2) | YES  |     | NULL    |       |
| price       | decimal(10,2) | YES  |     | NULL    |       |
+-------------+---------------+------+-----+---------+-------+
4 rows in set (0.00 sec)
```

Insert-

Insert into parts values (“P1”, “it is part p1”, 0, 10);

```
mysql> Insert into parts values ("P1", "it is part p1", 0, 10 );
ERROR 3819 (HY000): Check constraint 'ch_1' is violated.
mysql>
```

Insert into parts values (“P1”, “it is part p1”, 30, -10);

```
mysql> Insert into parts values ("P1", "it is part p1", 30, -10 );
ERROR 3819 (HY000): Check constraint 'ch_1' is violated.
mysql>
```

Insert into parts values (“P1”, “it is part p1”, 30, 10);

```
mysql> Insert into parts values ("P1", "it is part p1", 30, 10 );
Query OK, 1 row affected (0.00 sec)

mysql> select * from parts;
+---------+---------------+-------+-------+
| part_no | description   | cost  | price |
+---------+---------------+-------+-------+
| P1      | it is part p1 | 30.00 | 10.00 |
+---------+---------------+-------+-------+
1 row in set (0.00 sec)
```

5. Create a table categories with the following data

Column	Datatype	Constraint
Categoryid	int	Primary key,autoincrement
categoryname	Varchar(255)	Not null

Ans:

```
Create table categories(
categoryid int primary key auto_increment,
categoryname varchar(255) not null
);
```

```
mysql> Create table categories(
    -> categoryid int primary key auto_increment,
    -> categoryname varchar(255) not null
    -> );
Query OK, 0 rows affected (0.01 sec)

mysql> desc categories;
+--------------+--------------+------+-----+---------+----------------+
| Field        | Type         | Null | Key | Default | Extra          |
+--------------+--------------+------+-----+---------+----------------+
| categoryid   | int          | NO   | PRI | NULL    | auto_increment |
| categoryname | varchar(255) | NO   |     | NULL    |                |
+--------------+--------------+------+-----+---------+----------------+
2 rows in set (0.00 sec)
```

6. Create a table products with the following data

Column	Datatype	Constraint
productid	int	Primary key,autoincrement
productname	Varchar(255)	Not null
categoryid	int	Not Null Foreign key referencing categoryid of categories table and give the options on

		delete cascade and on update cascade

Insert values into both the tables and try deleting and updating the primary key values
Check the result in the child table

Ans:

```
Create table products(
productid int primary key auto_increment,
productname varchar(255) not null,
categoryid int not null,
foreign key (categoryid) references categories(categoryid) on delete cascade on update
cascade
);
```

```
mysql> Create table products(
    -> productid int primary key auto_increment,
    -> productname varchar(255) not null,
    -> categoryid int not null,
    -> foreign key (categoryid) references categories(categoryid) on delete cascade on update cascade
    -> );
Query OK, 0 rows affected (0.02 sec)

mysql> desc products;
+-------------+--------------+------+-----+---------+----------------+
| Field       | Type         | Null | Key | Default | Extra          |
+-------------+--------------+------+-----+---------+----------------+
| productid   | int          | NO   | PRI | NULL    | auto_increment |
| productname | varchar(255) | NO   |     | NULL    |                |
| categoryid  | int          | NO   | MUL | NULL    |                |
+-------------+--------------+------+-----+---------+----------------+
3 rows in set (0.00 sec)
```

Insert-

```
insert into categories values (1,”abc”), (2,“def”), (3,“ghi”);
```

```
mysql> insert into categories values (1,"abc"), (2,"def"), (3,"ghi");
Query OK, 3 rows affected (0.00 sec)
Records: 3  Duplicates: 0  Warnings: 0

mysql> select * from categories;
+------------+--------------+
| categoryid | categoryname |
+------------+--------------+
|          1 | abc          |
|          2 | def          |
|          3 | ghi          |
+------------+--------------+
3 rows in set (0.00 sec)
```

insert into products values (1,”parle”,1), (2,“goodday”,2), (3,“lays”,3);

```
mysql> insert into products values (1,"parle",1), (2,"goodday",2), (3,"lays",3);
Query OK, 3 rows affected (0.00 sec)
Records: 3  Duplicates: 0  Warnings: 0

mysql> select * from products;
+-----------+-------------+------------+
| productid | productname | categoryid |
+-----------+-------------+------------+
|         1 | parle       |          1 |
|         2 | goodday     |          2 |
|         3 | lays        |          3 |
+-----------+-------------+------------+
3 rows in set (0.00 sec)
```

Update-

Update categories set categoryid=4 where categoryid=2;

```
mysql> Update categories set categoryid=4 where categoryid=2;
Query OK, 1 row affected (0.00 sec)
Rows matched: 1  Changed: 1  Warnings: 0

mysql> select * from categories;
+------------+--------------+
| categoryid | categoryname |
+------------+--------------+
|          1 | abc          |
|          3 | ghi          |
|          4 | def          |
+------------+--------------+
3 rows in set (0.00 sec)

mysql> select * from products;
+-----------+-------------+------------+
| productid | productname | categoryid |
+-----------+-------------+------------+
|         1 | parle       |          1 |
|         2 | goodday     |          4 |
|         3 | lays        |          3 |
+-----------+-------------+------------+
3 rows in set (0.00 sec)

mysql>
```

Delete-

Delete from categories where categoryid=3;

```
mysql> Delete from categories where categoryid=3;
Query OK, 1 row affected (0.00 sec)

mysql> select * from categories;
+------------+--------------+
| categoryid | categoryname |
+------------+--------------+
|          1 | abc          |
|          4 | def          |
+------------+--------------+
2 rows in set (0.00 sec)

mysql> select * from products;
+-----------+-------------+------------+
| productid | productname | categoryid |
+-----------+-------------+------------+
|         1 | parle       |          1 |
|         2 | goodday     |          4 |
+-----------+-------------+------------+
2 rows in set (0.00 sec)
```