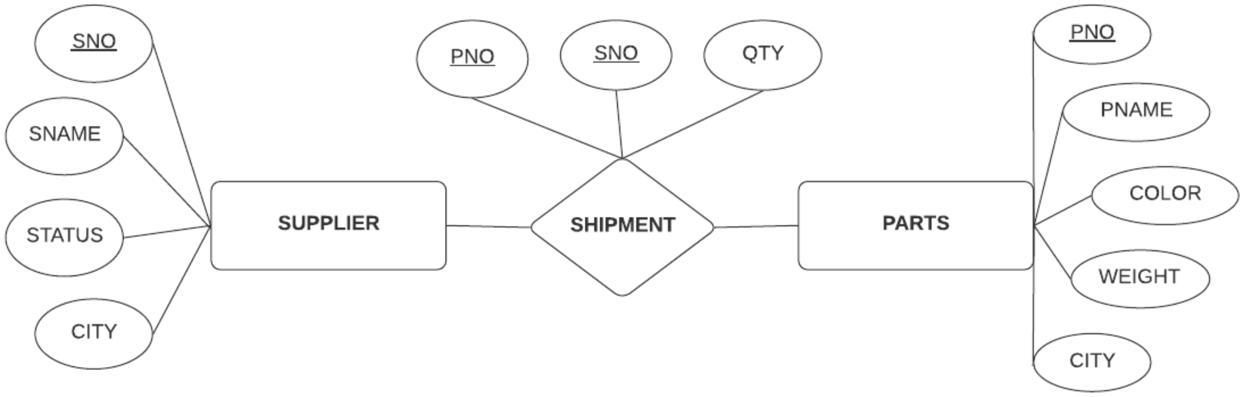
ASSIGNMENT 1
(SUPPLIER DATABASE)

Q. *SUPPLIER(SNO ,SNAME , STATUS , CITY)*
PARTS(PNO ,PNAME ,COLOR , WEIGHT , CITY)
SHIPMENT(SNO ,PNO,QTY)
SNO and PNO are the foreign keys, refers SUPPLIER(SNO) and PARTS(PNO) respectively.
Create table through appropriate SQL commands. Define all integrity constraints and enter sufficient data.
Use SQL Commands to insert the appropriate values into the tables.
Perform the following SQL queries:
1. Get suppliers names who supply part "P2".
2. Get suppliers names who supply at least one red part.
3. Get the supplier names for suppliers who do not supply part „P2‟.
4. Get the supplier names for suppliers who supply all parts.
5. Get supplier numbers who supply at least one of the parts supplied by supplier „S2‟.
6. Get all pairs of supplier numbers such that two suppliers are "collocated" (located in the same city).
7. Get all shipments where the quantity is in the range 300 to 750 inclusive.
8. Get all pairs of city names such that a supplier in the first city supplies a project in the second city.
9. Get all cities in which at least one supplier, part, or project is located.
10. Get all pairs of part numbers and supplier numbers such that some supplier supplies both indicated parts.

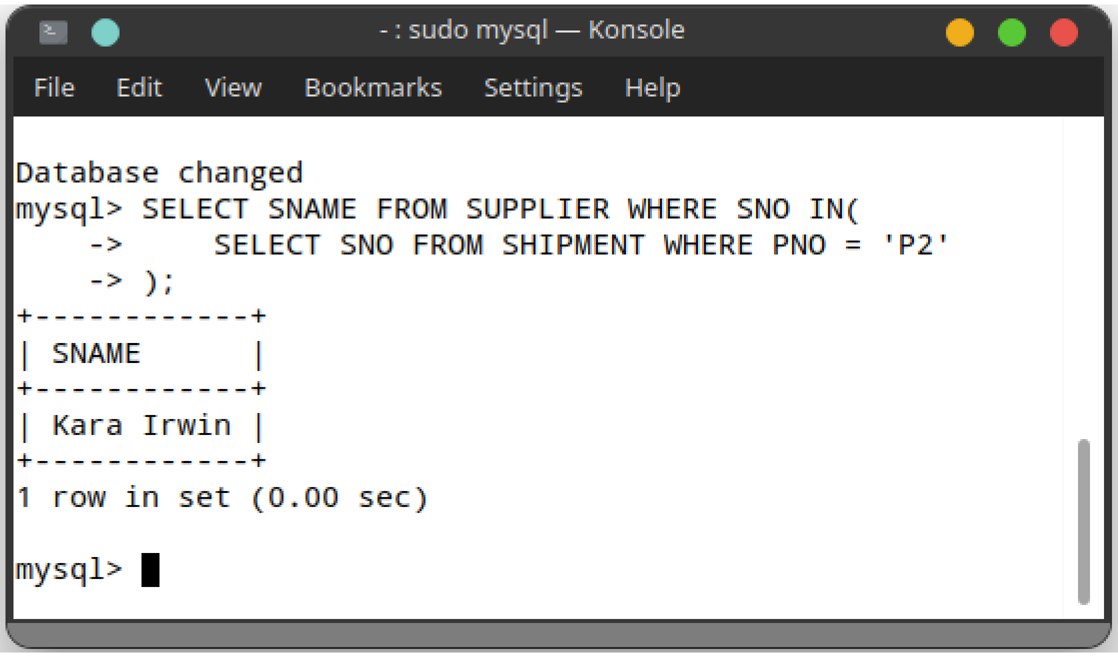
ER DIAGRAM :



SQL QUARIES:

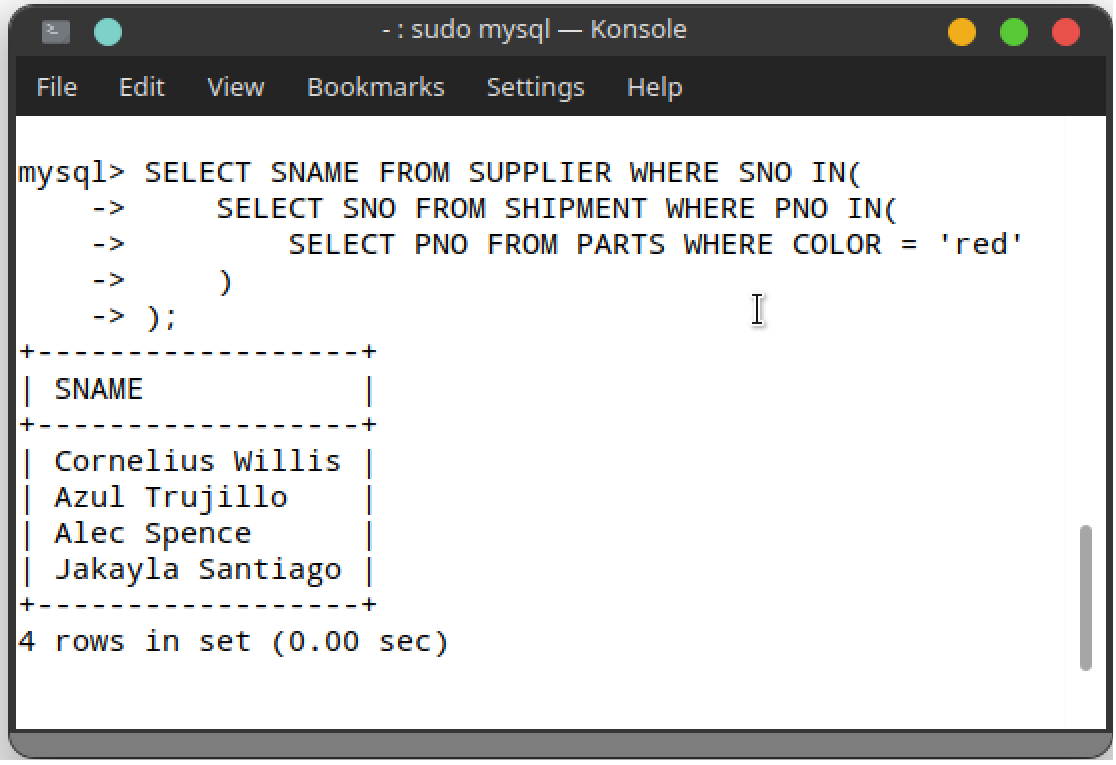
```
/*-----CREATE TABLES----*/
CREATE TABLE SUPPLIER(
    SNO INT PRIMARY KEY,
    SNAME VARCHAR(30),
    STATUS VARCHAR(15),
    CITY VARCHAR(30)
);

CREATE TABLE PARTS(
    PNO INT PRIMARY KEY,
    PNAME VARCHAR(30),
    COLOR VARCHAR(15),
    WEIGHT INT,
    CITY VARCHAR(30)
);

CREATE TABLE SHIPMENT(
    SNO INT,
    PNO INT,
    QTY INT,
    PRIMARY KEY(SNO, PNO),
    FOREIGN KEY(SNO) REFERENCES SUPPLIER(SNO),
    FOREIGN KEY(PNO) REFERENCES PARTS(PNO)
);

/*---- INSERT VALUES INTO TABLES ----*/
INSERT INTO SUPPLIER VALUES('S1','Seth Cantu', 'available', 'kolkata');
INSERT INTO SUPPLIER VALUES('S2','Kara Irwin', 'not available', 'goa');
INSERT INTO SUPPLIER VALUES('S3','Jakayla Santiago', 'available',
'hydrabad');
INSERT INTO SUPPLIER VALUES('S4','Azul Trujillo', 'available',
'kolkata');
INSERT INTO SUPPLIER VALUES('S5','Annabelle Mccall', 'not available',
'mumbai');
INSERT INTO SUPPLIER VALUES('S6','Cameron Farley', 'not available',
'pune');
INSERT INTO SUPPLIER VALUES('S7','Faith Avila', 'available', 'delhi');
INSERT INTO SUPPLIER VALUES('S8','Alec Spence', 'not available',
'dombivli');
INSERT INTO SUPPLIER VALUES('S9','Cornelius Willis', 'available',
'noida');
INSERT INTO SUPPLIER VALUES('S10','Terrell Jones', 'not available',
'delhi');

INSERT INTO PARTS VALUES('P1', 'part1', 'red', 15, 'kolkata');
INSERT INTO PARTS VALUES('P2', 'part2', 'black', 20, 'bangalore');
INSERT INTO PARTS VALUES('P3', 'part3', 'blue', 50, 'mumbai');
INSERT INTO PARTS VALUES('P4', 'part4', 'red', 80, 'pune');
INSERT INTO PARTS VALUES('P5', 'part5', 'white', 40, 'jaipur');
INSERT INTO PARTS VALUES('P6', 'part6', 'green', 30, 'delhi');
INSERT INTO PARTS VALUES('P7', 'part7', 'white', 50, 'goalior');
INSERT INTO PARTS VALUES('P8', 'part8', 'red', 45, 'patna');
INSERT INTO PARTS VALUES('P9', 'part9', 'black', 100, 'goa');
INSERT INTO PARTS VALUES('P10', 'part10', 'red', 90, 'gajiabad');

INSERT INTO SHIPMENT VALUES('S1', 'P3', 500);
INSERT INTO SHIPMENT VALUES('S7', 'P7', 600);
INSERT INTO SHIPMENT VALUES('S5', 'P6', 350);
INSERT INTO SHIPMENT VALUES('S2', 'P2', 700);
INSERT INTO SHIPMENT VALUES('S9', 'P1', 1000);
INSERT INTO SHIPMENT VALUES('S8', 'P4', 500);
INSERT INTO SHIPMENT VALUES('S3', 'P8', 2000);
INSERT INTO SHIPMENT VALUES('S4', 'P10', 100);
INSERT INTO SHIPMENT VALUES('S6', 'P5', 500);
INSERT INTO SHIPMENT VALUES('S10', 'P9', 1200);
```

```
/*---- question 1 ----*/

SELECT SNAME FROM SUPPLIER WHERE SNO IN(
    SELECT SNO FROM SHIPMENT WHERE PNO = 'P2'
);
```



