/\* Welcome to the SQL mini project. For this project, you will use

Springboard' online SQL platform, which you can log into through the

following link:

https://sql.springboard.com/

Username: student

Password: learn\_sql@springboard

The data you need is in the "country\_club" database. This database

contains 3 tables:

i) the "Bookings" table,

ii) the "Facilities" table, and

iii) the "Members" table.

Note that, if you need to, you can also download these tables locally.

In the mini project, you'll be asked a series of questions. You can

solve them using the platform, but for the final deliverable,

paste the code for each solution into this script, and upload it

to your GitHub.

Before starting with the questions, feel free to take your time,

exploring the data, and getting acquainted with the 3 tables. \*/

/\* Q1: Some of the facilities charge a fee to members, but some do not.

Please list the names of the facilities that do. \*/

SELECT \* FROM `Facilities`

WHERE `membercost`>0

| **facid** | **name** | **membercost** | **guestcost** | **initialoutlay** | **monthlymaintenance** |  |
| --- | --- | --- | --- | --- | --- | --- |
| 0 | Tennis Court 1 | 5.0 | 25.0 | 10000 | 200 |  |
| 1 | Tennis Court 2 | 5.0 | 25.0 | 8000 | 200 |  |
| 4 | Massage Room 1 | 9.9 | 80.0 | 4000 | 3000 |  |
| 5 | Massage Room 2 | 9.9 | 80.0 | 4000 | 3000 |  |
| 6 | Squash Court | 3.5 | 17.5 | 5000 | 80 |  |

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

SELECT \* FROM `Facilities`

WHERE `membercost`=0

| **facid** | **name** | **membercost** | **guestcost** | **initialoutlay** | **monthlymaintenance** |  |
| --- | --- | --- | --- | --- | --- | --- |
| 2 | Badminton Court | 0.0 | 15.5 | 4000 | 50 |  |
| 3 | Table Tennis | 0.0 | 5.0 | 320 | 10 |  |
| 7 | Snooker Table | 0.0 | 5.0 | 450 | 15 |  |
| 8 | Pool Table | 0.0 | 5.0 | 400 | 15 |  |

/\* Q3: How can you produce 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` < ( 0.2 \* `monthlymaintenance` ) AND `membercost`>0

| **facid** | **name** | **membercost** | **monthlymaintenance** |  |
| --- | --- | --- | --- | --- |
| 0 | Tennis Court 1 | 5.0 | 200 |  |
| 1 | Tennis Court 2 | 5.0 | 200 |  |
| 4 | Massage Room 1 | 9.9 | 3000 |  |
| 5 | Massage Room 2 | 9.9 | 3000 |  |
| 6 | Squash Court | 3.5 | 80 |  |

/\* Q4: How can you retrieve the details of facilities with ID 1 and 5?

Write the query without using the OR operator. \*/

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

| **facid** | **name** | **membercost** | **guestcost** | **initialoutlay** | **monthlymaintenance** |  |
| --- | --- | --- | --- | --- | --- | --- |
| 1 | Tennis Court 2 | 5.0 | 25.0 | 8000 | 200 |  |
| 5 | Massage Room 2 | 9.9 | 80.0 | 4000 | 3000 |  |

/\* Q5: How can you 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 labelled

FROM `Facilities`

| **name** | **monthlymaintenance** | **labelled** |  |
| --- | --- | --- | --- |
| Tennis Court 1 | 200 | Expensive |  |
| Tennis Court 2 | 200 | Expensive |  |
| Badminton Court | 50 | cheap |  |
| Table Tennis | 10 | cheap |  |
| Massage Room 1 | 3000 | Expensive |  |
| Massage Room 2 | 3000 | Expensive |  |
| Squash Court | 80 | cheap |  |
| Snooker Table | 15 | cheap |  |
| Pool Table | 15 | cheap |  |

/\* Q6: You'd like to get the first and last name of the last member(s)

who signed up. Do not use the LIMIT clause for your solution. \*/

SELECT firstname, surname

FROM Members

WHERE joindate = (

SELECT MAX(joindate)

FROM Members)

| **firstname** | **surname** |  |
| --- | --- | --- |
| Darren | Smith |  |

/\* Q7: How can you 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 sub.court, CONCAT( sub.firstname, ' ', sub.surname ) AS name

