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)

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());

mysql> insert into tasks(title,start_date,due_date,status,priority,description)

-> values('study','2023-09-01','2024-02-28',1,1,'ongoing');

mysql> insert into tasks(title,start_date,due_date,status,priority,description)

-> values('revision','2023-09-11','2024-02-28',1,2,'daily process');

```
mysql> insert into tasks(title,start_date,due_date,status,priority,description)
    -> values('study','2023-09-01','2024-02-28',1,1,'ongoing');
Query OK, 1 row affected (0.01 sec)
```

```
mysql> insert into tasks(title,start_date,due_date,status,priority,description)
    ->  values('revision','2023-09-11','2024-02-28',1,2,'daily process');
Query OK, 1 row affected (0.00 sec)
```

```
mysql> select *  from tasks;
+---------+----------+------------+------------+--------+----------+--------------+---------------------+
| task_id | title    | Start_date | Due_date   | status | priority | Description  | created_at          |
+---------+----------+------------+------------+--------+----------+--------------+---------------------+
|       1 | study    | 2023-09-01 | 2024-02-28 |      1 |        1 | ongoing      | 2023-09-25 14:51:41 |
|       2 | revision | 2023-09-11 | 2024-02-28 |      1 |        2 | daily process | 2023-09-25 14:56:48 |
+---------+----------+------------+------------+--------+----------+--------------+---------------------+
2 rows in set (0.00 sec)
```

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**

mysql> create table checklists
-> (todo_id int PRIMARY KEY auto_increment,
-> taskid int ,
-> todo varchar(255) NOT NULL,
-> CONSTRAINT fk_id foreign key(taskid) references tasks(task_id) on update cascade);

```
mysql> create table checklists
    -> (todo_id int PRIMARY KEY auto_increment,
    -> taskid int ,
    -> todo varchar(255) NOT NULL,
    -> CONSTRAINT fk_id foreign key(taskid) references tasks(task_id) on update cascade);
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 |
| taskid  | int          | YES  | MUL | NULL    |                |
| todo    | varchar(255) | NO   |     | NULL    |                |
+---------+--------------+------+-----+---------+----------------+
3 rows in set (0.00 sec)
```

```
mysql> insert into checklists
    -> values(1,1,'study');
Query OK, 1 row affected (0.01 sec)

mysql> insert into checklists
    -> values(1,3,'study');
ERROR 1062 (23000): Duplicate entry '1' for key 'checklists.PRIMARY'
```

```
mysql> insert into checklists
   -> values(2,3,'study');
ERROR 1452 (23000): Cannot add or update a child row: a foreign key constraint fails (`sql3`.`checklists`, CONSTRAINT `fk_id` FOREIGN KEY (`taskid`)
 REFERENCES `tasks` (`task_id`) ON UPDATE CASCADE)
```

3. **Insert, update and delete different values and check**

```
mysql> insert into checklists
    -> values(2,1,'study dbms');
Query OK, 1 row affected (0.01 sec)

mysql> select * from checklists;
+---------+--------+------------+
| todo_id | taskid | todo       |
+---------+--------+------------+
|       1 |      1 | study      |
|       2 |      1 | study dbms |
+---------+--------+------------+
2 rows in set (0.00 sec)
```

```
mysql> select * from checklists;
+---------+--------+------------+
| todo_id | taskid | todo       |
+---------+--------+------------+
|       1 |      1 | study      |
|       2 |      1 | study dbms |
+---------+--------+------------+
2 rows in set (0.00 sec)
```

```
mysql> update checklists
    -> set todo ='study linux'
    -> where todo_id = 1;
Query OK, 1 row affected (0.01 sec)
Rows matched: 1  Changed: 1  Warnings: 0
```