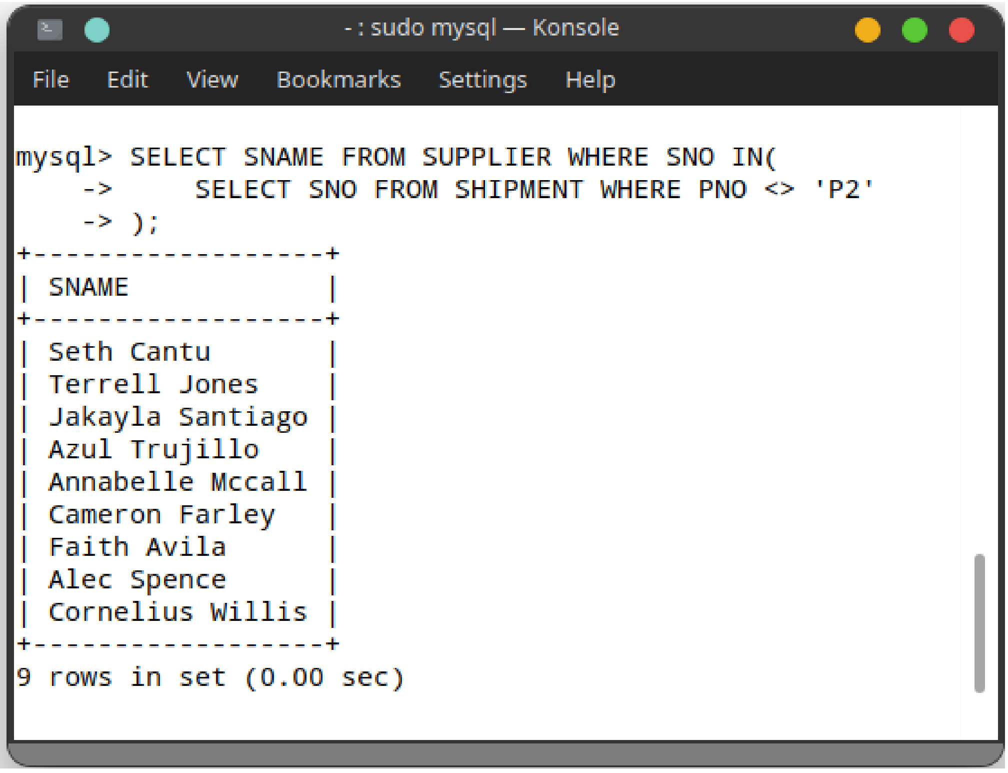
```
Database changed
mysql> SELECT SNAME FROM SUPPLIER WHERE SNO IN(
    ->     SELECT SNO FROM SHIPMENT WHERE PNO = 'P2'
    -> );
+------------+
| SNAME      |
+------------+
| Kara Irwin |
+------------+
1 row in set (0.00 sec)

mysql> 
```

```
/*---- question 2 ----*/

SELECT SNAME FROM SUPPLIER WHERE SNO IN(
    SELECT SNO FROM SHIPMENT WHERE PNO IN(
        SELECT PNO FROM PARTS WHERE COLOR = 'red'
    )
);
```



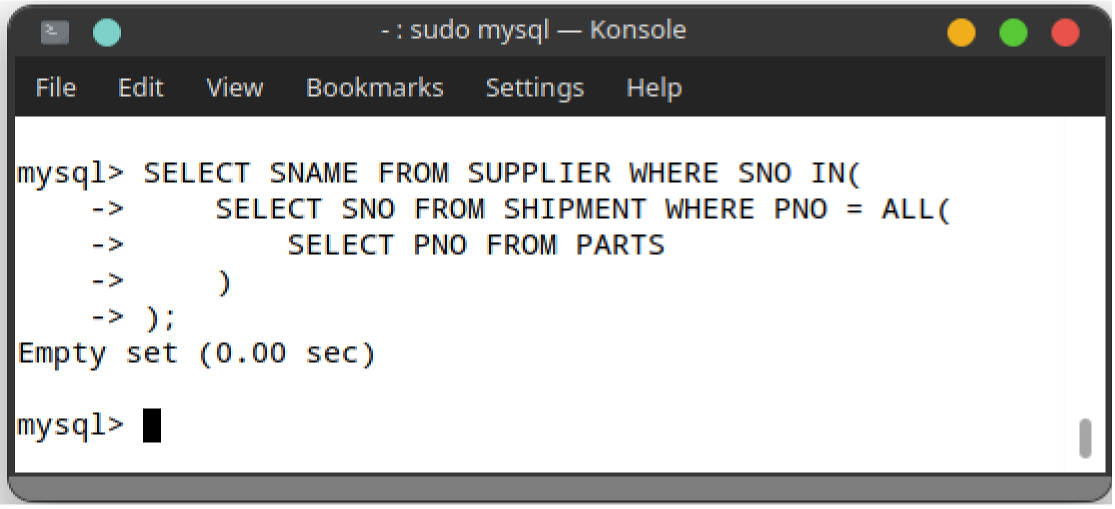
```
mysql> SELECT SNAME FROM SUPPLIER WHERE SNO IN(
    ->     SELECT SNO FROM SHIPMENT WHERE PNO IN(
    ->         SELECT PNO FROM PARTS WHERE COLOR = 'red'
    ->     )
    -> );
+------------------+
| SNAME            |
+------------------+
| Cornelius Willis |
| Azul Trujillo    |
| Alec Spence      |
| Jakayla Santiago |
+------------------+
4 rows in set (0.00 sec)
```

```
/*---- question 3 ----*/

SELECT SNAME FROM SUPPLIER WHERE SNO IN(
    SELECT SNO FROM SHIPMENT WHERE PNO <> 'P2'
);
```



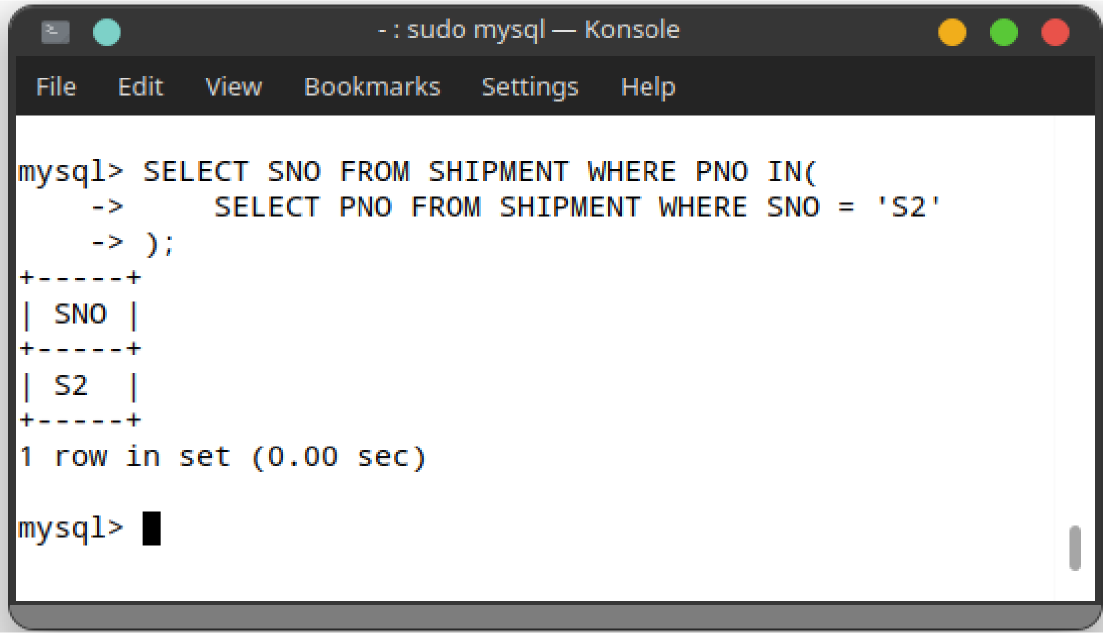
```
mysql> SELECT SNAME FROM SUPPLIER WHERE SNO IN(
    ->     SELECT SNO FROM SHIPMENT WHERE PNO <> 'P2'
    -> );
+-------------------+
| SNAME             |
+-------------------+
| Seth Cantu        |
| Terrell Jones     |
| Jakayla Santiago  |
| Azul Trujillo     |
| Annabelle Mccall  |
| Cameron Farley    |
| Faith Avila       |
| Alec Spence       |
| Cornelius Willis  |
+-------------------+
9 rows in set (0.00 sec)
```

```
/*---- question 4 ----*/

SELECT SNAME FROM SUPPLIER WHERE SNO IN(
    SELECT SNO FROM SHIPMENT WHERE PNO = ALL(
        SELECT PNO FROM PARTS
    )
);
```



