**Query 1. Insert at least 10 records in the Employee table and insert other tables accordingly.**

MariaDB [te31252\_db]> create table Dept(Dept\_id integer,Dept\_name varchar(30),Dept\_location varchar(10),primary key (Dept\_id));

Query OK, 0 rows affected (0.228 sec)

MariaDB [te31252\_db]> desc Dept;

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

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

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

| Dept\_id | int(11) | NO | PRI | NULL | |

| Dept\_name | varchar(30) | YES | | NULL | |

| Dept\_location | varchar(10) | YES | | NULL | |

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

MariaDB [te31252\_db]> create table Employee(Emp\_id integer,Dept\_id integer,Emp\_fname varchar(10),Emp\_lname varchar(10),Emp\_position varchar(10),Emp\_salary integer,Emp\_date integer,primary key(Emp\_id),foreign key(Dept\_id) references Dept(Dept\_id) on delete cascade);

Query OK, 0 rows affected (0.215 sec)

MariaDB [te31252\_db]> desc Employee;

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

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

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

| Emp\_id | int(11) | NO | PRI | NULL | |

| Dept\_id | int(11) | YES | MUL | NULL | |

| Emp\_fname | varchar(10) | YES | | NULL | |

| Emp\_lname | varchar(10) | YES | | NULL | |

| Emp\_position | varchar(10) | YES | | NULL | |

| Emp\_salary | int(11) | YES | | NULL | |

| Emp\_date | int(11) | YES | | NULL | |

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

MariaDB [te31252\_db]> create table Proj(Proj\_id integer,Dept\_id integer,Proj\_name varchar(10),Proj\_location varchar(10),Proj\_cost integer,Proj\_year integer,primary key(Proj\_id),foreign key(Dept\_id) references Dept(Dept\_id) on delete cascade);

Query OK, 0 rows affected (0.160 sec)

MariaDB [te31252\_db]> desc Proj;

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

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

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

| Proj\_id | int(11) | NO | PRI | NULL | |

| Dept\_id | int(11) | YES | MUL | NULL | |

| Proj\_name | varchar(10) | YES | | NULL | |

| Proj\_location | varchar(10) | YES | | NULL | |

| Proj\_cost | int(11) | YES | | NULL | |

| Proj\_year | int(11) | YES | | NULL | |

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

Insert In Dept Table

MariaDB [te31252\_db]> insert into Dept value('1','computer','pune');

Query OK, 1 row affected (0.039 sec)

MariaDB [te31252\_db]> select \* from Dept;

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

| Dept\_id | Dept\_name | Dept\_location |

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

| 1 | computer | pune |

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

MariaDB [te31252\_db]> insert into Employee value(1,1,'Prajwal','Padole','ceo',100000,1980);\

Query OK, 1 row affected (0.036 sec)

MariaDB [te31252\_db]> select \* from Employee;

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

| Emp\_id | Dept\_id | Emp\_fname | Emp\_lname | Emp\_position | Emp\_salary | Emp\_date |

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

| 1 | 1 | Prajwal | Padole | ceo | 100000 | 1980 |

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

MariaDB [te31252\_db]> INSERT INTO Proj (Proj\_id, Dept\_id, Proj\_name, Proj\_location, Proj\_cost, Proj\_year) VALUES

-> (1, 1, 'Web dev', 'Pune', 100000, 2004),

-> (2, 2, 'App Dev', 'Mumbai', 150000, 2004),

-> (3, 3, 'Analysis', 'Delhi', 200000, 2005),

-> (4, 4, 'Research', 'Ngp', 300000, 2007),

-> (5, 1, 'Cloud', 'Pune', 350000, 2008),

-> (6, 2, 'Networking', 'Mumbai', 400000, 2004),

-> (7, 3, 'Cybersec', 'Delhi', 450000, 2005),

-> (8, 4, 'Iot', 'Ngp', 500000, 2007),

-> (9, 1, 'Blockchain', 'Pune', 550000, 2008),

-> (10, 2, 'Big Data', 'Mumbai', 600000, 2005);

Query OK, 10 rows affected (0.039 sec)

Records: 10 Duplicates: 0 Warnings: 0

MariaDB [te31252\_db]> select \* from Proj;