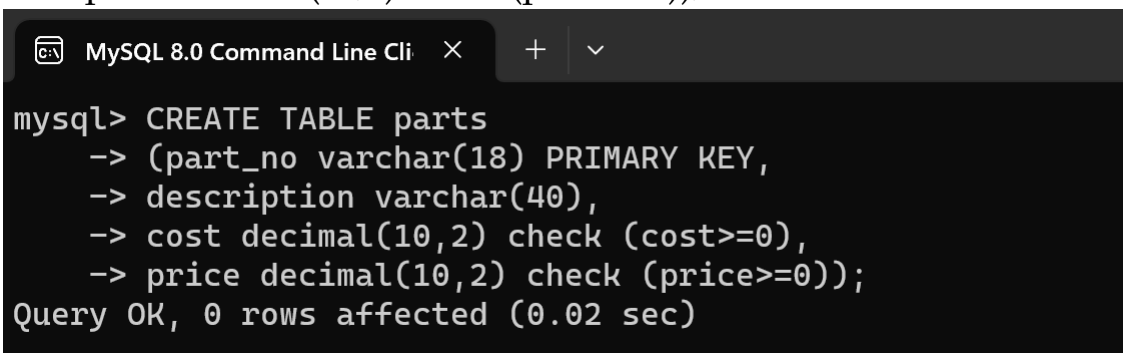
```
mysql> select * from checklists;
+---------+--------+-------------+
| todo_id | taskid | todo        |
+---------+--------+-------------+
|       1 |      1 | study linux |
|       2 |      1 | study dbms  |
+---------+--------+-------------+
2 rows in set (0.00 sec)
```

```
mysql> select * from tasks;
+---------+----------+------------+------------+--------+----------+--------------+---------------------+
| task_id | title    | Start_date | Due_date   | status | priority | Description  | created_at          |
+---------+----------+------------+------------+--------+----------+--------------+---------------------+
|       1 | study    | 2023-09-01 | 2024-02-28 |      1 |        1 | ongoing      | 2023-09-25 14:51:41 |
|       2 | revision | 2023-09-11 | 2024-02-28 |      1 |        2 | daily process | 2023-09-25 14:56:48 |
+---------+----------+------------+------------+--------+----------+--------------+---------------------+
2 rows in set (0.00 sec)

mysql> delete from tasks
    -> where task_id = 1;
ERROR 1451 (23000): Cannot delete or update a parent row: a foreign key constraint fails (`sql3`.`checklists`
, CONSTRAINT `fk_id` FOREIGN KEY (`taskid`) REFERENCES `tasks` (`task_id`) ON UPDATE CASCADE)
mysql> delete from tasks
    -> where task_id = 2;
Query OK, 1 row affected (0.01 sec)

mysql> select * from tasks;
+---------+-------+------------+------------+--------+----------+-------------+---------------------+
| task_id | title | Start_date | Due_date   | status | priority | Description | created_at          |
+---------+-------+------------+------------+--------+----------+-------------+---------------------+
|       1 | study | 2023-09-01 | 2024-02-28 |      1 |        1 | ongoing     | 2023-09-25 14:51:41 |
+---------+-------+------------+------------+--------+----------+-------------+---------------------+
1 row in set (0.00 sec)
```

```
mysql> select * from tasks;
+---------+-------+------------+------------+--------+----------+-------------+---------------------+
| task_id | title | Start_date | Due_date   | status | priority | Description | created_at          |
+---------+-------+------------+------------+--------+----------+-------------+---------------------+
|       1 | study | 2023-09-01 | 2024-02-28 |      1 |        1 | ongoing     | 2023-09-25 14:51:41 |
+---------+-------+------------+------------+--------+----------+-------------+---------------------+
1 row in set (0.00 sec)

mysql> update tasks
    -> set task_id = 2
    -> where task_id = 1;
Query OK, 1 row affected (0.01 sec)
Rows matched: 1  Changed: 1  Warnings: 0

mysql> select * from tasks;
+---------+-------+------------+------------+--------+----------+-------------+---------------------+
| task_id | title | Start_date | Due_date   | status | priority | Description | created_at          |
+---------+-------+------------+------------+--------+----------+-------------+---------------------+
|       2 | study | 2023-09-01 | 2024-02-28 |      1 |        1 | ongoing     | 2023-09-25 14:51:41 |
+---------+-------+------------+------------+--------+----------+-------------+---------------------+
1 row in set (0.00 sec)

mysql> select * from checklists;
+---------+--------+-------------+
| todo_id | taskid | todo        |
+---------+--------+-------------+
|       1 |      2 | study linux |
|       2 |      2 | study dbms  |
+---------+--------+-------------+
```