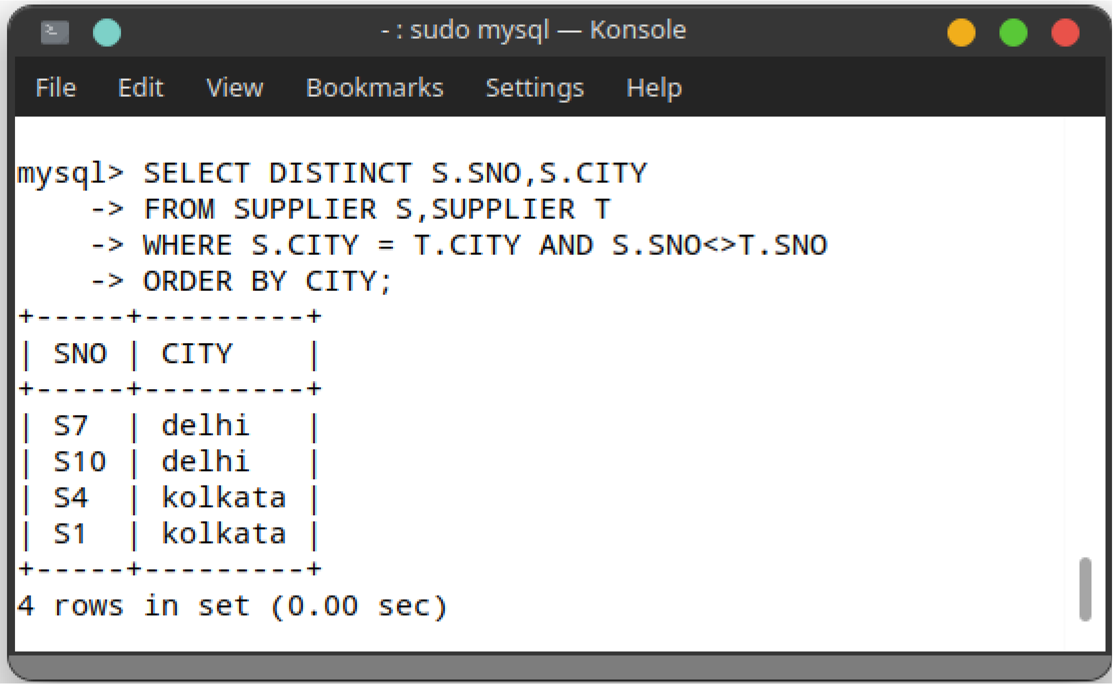
```
mysql> SELECT SNAME FROM SUPPLIER WHERE SNO IN(
    ->     SELECT SNO FROM SHIPMENT WHERE PNO = ALL(
    ->         SELECT PNO FROM PARTS
    ->     )
    -> );
Empty set (0.00 sec)

mysql> █
```

```
/*---- question 5 ----*/

SELECT SNO FROM SHIPMENT WHERE PNO IN(
    SELECT PNO FROM SHIPMENT WHERE SNO = 'S2'
);
```



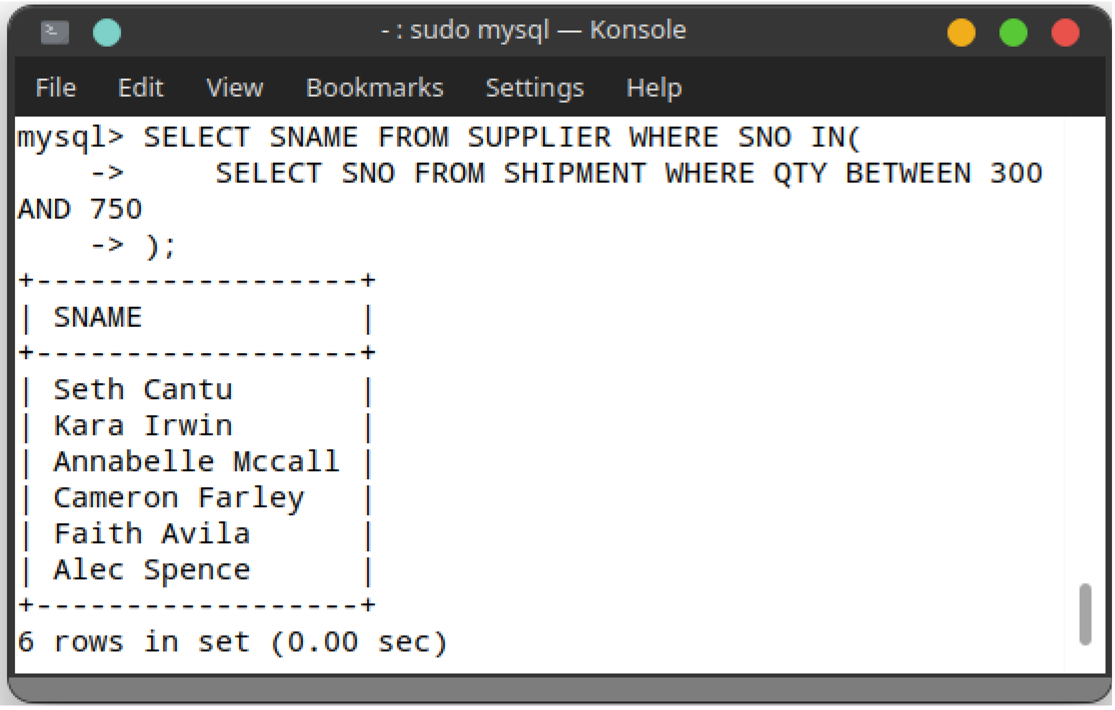
```
mysql> SELECT SNO FROM SHIPMENT WHERE PNO IN(
    ->     SELECT PNO FROM SHIPMENT WHERE SNO = 'S2'
    -> );
+-----+
| SNO |
+-----+
| S2  |
+-----+
1 row in set (0.00 sec)

mysql> 
```

```
/*---- question 6 ----*/

SELECT DISTINCT S.SNO,S.CITY
FROM SUPPLIER S,SUPPLIER T
WHERE S.CITY = T.CITY AND S.SNO<>T.SNO
ORDER BY CITY;
```



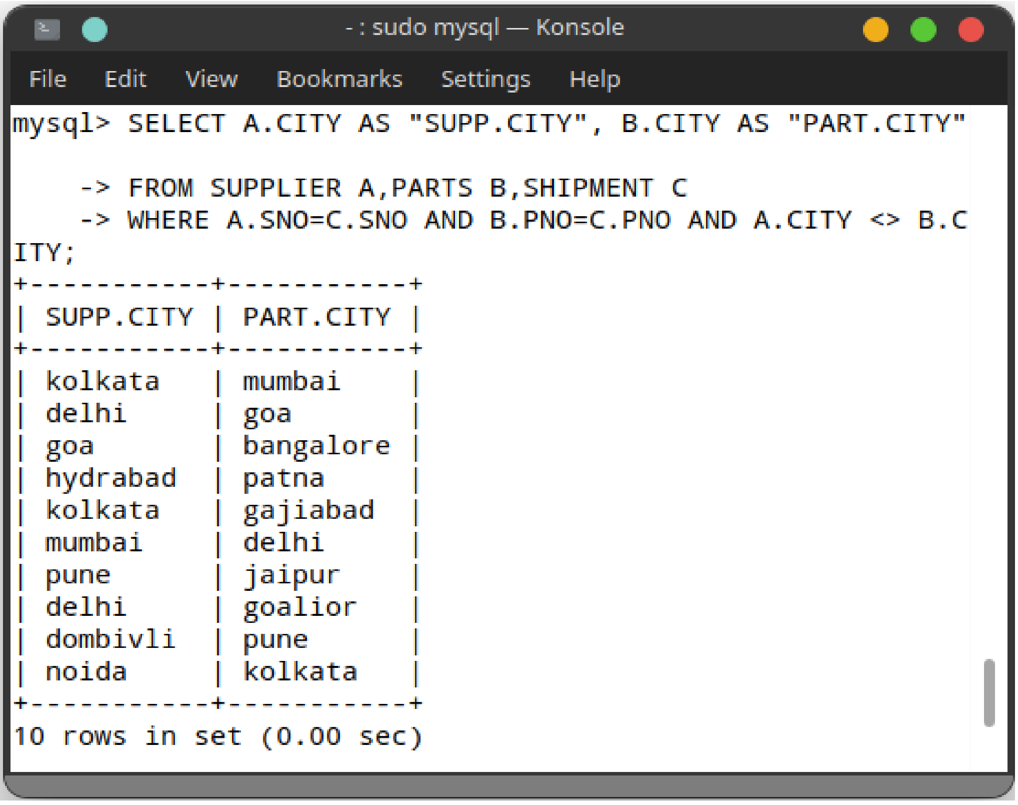
```
mysql> SELECT DISTINCT S.SNO,S.CITY
    -> FROM SUPPLIER S,SUPPLIER T
    -> WHERE S.CITY = T.CITY AND S.SNO<>T.SNO
    -> ORDER BY CITY;
+-----+---------+
| SNO | CITY    |
+-----+---------+
| S7  | delhi   |
| S10 | delhi   |
| S4  | kolkata |
| S1  | kolkata |
+-----+---------+
4 rows in set (0.00 sec)
```

```
/*---- question 7 ----*/

SELECT SNAME FROM SUPPLIER WHERE SNO IN(
    SELECT SNO FROM SHIPMENT WHERE QTY BETWEEN 300 AND 750
);
```



```
mysql> SELECT SNAME FROM SUPPLIER WHERE SNO IN(
    ->     SELECT SNO FROM SHIPMENT WHERE QTY BETWEEN 300
AND 750
    -> );
+-------------------+
| SNAME             |
+-------------------+
| Seth Cantu        |
| Kara Irwin        |
| Annabelle Mccall  |
| Cameron Farley    |
| Faith Avila       |
| Alec Spence       |
+-------------------+
6 rows in set (0.00 sec)
```

```
/*---- question 8 ----*/

SELECT A.CITY AS "SUPP.CITY", B.CITY AS "PART.CITY"
FROM SUPPLIER A,PARTS B,SHIPMENT C
WHERE A.SNO=C.SNO AND B.PNO=C.PNO AND A.CITY <> B.CITY;
```



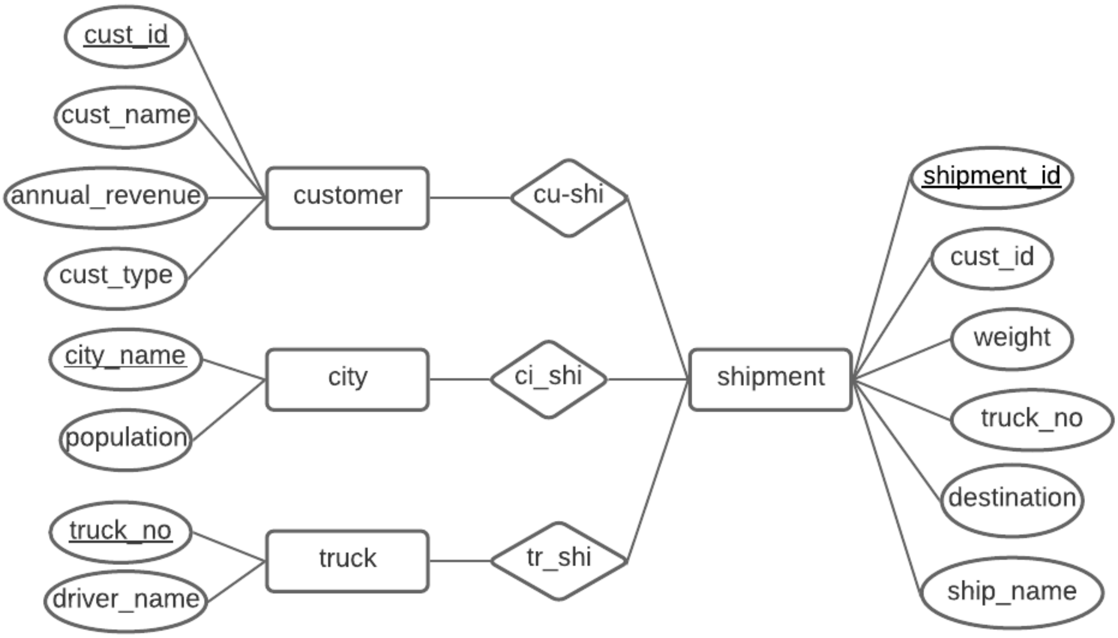
```
mysql> SELECT A.CITY AS "SUPP.CITY", B.CITY AS "PART.CITY"

    -> FROM SUPPLIER A,PARTS B,SHIPMENT C
    -> WHERE A.SNO=C.SNO AND B.PNO=C.PNO AND A.CITY <> B.C
ITY;
+-----------+-----------+
| SUPP.CITY | PART.CITY |
+-----------+-----------+
| kolkata   | mumbai    |
| delhi     | goa       |
| goa       | bangalore |
| hydrabad  | patna     |
| kolkata   | gajiabad  |
| mumbai    | delhi     |
| pune      | jaipur    |
| delhi     | goalior   |
| dombivli  | pune      |
| noida     | kolkata   |
+-----------+-----------+
10 rows in set (0.00 sec)
```

```
/*---- question 9 ----*/

SELECT CITY FROM(
    SELECT COUNT(PNO), CITY FROM PARTS
    GROUP BY CITY
    HAVING COUNT(PNO) >= 1
) INTERSECT (
    SELECT COUNT(SNO), CITY FROM SUPPLIER
    GROUP BY CITY
    HAVING COUNT(SNO) >= 1
);

/*---- question 10 ----*/

SELECT S.SNAME FROM SUPPLIER S WHERE NOT EXISTS(
    (SELECT PNO FROM PARTS)
    MINUS
    (SELECT PNO FROM SHIPMENT
    WHERE SNO=S.SNO)
);
```

