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Creating Table Truck

```
mysql> CREATE TABLE TRUCK(
    -> truck_no int PRIMARY KEY,
    -> driver_name varchar(12));
Query OK, 0 rows affected (0.01 sec)

mysql> DESC TRUCK;
+-------------+-------------+------+-----+---------+-------+
| Field       | Type        | Null | Key | Default | Extra |
+-------------+-------------+------+-----+---------+-------+
| truck_no    | int(11)     | NO   | PRI | NULL    |       |
| driver_name | varchar(12) | YES  |     | NULL    |       |
+-------------+-------------+------+-----+---------+-------+
2 rows in set (0.00 sec)
```

Truck Table after inserting values

```
mysql> SELECT * FROM TRUCK;
+----------+-------------+
| truck_no | driver_name |
+----------+-------------+
|     1001 | kaustubh    |
|     1002 | mayank      |
|     1003 | pratish     |
|     1004 | IQBAL       |
+----------+-------------+
4 rows in set (0.00 sec)
```

Creating table City

```
mysql> CREATE TABLE CITY(
    -> city_name varchar(12),
    -> population int );
Query OK, 0 rows affected (0.01 sec)

mysql> DESC CITY;
+------------+-------------+------+-----+---------+-------+
| Field      | Type        | Null | Key | Default | Extra |
+------------+-------------+------+-----+---------+-------+
| city_name  | varchar(12) | YES  |     | NULL    |       |
| population | int(11)     | YES  |     | NULL    |       |
+------------+-------------+------+-----+---------+-------+
2 rows in set (0.00 sec)
```

City tables after inserting values

```
mysql> SELECT * FROM CITY;
+------------+------------+
| city_name  | population |
+------------+------------+
| KOLKATA    |    1000000 |
| MUMBAI     |    6000000 |
| DELHI      |    8000000 |
| CHENNAI    |    3000000 |
+------------+------------+
4 rows in set (0.00 sec)
```

Creating table Customer

```
mysql> CREATE TABLE CUSTOMER(
    -> cust_id int PRIMARY KEY CHECK(cust_id BETWEEN 100 AND 10000),
    -> cust_name varchar(12),
    -> annual_revenue int,
    -> cust_type varchar(14) CHECK(cust_type="MANUFACTURER" OR cust_type="WHOLESALER" OR cust_type="RETAILER"));
Query OK, 0 rows affected (0.00 sec)

mysql> DESC CUSTOMER;
+----------------+-------------+------+-----+---------+-------+
| Field          | Type        | Null | Key | Default | Extra |
+----------------+-------------+------+-----+---------+-------+
| cust_id        | int(11)     | NO   | PRI | NULL    |       |
| cust_name      | varchar(12) | YES  |     | NULL    |       |
| annual_revenue | int(11)     | YES  |     | NULL    |       |
| cust_type      | varchar(14) | YES  |     | NULL    |       |
+----------------+-------------+------+-----+---------+-------+
4 rows in set (0.00 sec)
```

Customer table after Inserting values

```
mysql> SELECT * FROM CUSTOMER;
+---------+-----------+----------------+--------------+
| cust_id | cust_name | annual_revenue | cust_type    |
+---------+-----------+----------------+--------------+
|     101 | anurag    |       10000000 | MANUFACTURER |
|     102 | jay       |         100000 | WHOLESALER   |
|     103 | veeru     |         100000 | RETAILER     |
|     104 | thakur    |        1000000 | WHOLESALER   |
+---------+-----------+----------------+--------------+
4 rows in set (0.00 sec)
```

Creating table Shipment

```
mysql> CREATE TABLE SHIPMENT(
    ->     shipment_no int PRIMARY KEY,
    ->     cust_id int REFERENCES CUSTOMER(cust_id) ON DELETE CASCADE,
    ->     weight int CHECK(weight BETWEEN 0 AND 1000),
    ->     truck_no int REFERENCES TRUCK(truck_no) ON DELETE SET NULL,
    ->     destination varchar(12) REFERENCES CITY(city_name),
    ->     ship_date DATE );
Query OK, 0 rows affected (0.01 sec)

mysql> DESC SHIPMENT;
+-------------+-------------+------+-----+---------+-------+
| Field       | Type        | Null | Key | Default | Extra |
+-------------+-------------+------+-----+---------+-------+
| shipment_no | int(11)     | NO   | PRI | NULL    |       |
| cust_id     | int(11)     | YES  |     | NULL    |       |
| weight      | int(11)     | YES  |     | NULL    |       |
| truck_no    | int(11)     | YES  |     | NULL    |       |
| destination | varchar(12) | YES  |     | NULL    |       |
| ship_date   | date        | YES  |     | NULL    |       |
+-------------+-------------+------+-----+---------+-------+
6 rows in set (0.00 sec)
```

