PRACTICAL – 9

Aiman Siddiqua 2K18/MC/008

AIM:

To write some more Nested Queries and complex subqueries.

QUERIES:

- **Find names of the airports from which direct flights may be taken to the destinations - Mumbai and Pune.**

```
mysql> SELECT A.AName
-> FROM Airport A, Flight F
-> WHERE A.Airport = F.FromAirport
-> AND F.ToAirport IN ('Mumbai', 'Pune')
-> GROUP BY F.FromAirport
-> HAVING COUNT(DISTINCT F.ToAirport) = 2;
+-------------------------------------+
| AName                               |
+-------------------------------------+
| Indira Gandhi International Airport |
+-------------------------------------+
1 row in set (0.20 sec)
```

- **Find the Names and Addresses of passengers flying from Indore to Kolkata and from Kolkata to Indore. Not necessarily on the same ticket.**

```
mysql> SELECT Name, Address
    -> FROM Passenger P, Ticket T, Itinerary I, Flight F
    -> WHERE P.Pid = T.Pid AND
    -> T.TicketNo = I.TicketNo AND
    -> I.FlightNo = F.FlightNo AND
    -> F.FromAirport = 'Indore' AND
    -> F.ToAirport = 'Kolkata'
    -> AND P.Pid IN (
    -> SELECT P.Pid
    -> FROM Passenger P, Ticket T, Itinerary I, Flight F
    -> WHERE P.Pid = T.Pid AND
    -> T.TicketNo = I.TicketNo AND
    -> I.FlightNo = F.FlightNo AND
```

```
    -> F.FromAirport = 'Kolkata' AND
    -> F.ToAirport = 'Indore' );

+----------------+--------------+
| Name           | Address      |
+----------------+--------------+
| Aiman Siddiqua | Kidwai Nagar |
+----------------+--------------+
1 row in set (0.00 sec)
```

- **Find the Names and Addresses of passengers flying from Indore to Kolkata and from Kolkata to Indore or both.**

```
mysql> SELECT DISTINCT Name, Address
    -> FROM Passenger P, Ticket T, Itinerary I, Flight F
    -> WHERE P.Pid = T.Pid AND
    -> T.TicketNo = I.TicketNo AND
    -> I.FlightNo = F.FlightNo AND
    -> ((F.FromAirport = 'Indore' AND
    -> F.ToAirport = 'Kolkata') OR
    -> (F.FromAirport = 'Kolkata' AND
    -> F.ToAirport = 'Indore'));

+----------------+--------------+
| Name           | Address      |
+----------------+--------------+
| Aiman Siddiqua | Kidwai Nagar |
| Aksht Jain     | Gohana       |
+----------------+--------------+
2 rows in set (0.00 sec)
```

- **List the names and addresses of any passenger on a single ticket with more than 1 flight.**

```
mysql> SELECT Name, Address
    -> FROM Passenger P, Ticket T, Itinerary I
    -> WHERE P.Pid = T.Pid AND
    -> T.TicketNo = I.TicketNo
    -> GROUP BY I.TicketNo
    -> HAVING COUNT(I.FlightNo) > 1;

+-----------------+--------------+
| Name            | Address      |
+-----------------+--------------+
| Aiman Siddiqua  | Kidwai Nagar |
| Samriddhi Banara | Dwarka       |
| Aksht Jain      | Gohana       |
+-----------------+--------------+
3 rows in set (0.00 sec)
```

- **Find the names of those passengers who are taking all of the flights that Ritwik Arora is taking.**

```
mysql> SELECT P.Name
    -> FROM Passenger P, Itinerary I, Ticket T
    -> WHERE P.Pid = T.Pid
    -> AND T.TicketNo = I.TicketNo
    ->
    -> AND P.Name <> 'Ritwik Arora'
    -> AND FlightNo IN ( SELECT I2.FlightNo FROM passenger P2,
Itinerary I2, Ticket T2
    -> WHERE P2.Pid = T2.Pid
    -> AND T2.TicketNo = I2.TicketNo
    -> AND P2.Name = 'Ritwik Arora')
    -> GROUP BY P.Pid
    -> HAVING COUNT(DISTINCT I.FlightNo) = (SELECT COUNT(DISTINCT
I2.FlightNo) FROM passenger P2, Itinerary I2, Ticket T2
    -> WHERE P2.Pid = T2.Pid
    -> AND T2.TicketNo = I2.TicketNo
    -> AND P2.Name = 'Ritwik Arora');

+-------------------+
| Name              |
+-------------------+
| Apoorva Srivastav |
+-------------------+
1 row in set (0.00 sec)
```

- **Rewrite the SQL statement given for query above so that it compares flights for the same ticket and find those passengers with return tickets Indore to Kolkata and back. Note: you will need to use correlated sub-queries and an alternative query strategy to find the intersection.**

```
mysql> SELECT Name, Address
    -> FROM Passenger P, Ticket T, Itinerary I, Flight F
    -> WHERE P.Pid = T.Pid AND
    -> T.TicketNo = I.TicketNo AND
    -> I.FlightNo = F.FlightNo AND
    -> F.FromAirport = 'Indore' AND
    -> F.ToAirport = 'Kolkata'
    -> AND P.Pid IN (
    -> SELECT P.Pid
    -> FROM Passenger P, Ticket T2, Itinerary I, Flight F
    -> WHERE P.Pid = T2.Pid AND
    -> T2.TicketNo = I.TicketNo AND
    -> T2.TicketNo = T.TicketNo AND
    -> I.FlightNo = F.FlightNo AND
    -> F.FromAirport = 'Kolkata' AND
    -> F.ToAirport = 'Indore' );
```

```
+----------------+--------------+
| Name           | Address      |
+----------------+--------------+
| Aiman Siddiqua | Kidwai Nagar |
+----------------+--------------+
1 row in set (0.01 sec)
```

- **Using correlated sub-queries find the Names of those passengers with a ticket to fly from Indore to Kolkata without a return flight to Indore; i.e., those passengers with non-return tickets.**

```
mysql> SELECT Name, Address
    -> FROM Passenger P, Ticket T, Itinerary I, Flight F
    -> WHERE P.Pid = T.Pid AND
    -> T.TicketNo = I.TicketNo AND
    -> I.FlightNo = F.FlightNo AND
    -> F.FromAirport = 'Indore' AND
    -> F.ToAirport = 'Kolkata'
    -> AND P.Pid NOT IN (
    -> SELECT P.Pid
    -> FROM Passenger P, Ticket T, Itinerary I, Flight F
    -> WHERE P.Pid = T.Pid AND
    -> T.TicketNo = I.TicketNo AND
    -> I.FlightNo = F.FlightNo AND
    -> F.FromAirport = 'Kolkata' AND
    -> F.ToAirport = 'Indore' );

+------------+---------+
| Name       | Address |
+------------+---------+
| Aksht Jain | Gohana  |
+------------+---------+
1 row in set (0.11 sec)
```