1. Create table Customers with schema (ID, name, age, address, salary)

```
mysql> use my_db_278;
Database changed
mysql> create table Customers(ID INT PRIMARY KEY, name VARCHAR(30),age INT, addtess VARCHAR(50),salary FLOAT);
Query OK, 0 rows affected (0.02 sec)

mysql> INSERT INTO Customers
    -> VALUES(01, 'Rohit', 20, 'Hadapsar', 20000.0);
Query OK, 1 row affected (0.01 sec)

mysql> INSERT INTO Customers VALUES(02, 'Rohan', 21, 'Karvenagar', 21000.0);
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO Customers VALUES(03, 'Deepak', 20, 'Warje', 31000.0);
Query OK, 1 row affected (0.01 sec)

mysql> INSERT INTO Customers VALUES(04, 'Akshat', 20, 'Karve Putala', 30000.0);
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO Customers VALUES(05, 'Amay', 21, 'Nanded City', 40000.0);
Query OK, 1 row affected (0.00 sec)

mysql> select * from Customers;
+----+--------+------+--------------+--------+
| ID | name   | age  | addtess      | salary |
+----+--------+------+--------------+--------+
|  1 | Rohit  |   20 | Hadapsar     |  20000 |
|  2 | Rohan  |   21 | Karvenagar   |  21000 |
|  3 | Deepak |   20 | Warje        |  31000 |
|  4 | Akshat |   20 | Karve Putala |  30000 |
|  5 | Amay   |   21 | Nanded City  |  40000 |
+----+--------+------+--------------+--------+
```

2. Create table Orders with Schema(O_ID, o_date, customer_id, amount)

```
mysql> create table Orders(O_ID INT PRIMARY KEY, o_date date,customer_id INT, amount FLOAT);
Query OK, 0 rows affected (0.03 sec)

mysql> INSERT INTO Orders VALUES(01, '2025-02-15', 02, 20000.0);
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO Orders VALUES(02, '2025-03-30', 01, 10000.0);
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO Orders VALUES(03, '2025-04-03', 02, 21000.0);
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO Orders VALUES(04, '2025-06-23', 03, 40000.0);
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO Orders VALUES(05, '2025-05-23', 04, 30000.0);
Query OK, 1 row affected (0.00 sec)

mysql> select * from Orders;
+------+------------+-------------+--------+
| O_ID | o_date     | customer_id | amount |
+------+------------+-------------+--------+
|    1 | 2025-02-15 |           2 |  20000 |
|    2 | 2025-03-30 |           1 |  10000 |
|    3 | 2025-04-03 |           2 |  21000 |
|    4 | 2025-06-23 |           3 |  40000 |
|    5 | 2025-05-23 |           4 |  30000 |
+------+------------+-------------+--------+
5 rows in set (0.00 sec)
```

4. Perform the inner join on customers and orders table to enlist the id, name, amount and o_date

```
mysql>
mysql> select Customers.ID, Customers.name, Orders.amount, Orders.o_date FROM Customers INNER JOIN Orders ON Customers.ID = Orders.customer_id;
+----+--------+--------+------------+
| ID | name   | amount | o_date     |
+----+--------+--------+------------+
|  2 | Rohan  |  20000 | 2025-02-15 |
|  1 | Rohit  |  10000 | 2025-03-30 |
|  2 | Rohan  |  21000 | 2025-04-03 |
|  3 | Deepak |  40000 | 2025-06-23 |
|  4 | Akshat |  30000 | 2025-05-23 |
+----+--------+--------+------------+
5 rows in set (0.00 sec)
```

5. Perform the left outer join on customers and orders table to enlist the id, name, amount and o_date

6. Perform the right outer join on customers and orders table to enlist the id, name, amount and o_date

```
mysql> select Customers.ID, Customers.name, Orders.amount, Orders.o_date FROM Customers LEFT OUTER JOIN Orders ON Customers.ID = Orders.customer_id
;
+----+--------+--------+------------+
| ID | name   | amount | o_date     |
+----+--------+--------+------------+
|  1 | Rohit  |  10000 | 2025-03-30 |
|  2 | Rohan  |  21000 | 2025-04-03 |
|  2 | Rohan  |  20000 | 2025-02-15 |
|  3 | Deepak |  40000 | 2025-06-23 |
|  4 | Akshat |  30000 | 2025-05-23 |
|  5 | Amay   |   NULL | NULL       |
+----+--------+--------+------------+
6 rows in set (0.00 sec)

mysql> select Customers.ID, Customers.name, Orders.amount, Orders.o_date FROM Customers RIGHT OUTER JOIN Orders ON Customers.ID = Orders.customer_i
d;
+------+--------+--------+------------+
| ID   | name   | amount | o_date     |
+------+--------+--------+------------+
|    2 | Rohan  |  20000 | 2025-02-15 |
|    1 | Rohit  |  10000 | 2025-03-30 |
|    2 | Rohan  |  21000 | 2025-04-03 |
|    3 | Deepak |  40000 | 2025-06-23 |
|    4 | Akshat |  30000 | 2025-05-23 |
+------+--------+--------+------------+
5 rows in set (0.00 sec)
```