ASSIGNMENT 2
(CUSTOMER DATABASE)

***Q.** Customer(cust_id, cust_name,annual_revenue,cust_type)*
City(city_name, population)
Truck(truck_no,driver_name)
shipment(shipment_id, cust_id, weight, truck_no ,destination,ship_name)
cust_id is in between 100 to 1000;
cust_name will be („Manufacturer','WholeSeller','Retailer');
cust_id references customer; weight must be default 10;
truck_no references truck;
destination references city;
weight<=1000
Create table through appropriate SQL commands. Define all integrity constraints and enter sufficient data.

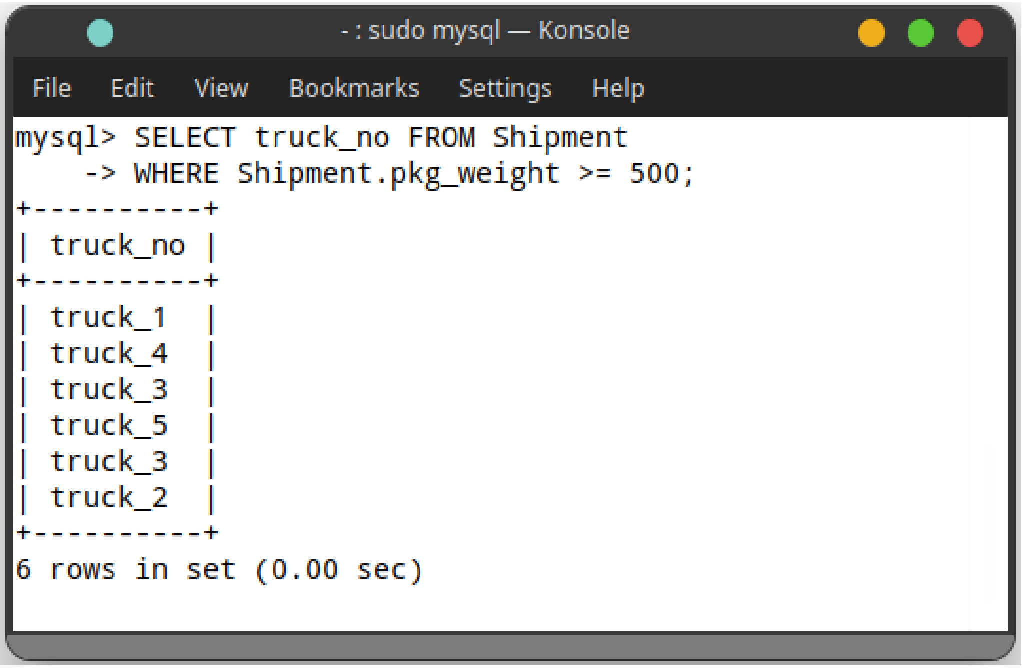
ER DIAGRAM :



SQL QUARIES:

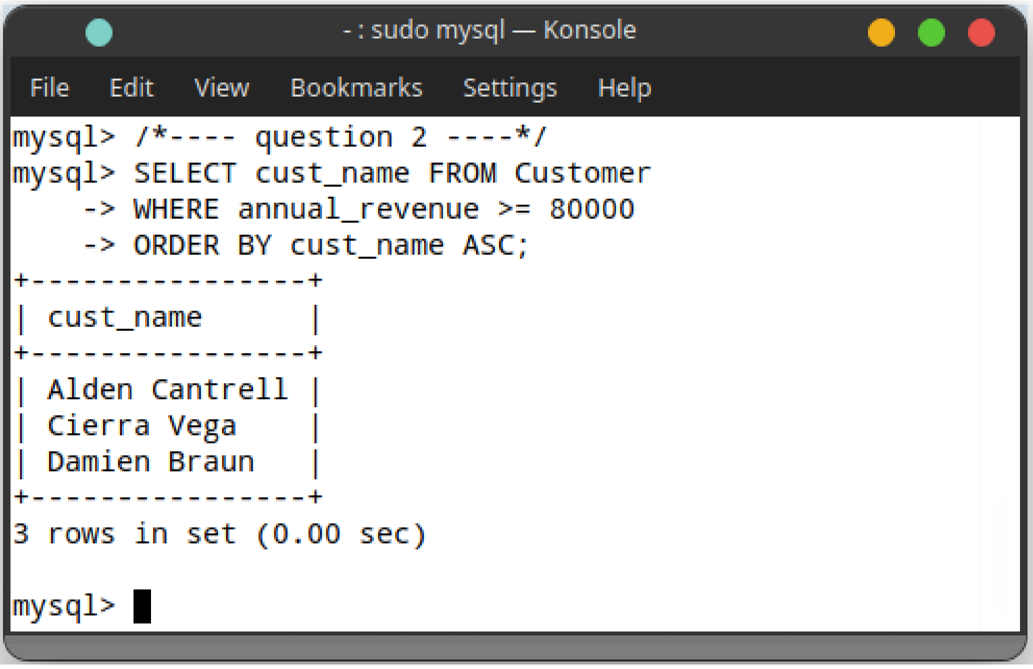
```
/*---- create tables ----*/
CREATE TABLE Customer(
    cust_id INT CHECK(cust_id >= 100 AND cust_id <= 1000),
    cust_name VARCHAR(30),
    annual_revenue INT,
    cust_type VARCHAR(20)
    CHECK(cust_type IN(
        'Manufacturer',
        'WholeSeller',
        'Retailer')
        ),
    PRIMARY KEY(cust_id)
);
CREATE TABLE City(
    city_name VARCHAR(30),
    city_population INT,
    PRIMARY KEY(city_name)
);
CREATE TABLE Truck(
    truck_no VARCHAR(10),
    driver_name VARCHAR(30),
    PRIMARY KEY(truck_no)
);
CREATE TABLE Shipment(
    shipment_id VARCHAR(10),
    cust_id INT,
    pkg_weight INT DEFAULT 10 CHECK( pkg_weight <= 1000),
    truck_no VARCHAR(10),
    destination VARCHAR(30),
    ship_name VARCHAR(30),
    PRIMARY KEY(shipment_id),
    FOREIGN KEY(cust_id) REFERENCES Customer(cust_id),
    FOREIGN KEY(truck_no) REFERENCES Truck(truck_no),
    FOREIGN KEY(destination) REFERENCES City(city_name)
);

/*---- INSERTING VALUES INTO TABLES ----*/
INSERT INTO Customer VALUES(500, 'Enrique West', 20000, 'Manufacturer');
INSERT INTO Customer VALUES(450, 'Damien Braun', 85000, 'WholeSeller');
INSERT INTO Customer VALUES(110, 'Ellie Osborne', 10000, 'Manufacturer');
INSERT INTO Customer VALUES(900, 'Cierra Vega', 95000, 'Retailer');
INSERT INTO Customer VALUES(850, 'Alden Cantrell', 90000,
'Manufacturer');

INSERT INTO City VALUES('kolkata', 1000000);
INSERT INTO City VALUES('mumbai', 220000);
INSERT INTO City VALUES('chandannagar', 85000);
INSERT INTO City VALUES('pune', 450500);
INSERT INTO City VALUES('chennai', 12000);

INSERT INTO Truck VALUES('truck_1', 'Phoenix Vincent');
INSERT INTO Truck VALUES('truck_2', 'Mya Key');
INSERT INTO Truck VALUES('truck_3', 'Connor Hayes');
INSERT INTO Truck VALUES('truck_4', 'Braiden Howe');
INSERT INTO Truck VALUES('truck_5', 'Cayden Gomez');

INSERT INTO Shipment VALUES('ship_1', 500, 950, 'truck_1', 'kolkata',
'shipname_1');
INSERT INTO Shipment VALUES('ship_2', 450, 900, 'truck_4', 'mumbai',
'shipname_2');
INSERT INTO Shipment VALUES('ship_3', 500, 400, 'truck_2',
'chandannagar', 'shipname_3');
INSERT INTO Shipment VALUES('ship_4', 900, 750, 'truck_3', 'pune',
'shipname_4');
```

```
INSERT INTO Shipment VALUES('ship_5', 110, 850, 'truck_5', 'chennai',
'shipname_5');
INSERT INTO Shipment VALUES('ship_6', 900, 400, 'truck_4', 'kolkata',
'shipname_3');
INSERT INTO Shipment VALUES('ship_7', 110, 750, 'truck_3', 'pune',
'shipname_4');
INSERT INTO Shipment VALUES('ship_8', 110, 850, 'truck_2', 'chennai',
'shipname_5');

/*---- question 1 ----*/
SELECT truck_no FROM Shipment
WHERE Shipment.pkg_weight >= 500;
```



