

Springboard Data Science Career Track

8.3 - SQL Case Study (Country Club) by Ashutosh Varshney

Part 1.

Q1: Some of the facilities charge a fee to members, but some do not. Write a SQL query to produce a list of the names of the facilities that do.

```
SELECT * FROM Facilities WHERE membercost > 0
```

Q2: How many facilities do not charge a fee to members?

```
SELECT COUNT(*) FROM Facilities WHERE membercost =0
```

Q3: Write an SQL query to show a list of facilities that charge a fee to members, where the fee is less than 20% of the facility's monthly maintenance cost. Return the facid, facility name, member cost, and monthly maintenance of the facilities in question.

```
SELECT      facid, name, membercost, monthlymaintenance
FROM        Facilities
WHERE       membercost < (monthlymaintenance * 0.20)
```

Q4: Write an SQL query to retrieve the details of facilities with ID 1 and 5. Try writing the query without using the OR operator.

```
SELECT * FROM Facilities WHERE facid IN (1, 5)
```

Q5: Produce a list of facilities, with each labelled as 'cheap' or 'expensive', depending on if their monthly maintenance cost is more than \$100. Return the name and monthly maintenance of the facilities in question.

```
SELECT      name, monthlymaintenance,
            CASE WHEN monthlymaintenance >100 THEN 'expensive'
                  ELSE 'cheap' END AS class
FROM `Facilities`
```

Q6: You'd like to get the first and last name of the last member(s) who signed up. Try not to use the LIMIT clause for your solution.

```
SELECT firstname, surname
FROM Members
WHERE joindate = (SELECT MAX(joindate) FROM Members)
```

Q7: Produce a list of all members who have used a tennis court. Include in your output the name of the court, and the name of the member formatted as a single column. Ensure no duplicate data, and order by the member name.

```
SELECT      DISTINCT (CONCAT(m.firstname, ' ', m.surname)) AS member_name,
            f.name AS facility
FROM        Members m, Facilities f, Bookings b
WHERE       b.facid = f.facid
            AND b.memid = m.memid
            AND f.name LIKE 'Tennis Court%'
ORDER BY    member_name
```

Q8: Produce a list of bookings on the day of 2012-09-14 which will cost the member (or guest) more than \$30. Remember that guests have different costs to members (the listed costs are per half-hour 'slot'), and the guest user's ID is always 0. Include in your output the name of the facility, the name of the member formatted as a single column, and the cost. Order by descending cost, and do not use any subqueries.

```
SELECT      b.starttime,
            CONCAT(m.firstname, ' ', m.surname) AS member_name,
            f.name AS facility,
            CASE b.memid WHEN 0 THEN f.guestcost
                ELSE f.membercost END AS cost
FROM        Members m, Facilities f, Bookings b
WHERE       b.memid = m.memid
            AND b.facid = f.facid
            AND (CASE b.memid WHEN 0 THEN f.guestcost
                ELSE f.membercost END) >30
            AND b.starttime LIKE '2012-09-14%'
ORDER BY    cost DESC
```

Q9: This time, produce the same result as in Q8, but using a subquery.

```
SELECT      b.starttime,
            (SELECT CONCAT(m.firstname, ' ', m.surname)
             FROM Members m WHERE m.memid = b.memid) AS member_name,
            f.name AS facility,
            CASE b.memid WHEN 0 THEN f.guestcost ELSE f.membercost
            END AS cost
FROM        Bookings b, Facilities f
WHERE       b.facid = f.facid
            AND (CASE b.memid WHEN 0 THEN f.guestcost
                ELSE f.membercost END) >30
            AND b.starttime LIKE '2012-09-14%'
ORDER BY    cost DESC
```