7. Perform the full outer join on customers and orders table to enlist the id, name, amount and o_date by using ‘union all’ set operation

```
mysql> select Customers.ID, Customers.name, Orders.amount, Orders.o_date FROM Customers LEFT OUTER JOIN Orders ON Customers.ID = Orders.customer_id UNION ALL
 select Customers.ID, Customers.name, Orders.amount, Orders.o_date FROM Customers RIGHT OUTER JOIN Orders ON Customers.ID = Orders.customer_id;
+------+--------+--------+------------+
| ID   | name   | amount | o_date     |
+------+--------+--------+------------+
|    1 | Rohit  |  10000 | 2025-03-30 |
|    2 | Rohan  |  21000 | 2025-04-03 |
|    2 | Rohan  |  20000 | 2025-02-15 |
|    3 | Deepak |  40000 | 2025-06-23 |
|    4 | Akshat |  30000 | 2025-05-23 |
|    5 | Amay   |   NULL | NULL       |
|    2 | Rohan  |  20000 | 2025-02-15 |
|    1 | Rohit  |  10000 | 2025-03-30 |
|    2 | Rohan  |  21000 | 2025-04-03 |
|    3 | Deepak |  40000 | 2025-06-23 |
|    4 | Akshat |  30000 | 2025-05-23 |
+------+--------+--------+------------+
11 rows in set (0.00 sec)
```

8. Perform the self join on customers table to enlist the pair of customers belonging to same address

```
mysql> select * from Customers;
+----+--------+------+--------------+--------+
| ID | name   | age  | address      | salary |
+----+--------+------+--------------+--------+
|  1 | Rohit  |   20 | Warje        |  20000 |
|  2 | Rohan  |   21 | Karvenagar   |  21000 |
|  3 | Deepak |   20 | Warje        |  31000 |
|  4 | Akshat |   20 | Karve Putala |  30000 |
|  5 | Amay   |   21 | Nanded City  |  40000 |
+----+--------+------+--------------+--------+
5 rows in set (0.00 sec)

mysql> select c1.ID from Customers c1, Customers c2 WHERE c1.ID <> c2.ID AND c1.ID = c2.ID ORDER BY c1.ID;
Empty set (0.00 sec)

mysql> select c1.ID from Customers c1, Customers c2 WHERE c1.ID <> c2.ID AND c1.address = c2.address ORDER BY c1.ID;
+----+
| ID |
+----+
|  1 |
|  3 |
+----+
2 rows in set (0.00 sec)
```

9. Perform the Cross/ Cartesian join on customers and orders table to enlist the id, name, amount and o_date

```
mysql> select Customers.ID, Customers.name, Orders.amount, Orders.o_date FROM Customers CROSS JOIN Orders;
+----+--------+--------+------------+
| ID | name   | amount | o_date     |
+----+--------+--------+------------+
|  5 | Amay   |  20000 | 2025-02-15 |
|  4 | Akshat |  20000 | 2025-02-15 |
|  3 | Deepak |  20000 | 2025-02-15 |
|  2 | Rohan  |  20000 | 2025-02-15 |
|  1 | Rohit  |  20000 | 2025-02-15 |
|  5 | Amay   |  10000 | 2025-03-30 |
|  4 | Akshat |  10000 | 2025-03-30 |
|  3 | Deepak |  10000 | 2025-03-30 |
|  2 | Rohan  |  10000 | 2025-03-30 |
|  1 | Rohit  |  10000 | 2025-03-30 |
|  5 | Amay   |  21000 | 2025-04-03 |
|  4 | Akshat |  21000 | 2025-04-03 |
|  3 | Deepak |  21000 | 2025-04-03 |
|  2 | Rohan  |  21000 | 2025-04-03 |
|  1 | Rohit  |  21000 | 2025-04-03 |
|  5 | Amay   |  40000 | 2025-06-23 |
|  4 | Akshat |  40000 | 2025-06-23 |
|  3 | Deepak |  40000 | 2025-06-23 |
|  2 | Rohan  |  40000 | 2025-06-23 |
|  1 | Rohit  |  40000 | 2025-06-23 |
|  5 | Amay   |  30000 | 2025-05-23 |
|  4 | Akshat |  30000 | 2025-05-23 |
|  3 | Deepak |  30000 | 2025-05-23 |
|  2 | Rohan  |  30000 | 2025-05-23 |
|  1 | Rohit  |  30000 | 2025-05-23 |
+----+--------+--------+------------+
25 rows in set (0.00 sec)
```

database. A JOIN is a means for combining fields from two tables by using values common to