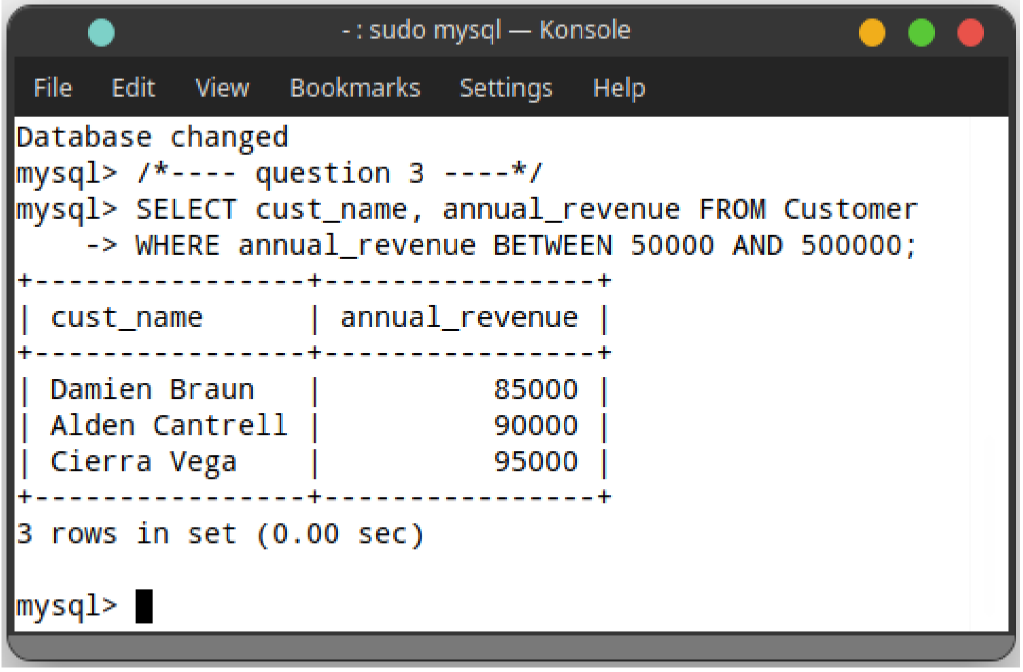
```
mysql> SELECT truck_no FROM Shipment
    -> WHERE Shipment.pkg_weight >= 500;
+----------+
| truck_no |
+----------+
| truck_1  |
| truck_4  |
| truck_3  |
| truck_5  |
| truck_3  |
| truck_2  |
+----------+
6 rows in set (0.00 sec)
```

```
/*---- question 2 ----*/
SELECT cust_name FROM Customer
WHERE annual_revenue >= 80000
ORDER BY cust_name ASC;
```



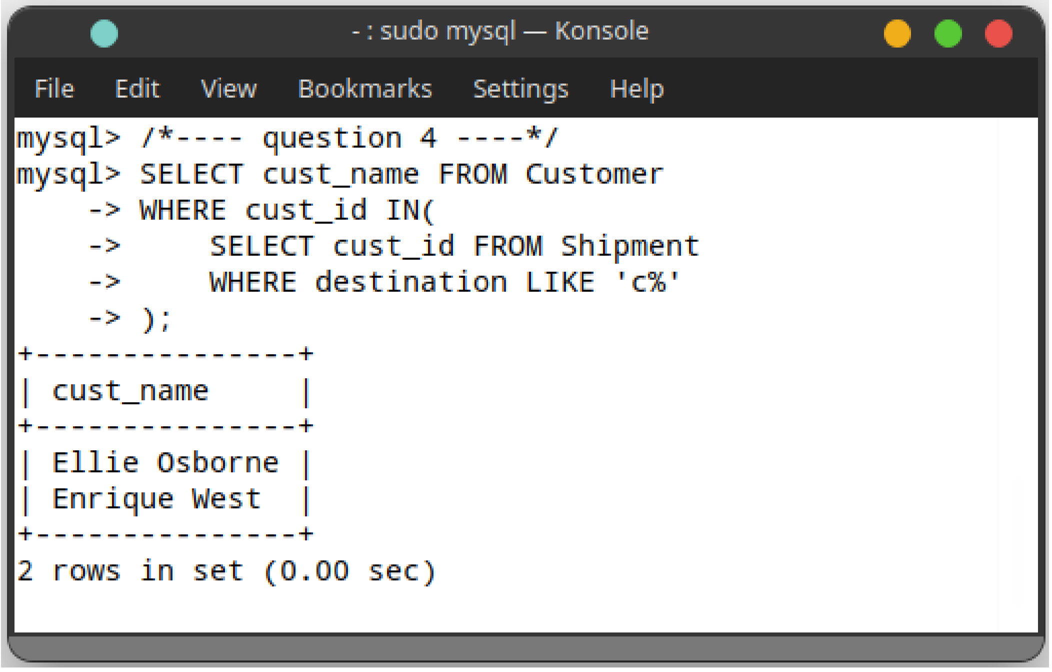
```
mysql> /*---- question 2 ----*/
mysql> SELECT cust_name FROM Customer
    -> WHERE annual_revenue >= 80000
    -> ORDER BY cust_name ASC;
+---------------+
| cust_name     |
+---------------+
| Alden Cantrell |
| Cierra Vega   |
| Damien Braun  |
+---------------+
3 rows in set (0.00 sec)

mysql> 
```

```
/*---- question 3 ----*/
SELECT cust_name, annual_revenue FROM Customer
WHERE annual_revenue BETWEEN 50000 AND 500000;
```



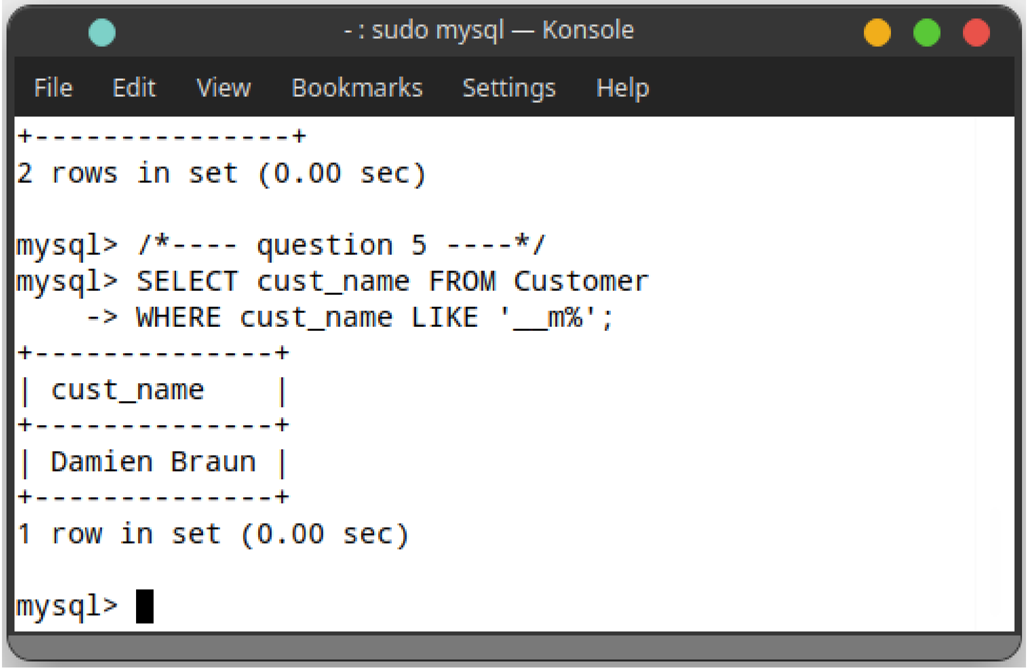
```
Database changed
mysql> /*---- question 3 ----*/
mysql> SELECT cust_name, annual_revenue FROM Customer
    -> WHERE annual_revenue BETWEEN 50000 AND 500000;
+----------------+----------------+
| cust_name      | annual_revenue |
+----------------+----------------+
| Damien Braun   |          85000 |
| Alden Cantrell |          90000 |
| Cierra Vega    |          95000 |
+----------------+----------------+
3 rows in set (0.00 sec)

mysql> 
```

```
/*---- question 4 ----*/
SELECT cust_name FROM Customer
WHERE cust_id IN(
    SELECT cust_id FROM Shipment
    WHERE destination LIKE 'c%'
);
```



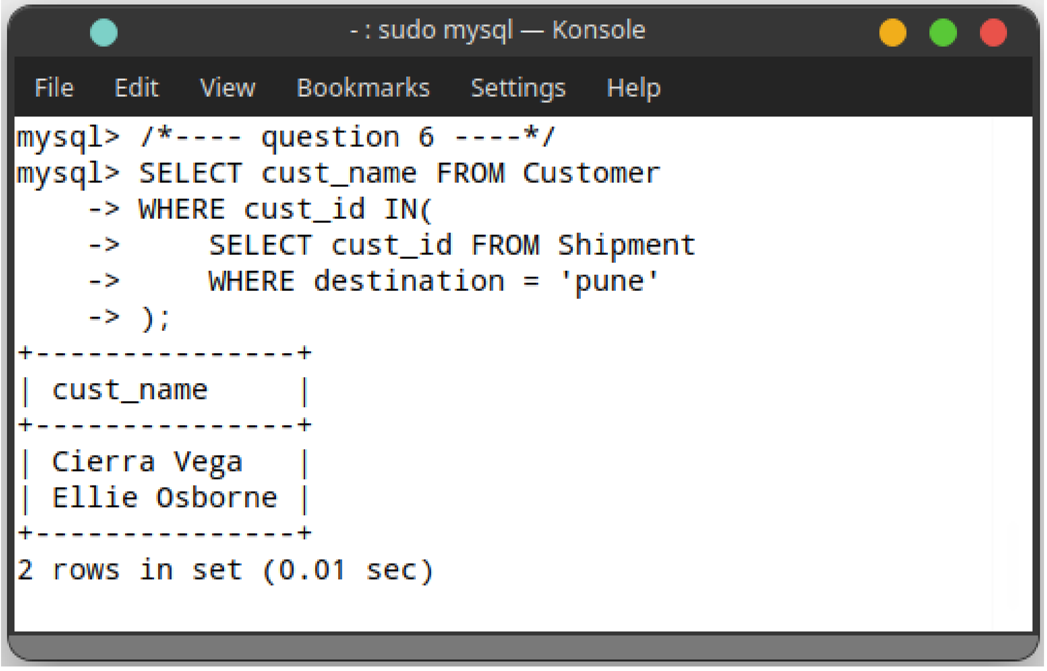
```
mysql> /*---- question 4 ----*/
mysql> SELECT cust_name FROM Customer
    -> WHERE cust_id IN(
    ->     SELECT cust_id FROM Shipment
    ->     WHERE destination LIKE 'c%'
    -> );
+----------------+
| cust_name      |
+----------------+
| Ellie Osborne  |
| Enrique West   |
+----------------+
2 rows in set (0.00 sec)
```

```
/*---- question 5 ----*/
SELECT cust_name FROM Customer
WHERE cust_name LIKE '__m%';
```