Shipment table after Inserting values

```
mysql> SELECT * FROM SHIPMENT;
+-------------+---------+--------+----------+-------------+------------+
| shipment_no | cust_id | weight | truck_no | destination | ship_date  |
+-------------+---------+--------+----------+-------------+------------+
|         301 |     102 |    300 |     1002 | KOLKATA     | 2022-09-11 |
|         302 |     101 |    500 |     1001 | DELHI       | 2021-08-11 |
|         303 |     101 |    600 |     1004 | DELHI       | 2022-07-10 |
|         304 |     104 |     20 |     1001 | MUMBAI      | 2022-04-18 |
|         305 |     103 |    290 |     1001 | KOLKATA     | 2022-02-11 |
|         306 |     102 |    300 |     1001 | CHENNAI     | 2022-11-23 |
|         307 |     101 |    120 |     1003 | CHENNAI     | 2022-09-11 |
|         308 |     101 |    220 |     1002 | KOLKATA     | 2022-09-11 |
|         309 |     104 |    200 |     1001 | KOLKATA     | 2022-04-11 |
|         310 |     103 |     10 |     1004 | MUMBAI      | 2021-04-11 |
+-------------+---------+--------+----------+-------------+------------+
10 rows in set (0.00 sec)
```

Query:

1.

```
mysql> (SELECT cust_name FROM CUSTOMER,SHIPMENT
    ->      WHERE CUSTOMER.cust_id=SHIPMENT.cust_id
    ->      AND destination="KOLKATA")
    ->      UNION
    -> (SELECT cust_name FROM CUSTOMER,SHIPMENT
    ->      WHERE CUSTOMER.cust_id=SHIPMENT.cust_id
    ->      AND destination="CHENNAI")
    ->      UNION
    -> (SELECT cust_name FROM CUSTOMER,SHIPMENT
    ->      WHERE CUSTOMER.cust_id=SHIPMENT.cust_id
    ->      AND destination="MUMBAI");
+-----------+
| cust_name |
+-----------+
| jay       |
| veeru     |
| anurag    |
| thakur    |
+-----------+
4 rows in set (0.00 sec)
```

2.

```
mysql> SELECT DISTINCT(driver_name) FROM TRUCK x,SHIPMENT y
    -> WHERE x.truck_no=y.truck_no
    -> AND weight>200;
+-------------+
| driver_name |
+-------------+
| kaustubh    |
| mayank      |
| IQBAL       |
+-------------+
3 rows in set (0.00 sec)
```

3.

```
mysql> SELECT MAX(weight) AS Max_Weight,MIN(weight) AS Min_Weight
    -> FROM SHIPMENT;
+------------+------------+
| Max_Weight | Min_Weight |
+------------+------------+
|        600 |         10 |
+------------+------------+
1 row in set (0.00 sec)
```

4.

```
mysql> SELECT cust_name,AVG(weight) FROM CUSTOMER,SHIPMENT
    -> WHERE CUSTOMER.cust_id=SHIPMENT.cust_id
    -> GROUP BY cust_name;
+-----------+-------------+
| cust_name | AVG(weight) |
+-----------+-------------+
| anurag    |    360.0000 |
| jay       |    300.0000 |
| thakur    |    110.0000 |
| veeru     |    150.0000 |
+-----------+-------------+
4 rows in set (0.00 sec)
```

5.

```
mysql> SELECT cname,population FROM CITY,(SELECT destination AS cname,SUM(weight) sm  FROM SHIPMENT GROUP BY destination) y
    -> WHERE city_name = cname AND sm>100;
+---------+------------+
| cname   | population |
+---------+------------+
| KOLKATA |    1000000 |
| DELHI   |    8000000 |
| CHENNAI |    3000000 |
+---------+------------+
3 rows in set (0.00 sec)
```

6.

```
mysql> SELECT d FROM
    -> (SELECT destination AS d ,COUNT(DISTINCT(cust_id)) AS cont FROM SHIPMENT GROUP BY destination) y
    -> WHERE cont=(SELECT COUNT(DISTINCT(cust_id)) FROM CUSTOMER);
+---------+
| d       |
+---------+
| KOLKATA |
+---------+
1 row in set (0.00 sec)
```

7.

```
mysql> SELECT destination AS city,MAX(weight) FROM SHIPMENT
    -> GROUP BY destination;
+----------+-------------+
| city     | MAX(weight) |
+----------+-------------+
| CHENNAI  |         300 |
| DELHI    |         600 |
| KOLKATA  |         300 |
| MUMBAI   |          20 |
+----------+-------------+
4 rows in set (0.00 sec)
```

8.

```
mysql> SELECT cust_name,annual_revenue FROM CUSTOMER,SHIPMENT
    ->      WHERE CUSTOMER.cust_id=SHIPMENT.cust_id
    ->      AND truck_no=(SELECT truck_no FROM TRUCK WHERE driver_name="IQBAL");
+-----------+----------------+
| cust_name | annual_revenue |
+-----------+----------------+
| anurag    |       10000000 |
| veeru     |         100000 |
+-----------+----------------+
2 rows in set (0.00 sec)
```

9.

```
mysql> SELECT driver_name FROM TRUCK,(SELECT truck_no AS tno,COUNT(DISTINCT(destination))AS cont FROM SHIPMENT GROUP BY truck_no) y
    -> WHERE tno=truck_no AND cont=(SELECT COUNT(DISTINCT(city_name)) FROM CITY);
+-------------+
| driver_name |
+-------------+
| kaustubh    |
+-------------+
1 row in set (0.00 sec)
```

10.

```
mysql> SELECT city_name,MIN(weight) FROM CITY,SHIPMENT
    -> WHERE city_name=destination GROUP BY city_name;
+-----------+-------------+
| city_name | MIN(weight) |
+-----------+-------------+
| CHENNAI   |         120 |
| DELHI     |         500 |
| KOLKATA   |         200 |
| MUMBAI    |          10 |
+-----------+-------------+
4 rows in set (0.01 sec)
```