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

```
mysql> CREATE TABLE parts
   -> (part_no varchar(18) PRIMARY KEY,
   -> description varchar(40),
   -> cost decimal(10,2) check (cost>0),
   -> price decimal(10,2) check (price>=0));
```




```
mysql> insert into parts
    -> value(1,'remote',100,75);
Query OK, 1 row affected (0.01 sec)

mysql> insert into parts
    -> value(2,'sensor',1000,0);
Query OK, 1 row affected (0.00 sec)

mysql> select * from parts;
+---------+-------------+---------+-------+
| part_no | description | cost    | price |
+---------+-------------+---------+-------+
| 1       | remote      |  100.00 | 75.00 |
| 2       | sensor      | 1000.00 |  0.00 |
+---------+-------------+---------+-------+
2 rows in set (0.00 sec)

mysql> insert into parts
    -> value(2,'sensor',1000,-11);
ERROR 3819 (HY000): Check constraint 'parts_chk_2' is violated.
```

5. Create a table category with the following data

Column	Datatype	Constraint
Categoryid	**int**	**Primary key,autoincrement**
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> 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

mysql> create table products

-> (productid int PRIMARY KEY AUTO_INCREMENT,
-> productname varchar(255) NOT NULL,
-> categoryid int NOT NULL,
-> CONSTRAINT fk_key_id 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,
    -> CONSTRAINT fk_key_id foreign key(categoryid) references categories(categoryid) on delete cascade on update cascade);
Query OK, 0 rows affected (0.02 sec)
```

```
mysql> insert into categories
    -> values (1,'sensors');
Query OK, 1 row affected (0.01 sec)

mysql> insert into categories
    -> values(2,'invertors');
Query OK, 1 row affected (0.01 sec)
```

```
mysql> select * from categories;
+------------+--------------+
| categoryid | categoryname |
+------------+--------------+
|          1 | sensors      |
|          2 | invertors    |
+------------+--------------+
2 rows in set (0.00 sec)
```

```
mysql> insert into products
    -> value(1,'sensor alarms',1);
Query OK, 1 row affected (0.01 sec)

mysql> insert into products
    -> value(2,'sensor lights',1);
Query OK, 1 row affected (0.00 sec)

mysql> insert into products
    -> value(3,'microtek invertor',2);
Query OK, 1 row affected (0.01 sec)

mysql> select * from products;
+-----------+------------------+------------+
| productid | productname      | categoryid |
+-----------+------------------+------------+
|         1 | sensor alarms    |          1 |
|         2 | sensor lights    |          1 |
|         3 | microtek invertor |          2 |
+-----------+------------------+------------+
3 rows in set (0.00 sec)
```

```
mysql> update categories
    -> set categoryid = 3
    -> where categoryid = 1;
Query OK, 1 row affected (0.01 sec)
Rows matched: 1  Changed: 1  Warnings: 0

mysql> select * from categories;
+------------+--------------+
| categoryid | categoryname |
+------------+--------------+
|          2 | invertors    |
|          3 | sensors      |
+------------+--------------+
2 rows in set (0.00 sec)

mysql> select * from products;
+-----------+------------------+------------+
| productid | productname      | categoryid |
+-----------+------------------+------------+
|         1 | sensor alarms    |          3 |
|         2 | sensor lights    |          3 |
|         3 | microtek invertor |          2 |
+-----------+------------------+------------+
```

```
mysql> delete from categories
    -> where categoryid = 2;
Query OK, 1 row affected (0.01 sec)
```

```
mysql> select * from categories;
+------------+--------------+
| categoryid | categoryname |
+------------+--------------+
|          3 | sensors      |
+------------+--------------+
1 row in set (0.00 sec)

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