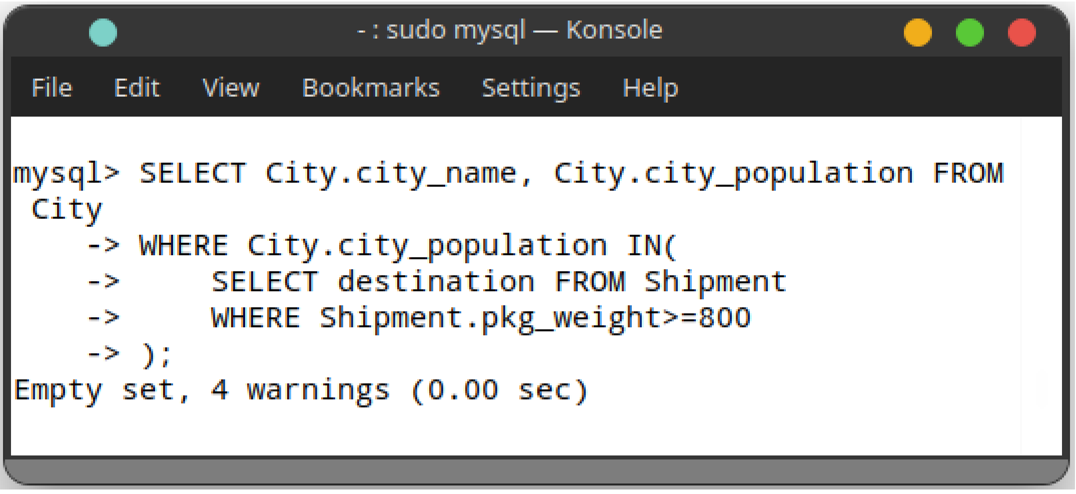
```
+---------------+
2 rows in set (0.00 sec)

mysql> /*---- question 5 ----*/
mysql> SELECT cust_name FROM Customer
    -> WHERE cust_name LIKE '__m%';
+--------------+
| cust_name    |
+--------------+
| Damien Braun |
+--------------+
1 row in set (0.00 sec)

mysql> 
```

```
/*---- question 6 ----*/
SELECT cust_name FROM Customer
WHERE cust_id IN(
    SELECT cust_id FROM Shipment
    WHERE destination = 'pune'
);
```



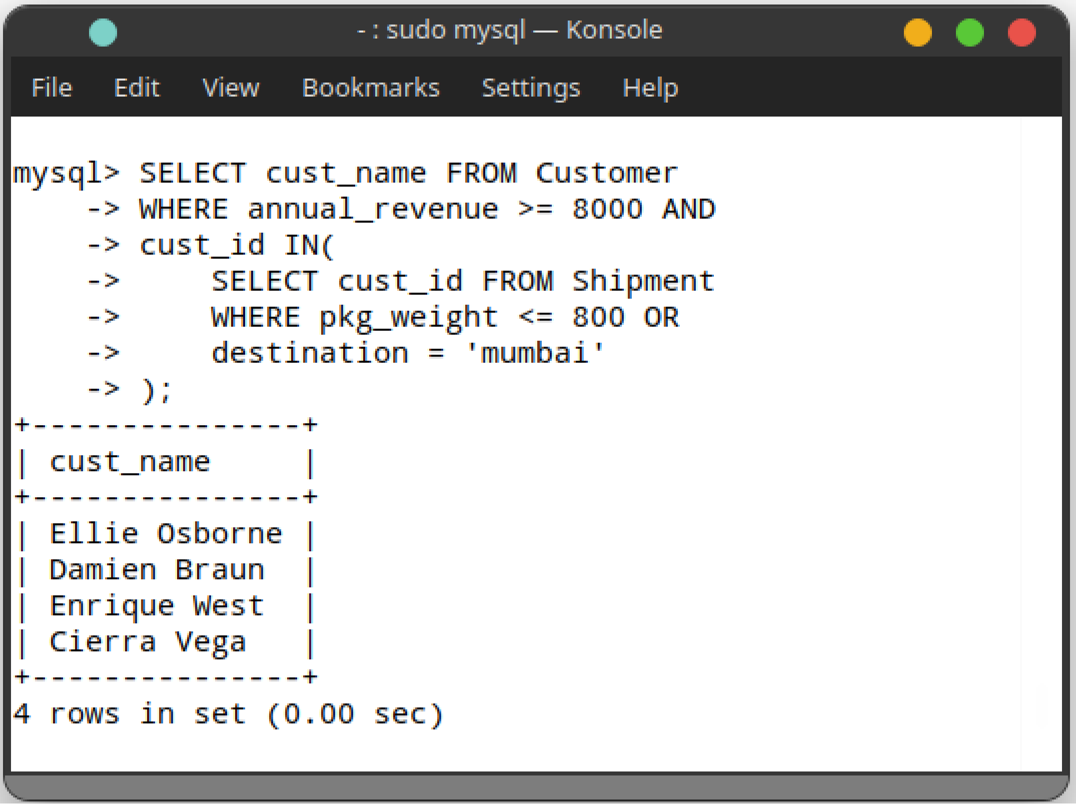
```
mysql> /*---- question 6 ----*/
mysql> SELECT cust_name FROM Customer
    -> WHERE cust_id IN(
    ->     SELECT cust_id FROM Shipment
    ->     WHERE destination = 'pune'
    -> );
+---------------+
| cust_name     |
+---------------+
| Cierra Vega   |
| Ellie Osborne |
+---------------+
2 rows in set (0.01 sec)
```

```
/*---- question 7 ----*/
SELECT city_name, city_population FROM City
WHERE city_population IN(
    SELECT destination FROM Shipment
    WHERE pkg_weight>=800
);
```



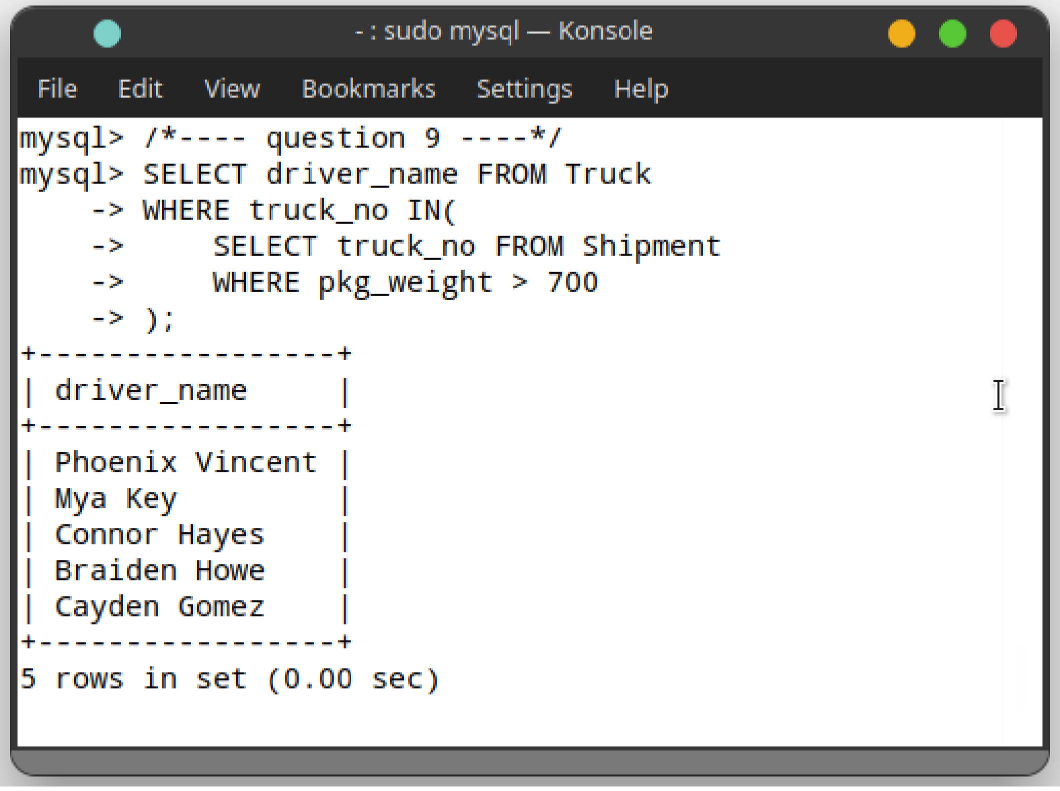
```
mysql> SELECT City.city_name, City.city_population FROM
 City
    -> WHERE City.city_population IN(
    ->     SELECT destination FROM Shipment
    ->     WHERE Shipment.pkg_weight>=800
    -> );
Empty set, 4 warnings (0.00 sec)
```

```
/*---- question 8 ----*/
SELECT cust_name FROM Customer
WHERE annual_revenue >= 8000 AND
cust_id IN(
    SELECT cust_id FROM Shipment
    WHERE pkg_weight <= 800 OR
    destination = 'mumbai'
);
```



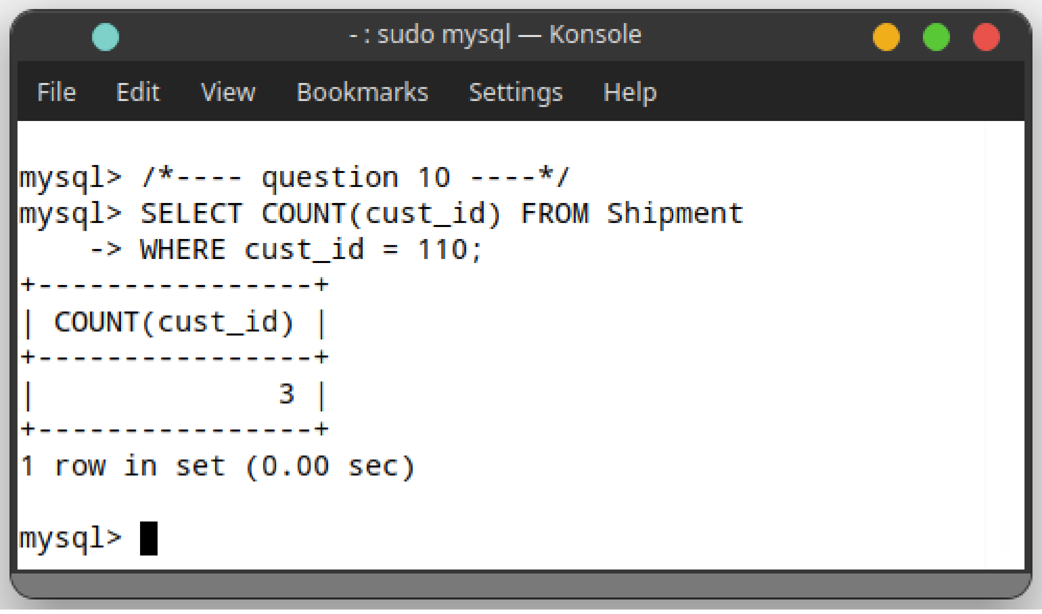
```
mysql> SELECT cust_name FROM Customer
    -> WHERE annual_revenue >= 8000 AND
    -> cust_id IN(
    ->     SELECT cust_id FROM Shipment
    ->     WHERE pkg_weight <= 800 OR
    ->     destination = 'mumbai'
    -> );
+---------------+
| cust_name     |
+---------------+
| Ellie Osborne |
| Damien Braun  |
| Enrique West  |
| Cierra Vega   |
+---------------+
4 rows in set (0.00 sec)
```

```
/*---- question 9 ----*/
SELECT driver_name FROM Truck
WHERE truck_no IN(
    SELECT truck_no FROM Shipment
    WHERE pkg_weight > 700
);
```



```
mysql> /*---- question 9 ----*/
mysql> SELECT driver_name FROM Truck
    -> WHERE truck_no IN(
    ->     SELECT truck_no FROM Shipment
    ->     WHERE pkg_weight > 700
    -> );
+-----------------+
| driver_name     |
+-----------------+
| Phoenix Vincent |
| Mya Key         |
| Connor Hayes    |
| Braiden Howe    |
| Cayden Gomez    |
+-----------------+
5 rows in set (0.00 sec)
```

```
/*---- question 10 ----*/
SELECT COUNT(cust_id) FROM Shipment
WHERE cust_id = 110;
```