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

| Proj\_id | Dept\_id | Proj\_name | Proj\_location | Proj\_cost | Proj\_year |

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

| 1 | 1 | Web dev | Pune | 100000 | 2004 |

| 2 | 2 | App Dev | Mumbai | 150000 | 2004 |

| 3 | 3 | Analysis | Delhi | 200000 | 2005 |

| 4 | 4 | Research | Ngp | 300000 | 2007 |

| 5 | 1 | Cloud | Pune | 350000 | 2008 |

| 6 | 2 | Networking | Mumbai | 400000 | 2004 |

| 7 | 3 | Cybersec | Delhi | 450000 | 2005 |

| 8 | 4 | Iot | Ngp | 500000 | 2007 |

| 9 | 1 | Blockchain | Pune | 550000 | 2008 |

| 10 | 2 | Big Data | Mumbai | 600000 | 2005 |

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

**Query 2. Display all Employee details with Department ‘Computer’ and ‘IT’ and Employee first name starting with 'p' or 'h'.**  
MariaDB [te31252\_db]> SELECT Employee.\* FROM Employee WHERE Employee.Dept\_id IN ( SELECT Dept\_id FROM Dept WHERE Dept\_name = 'Computer' OR Dept\_name = 'IT' ) AND

(Employee.Emp\_fname LIKE 'p%' OR Employee.Emp\_fname LIKE 'h%');

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

| Emp\_id | Dept\_id | Emp\_fname | Emp\_lname | Emp\_position | Emp\_salary | Emp\_date |

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

| 1 | 1 | Prajwal | Padole | ceo | 110000 | 1980 |

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

Else-

MariaDB [te31252\_db]> SELECT Employee.\*

-> FROM Employee

-> JOIN Dept ON Employee.Dept\_id = Dept.Dept\_id

-> WHERE (Dept.Dept\_name = 'Computer' OR Dept.Dept\_name = 'IT')

-> AND (Employee.Emp\_fname LIKE 'p%' OR Employee.Emp\_fname LIKE 'h%');

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

| Emp\_id | Dept\_id | Emp\_fname | Emp\_lname | Emp\_position | Emp\_salary | Emp\_date |

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

| 1 | 1 | Prajwal | Padole | ceo | 100000 | 1980 |

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

MariaDB [te31252\_db]> select Emp\_fname,Emp\_lname,Emp\_date from Employee join Dept on Employee.Dept\_id =Dept.Dept\_id where (Employee.Dept\_id = Dept.Dept\_id

-> );

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

| Emp\_fname | Emp\_lname | Emp\_date |

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

| Amit | Verma | 1984 |

| Aditya | Sharma | 1985 |

| Neha | Patil | 1983 |

| Rahul | Gupta | 1987 |

| Ananya | Joshi | 1990 |

| Vivek | Singh | 1995 |

| Pooja | Malhotra | 1992 |

| Kiran | Desai | 1988 |

| Rajesh | Kumar | 1993 |

| Shreya | Shah | 1997 |

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

**Query 3. lists the number of different Employee Positions.**

MariaDB [te31252\_db]> select distinct Emp\_position from Employee;

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

| Emp\_position |

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

| ceo |

| Manager |

| Developer |

| Designer |

| Tester |

| HR |

| Sales |

| Marketing |

| Support |

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

**Query 4. Give 10% increase in Salary of the Employee whose Birthdate before 1985.**

MariaDB [te31252\_db]> select Emp\_salary\*1.1 as incr from Employee where Emp\_date<1985;

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

| incr |

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

| 110000.0 |

| 82500.0 |

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

2 rows in set (0.001 sec)

MariaDB [te31252\_db]> Update Employee SET Emp\_salary = Emp\_salary\*1.1 where Emp\_date<1985;

Query OK, 1 row affected (0.027 sec)

Rows matched: 1 Changed: 1 Warnings: 0

MariaDB [te31252\_db]> select \* from Employee;

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

| Emp\_id | Dept\_id | Emp\_fname | Emp\_lname | Emp\_position | Emp\_salary | Emp\_date |

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

| 1 | 1 | Prajwal | Padole | ceo | 110000 | 1980 |

| 2 | 1 | Mrudul | Padole | Manager | 90000 | 1985 |

| 5 | 3 | Sakshi | Marbhal | Designer | 70000 | 1988 |

| 6 | 3 | nirmit | gardhariya | Tester | 60000 | 1992 |

| 9 | 5 | Yash | zain | Marketing | 72000 | 1989 |

| 10 | 5 |Prasad | chaudhari | Support | 50000 | 1993 |

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

**Query 5. Delete Department details which location is ‘Mumbai’.**

MariaDB [te31252\_db]> delete from Dept where Dept\_location='mumbai';