10. Design the sub query with select statement for displaying all the details of the customers having salary greater than 20000

```
mysql> select * from Customers where salary > 20000;
+----+--------+------+--------------+--------+
| ID | name   | age  | address      | salary |
+----+--------+------+--------------+--------+
|  2 | Rohan  |   21 | Karvenagar   |  21000 |
|  3 | Deepak |   20 | Warje        |  31000 |
|  4 | Akshat |   20 | Karve Putala |  30000 |
|  5 | Amay   |   21 | Nanded City  |  40000 |
+----+--------+------+--------------+--------+
4 rows in set (0.00 sec)
```

11. Create a backup table- ‘cust_bkp’ of the table customers by using insert statement with the Subquery

```
mysql> create table cust_bkp as select * from Customers;
Query OK, 5 rows affected (0.02 sec)
Records: 5  Duplicates: 0  Warnings: 0

mysql> select * from cust_bkp;
+----+--------+------+--------------+--------+
| ID | name   | age  | address      | salary |
+----+--------+------+--------------+--------+
|  1 | Rohit  |   20 | Warje        |  20000 |
|  2 | Rohan  |   21 | Karvenagar   |  21000 |
|  3 | Deepak |   20 | Warje        |  31000 |
|  4 | Akshat |   20 | Karve Putala |  30000 |
|  5 | Amay   |   21 | Nanded City  |  40000 |
+----+--------+------+--------------+--------+
5 rows in set (0.00 sec)
```

12. Update the salaries by 10% of all the customers(in customers table) having age greater than or equals to 24 by using subquery with update clause(by using backup table cust_bkp)

```
mysql> UPDATE Customers SET salary = salary * 1.10 WHERE age >= 21 AND EXISTS (SELECT 1 FROM cust_bkp WHERE cust_bkp.ID = Customers.ID AND cust_bkp.age >= 21
);
Query OK, 2 rows affected (0.00 sec)
Rows matched: 2  Changed: 2  Warnings: 0

mysql> select * from cust_bkp;
+----+--------+------+--------------+--------+
| ID | name   | age  | address      | salary |
+----+--------+------+--------------+--------+
|  1 | Rohit  |   20 | Warje        |  20000 |
|  2 | Rohan  |   21 | Karvenagar   |  21000 |
|  3 | Deepak |   20 | Warje        |  31000 |
|  4 | Akshat |   20 | Karve Putala |  30000 |
|  5 | Amay   |   21 | Nanded City  |  40000 |
+----+--------+------+--------------+--------+
5 rows in set (0.00 sec)

mysql> select * from Customers;
+----+--------+------+--------------+--------+
| ID | name   | age  | address      | salary |
+----+--------+------+--------------+--------+
|  1 | Rohit  |   20 | Warje        |  20000 |
|  2 | Rohan  |   21 | Karvenagar   |  25410 |
|  3 | Deepak |   20 | Warje        |  31000 |
|  4 | Akshat |   20 | Karve Putala |  30000 |
|  5 | Amay   |   21 | Nanded City  |  48400 |
+----+--------+------+--------------+--------+
5 rows in set (0.01 sec)
```

13. Delete all the customers having age greater than 26 by using delete clause with the subquery

```
mysql> DELETE FROM Customers WHERE age > 26 AND EXISTS (SELECT 1 FROM cust_bkp WHERE cust_bkp.ID = Customers.ID AND cust_bkp.age > 26);
Query OK, 1 row affected (0.01 sec)

mysql> select * from Customers;
+----+--------+------+-------------+--------+
| ID | name   | age  | address     | salary |
+----+--------+------+-------------+--------+
|  1 | Rohit  |   20 | Warje       |  20000 |
|  2 | Rohan  |   21 | Karvenagar  |  25410 |
|  3 | Deepak |   20 | Warje       |  31000 |
|  5 | Amay   |   21 | Nanded City |  48400 |
+----+--------+------+-------------+--------+
4 rows in set (0.00 sec)

mysql> select * from cust_bkp;
+----+--------+------+--------------+--------+
| ID | name   | age  | address      | salary |
+----+--------+------+--------------+--------+
|  1 | Rohit  |   20 | Warje        |  20000 |
|  2 | Rohan  |   21 | Karvenagar   |  21000 |
|  3 | Deepak |   20 | Warje        |  31000 |
|  4 | Akshat |   30 | Karve Putala |  30000 |
|  5 | Amay   |   21 | Nanded City  |  40000 |
+----+--------+------+--------------+--------+
5 rows in set (0.00 sec)

mysql>
```