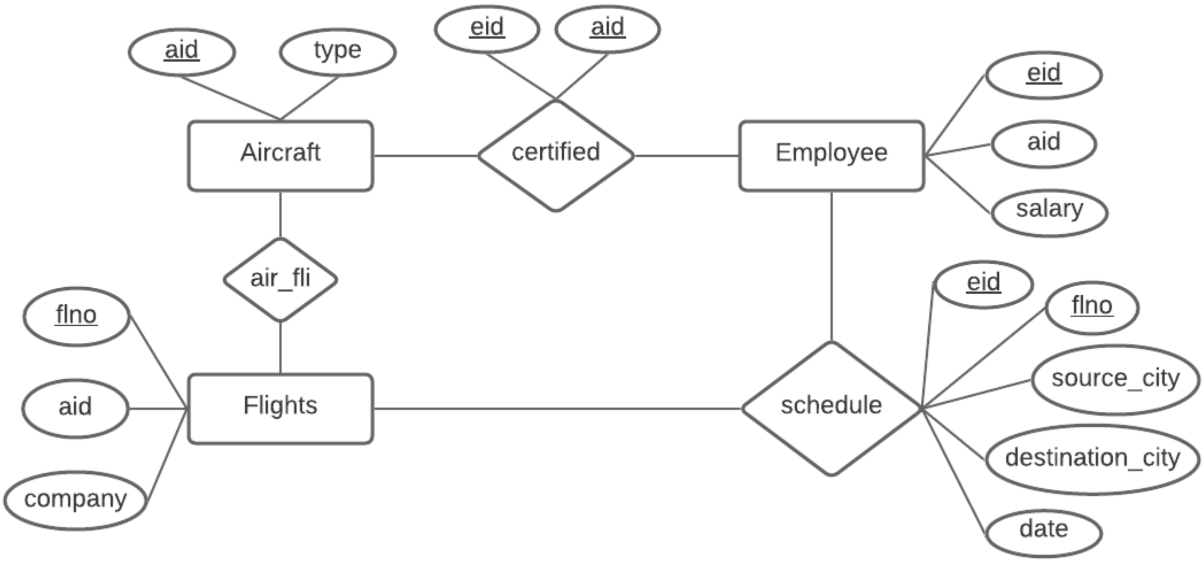
```
mysql> /*---- question 10 ----*/
mysql> SELECT COUNT(cust_id) FROM Shipment
    -> WHERE cust_id = 110;
+----------------+
| COUNT(cust_id) |
+----------------+
|              3 |
+----------------+
1 row in set (0.00 sec)

mysql> 
```

ASSIGNMENT 3

(AIRCRAFT DATABASE)

Q. *Consider the following schema of a relational database.*
Aircraft (aid, type)
Flights (flno, aid, company)
Employees (eid, ename, salary)
Certified (eid, aid)
Schedule (eid, flno, source_city, destination_city, date)
Create table through appropriate SQL commands. Define all integrity constraints and enter sufficient data.
1) Give the name of the employee who has certification on more than 1 type of aircrafts.
2) Give the name of the employee who has no certification.
3) Give the name of the city where from maximum flight takes off (source_city)?
4) Give the name of the company, which spend maximum salary for their employees.
5) Give the name of the company which has maximum types of flights.

ER DIAGRAM :

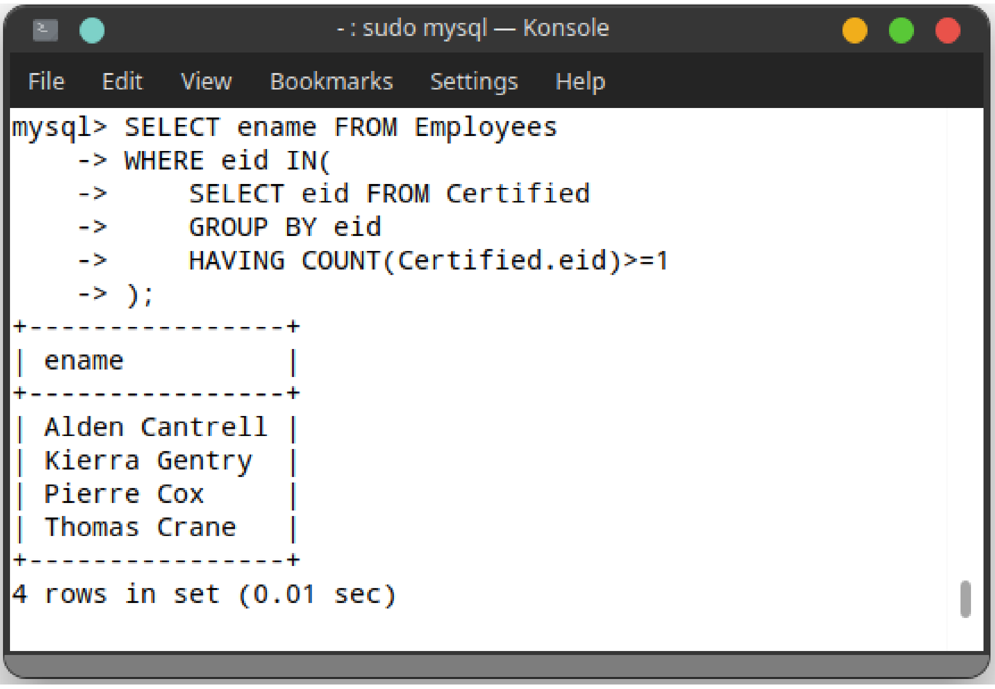


SQL QUARIES:

```
/*---- CREATING TABLES ----*/
CREATE TABLE Aircraft(
    aid VARCHAR(10) PRIMARY KEY,
    type VARCHAR(10)
);
CREATE TABLE Flights(
    aid VARCHAR(10),
    flno VARCHAR(10) PRIMARY KEY,
    company VARCHAR(30),
    FOREIGN KEY(aid) REFERENCES Aircraft(aid)
);
CREATE TABLE Employees(
    eid VARCHAR(10) PRIMARY KEY,
    ename VARCHAR(30),
    salary INT
);
```

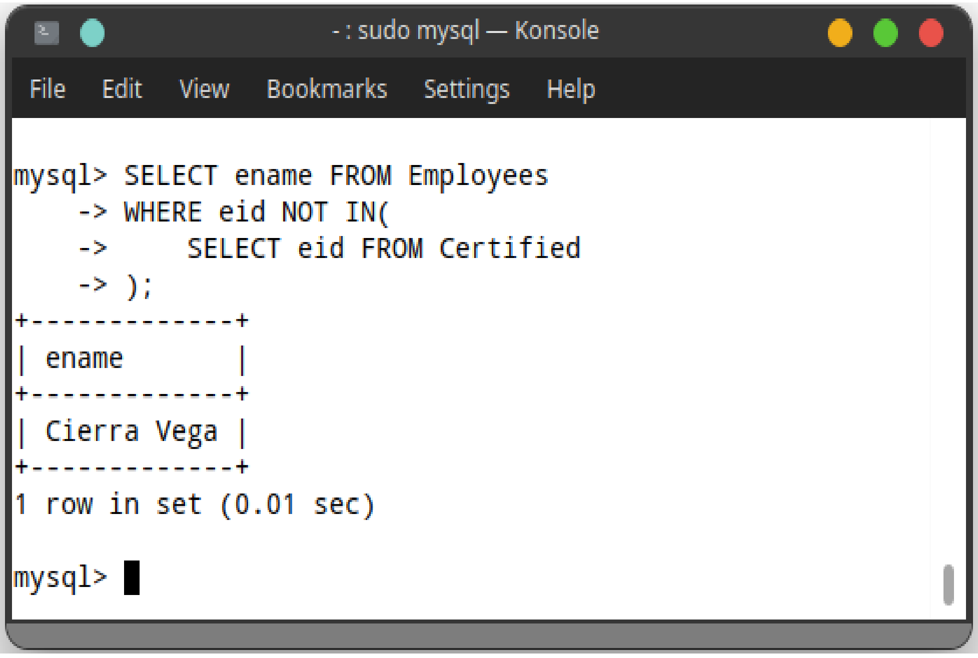
```
CREATE TABLE Certified(
    eid VARCHAR(10),
    aid VARCHAR(10),
    PRIMARY KEY(eid, aid),
    FOREIGN KEY(eid) REFERENCES Employees(eid),
    FOREIGN KEY(aid) REFERENCES Aircraft(aid)
);
CREATE TABLE Schedule(
    eid VARCHAR(10),
    flno VARCHAR(10),
    source_city VARCHAR(30),
    destination_city VARCHAR(30),
    fly_date DATE,
    PRIMARY KEY(eid,flno),
    FOREIGN KEY(eid) REFERENCES Employees(eid),
    FOREIGN KEY(flno) REFERENCES Flights(flno)
);

/*---- INSERTING VALUES INTO Aircraft ----*/
INSERT INTO Aircraft VALUES('air_1', 'business 1');
INSERT INTO Aircraft VALUES('air_2', 'class A');
INSERT INTO Aircraft VALUES('air_3', 'business 2');
INSERT INTO Aircraft VALUES('air_4', 'class B');
INSERT INTO Aircraft VALUES('air_5', 'private');

/*---- INSERTING VALUES INTO Flights ----*/
INSERT INTO Flights VALUES('air_1', 'fli_1', 'Alliance');
INSERT INTO Flights VALUES('air_2', 'fli_2', 'Emirates');
INSERT INTO Flights VALUES('air_3', 'fli_3', 'Air India');
INSERT INTO Flights VALUES('air_4', 'fli_4', 'goAir');
INSERT INTO Flights VALUES('air_5', 'fli_5', 'Indigo');
INSERT INTO Flights VALUES('air_1', 'fli_6', 'Alliance');
INSERT INTO Flights VALUES('air_1', 'fli_7', 'Indigo');
INSERT INTO Flights VALUES('air_3', 'fli_8', 'Indigo');

/*---- INSERTING VALUES INTO Employees ----*/
INSERT INTO Employees VALUES('emp_1', 'Cierra Vega', 100000);
INSERT INTO Employees VALUES('emp_2', 'Alden Cantrell', 150000);
INSERT INTO Employees VALUES('emp_3', 'Kierra Gentry', 20000);
INSERT INTO Employees VALUES('emp_4', 'Pierre Cox', 300000);
INSERT INTO Employees VALUES('emp_5', 'Thomas Crane', 120000);

/*---- INSERTING VALUES INTO Certified ----*/
INSERT INTO Certified VALUES('emp_5', 'air_1');
INSERT INTO Certified VALUES('emp_4', 'air_2');
INSERT INTO Certified VALUES('emp_3', 'air_3');
INSERT INTO Certified VALUES('emp_2', 'air_4');
INSERT INTO Certified VALUES('emp_3', 'air_2');
INSERT INTO Certified VALUES('emp_5', 'air_2');
INSERT INTO Certified VALUES('emp_3', 'air_5');

/*---- INSERTING VALUES INTO Schedule ----*/
INSERT INTO Schedule VALUES('emp_1', 'fli_1', 'kolkata', 'delhi', '2021-
05-12');
INSERT INTO Schedule VALUES('emp_2', 'fli_2', 'chennai', 'mumbai', '2021-
05-15');
INSERT INTO Schedule VALUES('emp_3', 'fli_3', 'delhi', 'chennai', '2021-
05-11');
INSERT INTO Schedule VALUES('emp_4', 'fli_4', 'tamilnadu', 'rajasthan',
'2021-04-20');
INSERT INTO Schedule VALUES('emp_5', 'fli_5', 'mumbai', 'kolkata', '2021-
05-27');
INSERT INTO Schedule VALUES('emp_4', 'fli_3', 'kolkata', 'delhi', '2021-
05-06');
INSERT INTO Schedule VALUES('emp_5', 'fli_3', 'tamilnadu', 'chennai',
'2021-05-02');
```

```
INSERT INTO Schedule VALUES('emp_5', 'fli_2', 'kolkata', 'mumbai', '2021-
05-07');

/*---- question 1 ----*/

SELECT ename FROM Employees
WHERE eid IN(
    SELECT eid FROM Certified
    GROUP BY eid
    HAVING COUNT(Certified.eid)>=1
);
```