Query OK, 2 rows affected (0.106 sec)

MariaDB [te31252\_db]> select \* from Dept;

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

| Dept\_id | Dept\_name | Dept\_location |

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

| 1 | computer | pune |

| 3 | it | pune |

| 5 | Entc | NGP |

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

3 rows in set (0.001 sec)

MariaDB [te31252\_db]> select \* from Employee;

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

| Emp\_id | Dept\_id | Emp\_fname | Emp\_lname | Emp\_position | Emp\_salary | Emp\_date |

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

| 1 | 1 | Prajwal | Padole | ceo | 100000 | 1980 |

| 2 | 1 | Mrudul | Padole | Manager | 90000 | 1985 |

| 5 | 3 | Sakshi | Marbhal | Designer | 70000 | 1988 |

| 6 | 3 | nirmit | gardhariya | Tester | 60000 | 1992 |

| 9 | 5 | Yash | zain | Marketing | 72000 | 1989 |

| 10 | 5 |Prasad | chaudhari | Support | 50000 | 1993 |

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

6 rows in set (0.001 sec)

MariaDB [te31252\_db]> select \* from Proj;

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

| Proj\_id | Dept\_id | Proj\_name | Proj\_location | Proj\_cost | Proj\_year |

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

| 1 | 1 | Web dev | Pune | 100000 | 2004 |

| 3 | 3 | Analysis | Delhi | 200000 | 2005 |

| 5 | 1 | Cloud | Pune | 350000 | 2008 |

| 7 | 3 | Cybersec | Delhi | 450000 | 2005 |

| 9 | 1 | Blockchain | Pune | 550000 | 2008 |

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

**Query 6. Find the names of Projects with location ‘pune’ .**

MariaDB [te31252\_db]> select \* from Proj where Proj\_location='pune';

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

| Proj\_id | Dept\_id | Proj\_name | Proj\_location | Proj\_cost | Proj\_year |

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

| 1 | 1 | Web dev | Pune | 100000 | 2004 |

| 5 | 1 | Cloud | Pune | 350000 | 2008 |

| 9 | 1 | Blockchain | Pune | 550000 | 2008 |

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

**Query 7. Find the project having cost in between 100000 to 500000.**

MariaDB [te31252\_db]> select \* from Proj where Proj\_cost between 100000 and 500000;

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

| Proj\_id | Dept\_id | Proj\_name | Proj\_location | Proj\_cost | Proj\_year |

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

| 1 | 1 | Web dev | Pune | 100000 | 2004 |

| 3 | 3 | Analysis | Delhi | 200000 | 2005 |

| 5 | 1 | Cloud | Pune | 350000 | 2008 |

| 7 | 3 | Cybersec | Delhi | 450000 | 2005 |

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

**Query 8. Find the project having maximum price and find average of Project cost**

MariaDB [te31252\_db]> select \* from Proj where Proj\_cost=(select max(Proj\_cost) from Proj);

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

| Proj\_id | Dept\_id | Proj\_name | Proj\_location | Proj\_cost | Proj\_year |

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

| 9 | 1 | Blockchain | Pune | 550000 | 2008 |

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

**Query 9. Display all employees with Emp \_id and Emp name in decreasing order of Emp\_lname**

MariaDB [te31252\_db]> select Emp\_id,Emp\_fname,Emp\_lname from Employee ORDER BY Emp\_lname DESC;

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

| Emp\_id | Emp\_fname | Emp\_lname |

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

| 9 | Yash | zain |

| 1 | Prajwal | Padole |

| 2 | Mrudul | Padole |

| 5 | Sakshi | Marbhal |

| 6 | nirmit | gardhariya |

| 10 |Prasad | chaudhari |

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

**Query 10. Display Proj\_name,Proj\_location ,Proj\_cost of all project started in 2004,2005,2007**

MariaDB [te31252\_db]> select \* from Proj where(Proj\_year='2004' || Proj\_year='2005'||Proj\_year='2007');