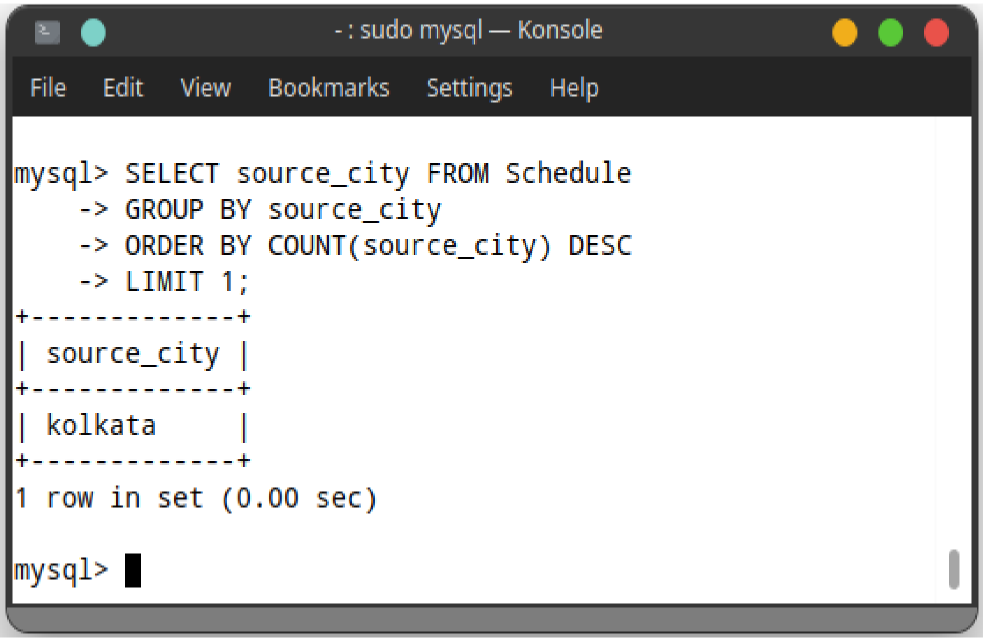
```
mysql> SELECT ename FROM Employees
    -> WHERE eid IN(
    ->     SELECT eid FROM Certified
    ->     GROUP BY eid
    ->     HAVING COUNT(Certified.eid)>=1
    -> );
+----------------+
| ename          |
+----------------+
| Alden Cantrell |
| Kierra Gentry  |
| Pierre Cox     |
| Thomas Crane   |
+----------------+
4 rows in set (0.01 sec)
```

```
/*---- question 2 ----*/

SELECT ename FROM Employees
WHERE eid NOT IN(
    SELECT eid FROM Certified
);
```



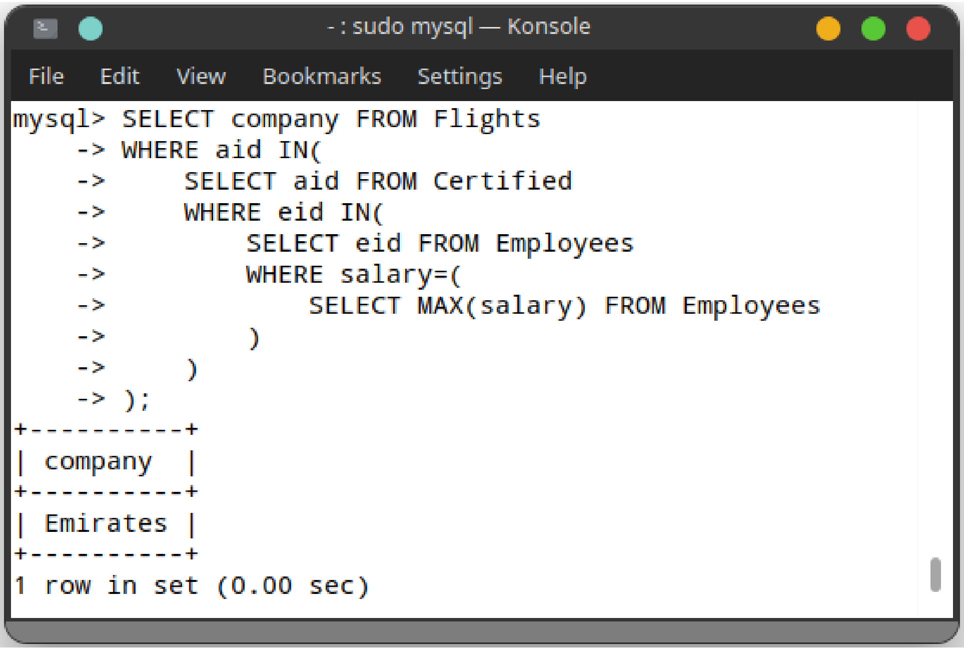
```
mysql> SELECT ename FROM Employees
    -> WHERE eid NOT IN(
    ->     SELECT eid FROM Certified
    -> );
+-------------+
| ename       |
+-------------+
| Cierra Vega |
+-------------+
1 row in set (0.01 sec)

mysql> 
```

```
/*---- question 3 ----*/

SELECT source_city FROM Schedule
GROUP BY source_city
ORDER BY COUNT(source_city) DESC
LIMIT 1;
```



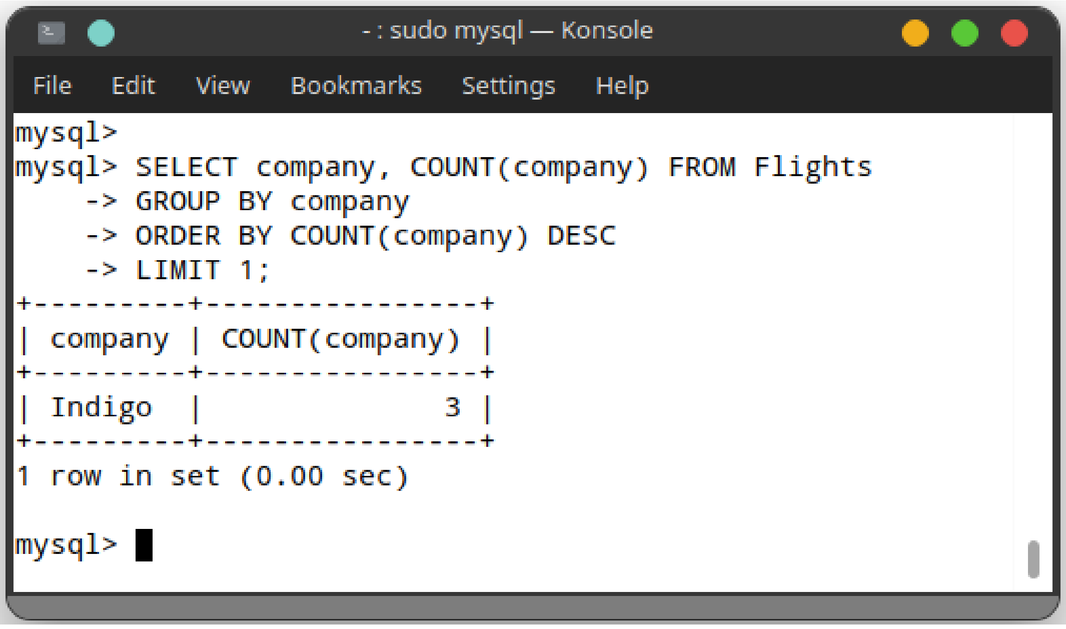
```
mysql> SELECT source_city FROM Schedule
    -> GROUP BY source_city
    -> ORDER BY COUNT(source_city) DESC
    -> LIMIT 1;
+-------------+
| source_city |
+-------------+
| kolkata     |
+-------------+
1 row in set (0.00 sec)

mysql> 
```

```
/*---- question 4 ----*/

SELECT company FROM Flights
WHERE aid IN(
    SELECT aid FROM Certified
    WHERE eid IN(
        SELECT eid FROM Employees
        WHERE salary=(
            SELECT MAX(salary) FROM Employees
        )
    )
);
```



```
mysql> SELECT company FROM Flights
    -> WHERE aid IN(
    ->     SELECT aid FROM Certified
    ->     WHERE eid IN(
    ->         SELECT eid FROM Employees
    ->         WHERE salary=(
    ->             SELECT MAX(salary) FROM Employees
    ->         )
    ->     )
    -> );
+----------+
| company  |
+----------+
| Emirates |
+----------+
1 row in set (0.00 sec)
```

```
/*---- question 5 ----*/

SELECT company, COUNT(company) FROM Flights
GROUP BY company
ORDER BY COUNT(company) DESC
LIMIT 1;
```



```
mysql>
mysql> SELECT company, COUNT(company) FROM Flights
    -> GROUP BY company
    -> ORDER BY COUNT(company) DESC
    -> LIMIT 1;
+---------+----------------+
| company | COUNT(company) |
+---------+----------------+
| Indigo  |              3 |
+---------+----------------+
1 row in set (0.00 sec)

mysql>
```