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

| Proj\_id | Dept\_id | Proj\_name | Proj\_location | Proj\_cost | Proj\_year |

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

| 1 | 1 | Web dev | Pune | 100000 | 2004 |

| 3 | 3 | Analysis | Delhi | 200000 | 2005 |

| 7 | 3 | Cybersec | Delhi | 450000 | 2005 |

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

MariaDB [te31252\_db]> select \* from Proj where Proj\_year in ('2004','2005' ,'2007');

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

| Proj\_id | Dept\_id | Proj\_name | Proj\_location | Proj\_cost | Proj\_year |

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

| 1 | 1 | Web dev | Pune | 100000 | 2004 |

| 3 | 3 | Analysis | Delhi | 200000 | 2005 |

| 7 | 3 | Cybersec | Delhi | 450000 | 2005 |

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

**Query: Create simple view**

MariaDB [te31252\_db]> create or replace view Empview as select Emp\_id, Emp\_fname, Emp\_lname from Employee;

Query OK, 0 rows affected (0.028 sec)

MariaDB [te31252\_db]> select \* from Empview;

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

| Emp\_id | Emp\_fname | Emp\_lname |

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

| 10 |Prasad | chaudhari |

| 5 | Sakshi | Marbhal |

| 6 | nirmit | gardhariya |

| 2 | Mrudul | Padole |

| 9 | Yash | zain |

| 1 | Prajwal | Padole |

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

6 rows in set (0.001 sec)

**Query: Create index and Show index**

**Simple index-**

MariaDB [te31252\_db]> create or replace index simpIndex on Employee(Emp\_lname);

Query OK, 0 rows affected (0.185 sec)

Records: 0 Duplicates: 0 Warnings: 0

MariaDB [te31252\_db]> show index from Employee

-> ;

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

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

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

| Employee | 0 | PRIMARY | 1 | Emp\_id | A | 6 | NULL | NULL | | BTREE | | |

| Employee | 1 | Dept\_id | 1 | Dept\_id | A | 6 | NULL | NULL | YES | BTREE | | |

| Employee | 1 | Emp\_index | 1 | Emp\_fname | A | 6 | NULL | NULL | YES | BTREE | | |

| Employee | 1 | Emp\_index | 2 | Emp\_lname | A | 6 | NULL | NULL | YES | BTREE | | |

| Employee | 1 | simpIndex | 1 | Emp\_lname | A | 6 | NULL | NULL | YES | BTREE | | |

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

**Complex index -**

MariaDB [te31252\_db]> create index Emp\_index on Employee (Emp\_fname,Emp\_lname);

Query OK, 0 rows affected (0.181 sec)

Records: 0 Duplicates: 0 Warnings: 0

MariaDB [te31252\_db]> show index from Employee;

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

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

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

| Employee | 0 | PRIMARY | 1 | Emp\_id | A | 6 | NULL | NULL | | BTREE | | |

| Employee | 1 | Dept\_id | 1 | Dept\_id | A | 6 | NULL | NULL | YES | BTREE | | |

| Employee | 1 | Emp\_index | 1 | Emp\_fname | A | 6 | NULL | NULL | YES | BTREE | | |

| Employee | 1 | Emp\_index | 2 | Emp\_lname | A | 6 | NULL | NULL | YES | BTREE | | |

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

**Unique Index-**

MariaDB [te31252\_db]> CREATE UNIQUE INDEX Emp\_id\_unique\_index ON Employee (Emp\_id);

Query OK, 0 rows affected (0.210 sec)

Records: 0 Duplicates: 0 Warnings: 0

MariaDB [te31252\_db]> show index from Employee;

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

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

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

| Employee | 0 | PRIMARY | 1 | Emp\_id | A | 6 | NULL | NULL | | BTREE | | |

| Employee | 0 | Emp\_id\_unique\_index | 1 | Emp\_id | A | 6 | NULL | NULL | | BTREE | | |

| Employee | 1 | Dept\_id | 1 | Dept\_id | A | 6 | NULL | NULL | YES | BTREE | | |

| Employee | 1 | Emp\_index | 1 | Emp\_fname | A | 6 | NULL | NULL | YES | BTREE | | |

| Employee | 1 | Emp\_index | 2 | Emp\_lname | A | 6 | NULL | NULL | YES | BTREE | | |

| Employee | 1 | simpIndex | 1 | Emp\_lname | A | 6 | NULL | NULL | YES | BTREE | | |

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