FROM (

SELECT Facilities.name AS court, Members.firstname AS firstname, Members.surname AS surname

FROM Bookings

INNER JOIN Facilities ON Bookings.facid = Facilities.facid

AND Facilities.name LIKE 'Tennis Court%'

INNER JOIN Members ON Bookings.memid = Members.memid

) sub

GROUP BY sub.court, sub.firstname, sub.surname

ORDER BY name

| **court** | **name** |  |
| --- | --- | --- |
| Tennis Court 2 | Anne Baker |  |
| Tennis Court 1 | Anne Baker |  |
| Tennis Court 2 | Burton Tracy |  |
| Tennis Court 1 | Burton Tracy |  |
| Tennis Court 1 | Charles Owen |  |
| Tennis Court 2 | Charles Owen |  |
| Tennis Court 2 | Darren Smith |  |
| Tennis Court 1 | David Farrell |  |
| Tennis Court 2 | David Farrell |  |
| Tennis Court 1 | David Jones |  |
| Tennis Court 2 | David Jones |  |
| Tennis Court 1 | David Pinker |  |
| Tennis Court 1 | Douglas Jones |  |
| Tennis Court 1 | Erica Crumpet |  |
| Tennis Court 1 | Florence Bader |  |
| Tennis Court 2 | Florence Bader |  |
| Tennis Court 2 | Gerald Butters |  |
| Tennis Court 1 | Gerald Butters |  |
| Tennis Court 1 | GUEST GUEST |  |
| Tennis Court 2 | GUEST GUEST |  |
| Tennis Court 2 | Henrietta Rumney |  |
| Tennis Court 2 | Jack Smith |  |
| Tennis Court 1 | Jack Smith |  |
| Tennis Court 2 | Janice Joplette |  |
| Tennis Court 1 | Janice Joplette |  |
| Tennis Court 1 | Jemima Farrell |  |
| Tennis Court 2 | Jemima Farrell |  |
| Tennis Court 1 | Joan Coplin |  |
| Tennis Court 2 | John Hunt |  |
| Tennis Court 1 | John Hunt |  |
| Tennis Court 1 | Matthew Genting |  |
| Tennis Court 2 | Millicent Purview |  |
| Tennis Court 1 | Nancy Dare |  |
| Tennis Court 2 | Nancy Dare |  |
| Tennis Court 1 | Ponder Stibbons |  |
| Tennis Court 2 | Ponder Stibbons |  |
| Tennis Court 2 | Ramnaresh Sarwin |  |
| Tennis Court 1 | Ramnaresh Sarwin |  |
| Tennis Court 2 | Tim Boothe |  |
| Tennis Court 1 | Tim Boothe |  |
| Tennis Court 1 | Tim Rownam |  |
| Tennis Court 2 | Tim Rownam |  |
| Tennis Court 1 | Timothy Baker |  |
| Tennis Court 2 | Timothy Baker |  |
| Tennis Court 2 | Tracy Smith |  |
| Tennis Court 1 | Tracy Smith |  |

/\* Q8: How can you 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 Facilities.name AS facility, CONCAT( Members.firstname, ' ', Members.surname ) AS name,

CASE WHEN Bookings.memid =0

THEN Facilities.guestcost \* Bookings.slots

ELSE Facilities.membercost \* Bookings.slots

END AS cost

FROM Bookings

INNER JOIN Facilities ON Bookings.facid = Facilities.facid

AND Bookings.starttime LIKE '2012-09-14%'

AND (((Bookings.memid =0) AND (Facilities.guestcost \* Bookings.slots >30))

OR ((Bookings.memid !=0) AND (Facilities.membercost \* Bookings.slots >30)))

INNER JOIN Members ON Bookings.memid = Members.memid

ORDER BY cost DESC

| **facility** | **name** | **cost** |  |
| --- | --- | --- | --- |
| Massage Room 2 | GUEST GUEST | 320.0 |  |
| Massage Room 1 | GUEST GUEST | 160.0 |  |
| Massage Room 1 | GUEST GUEST | 160.0 |  |
| Massage Room 1 | GUEST GUEST | 160.0 |  |
| Tennis Court 2 | GUEST GUEST | 150.0 |  |
| Tennis Court 1 | GUEST GUEST | 75.0 |  |
| Tennis Court 1 | GUEST GUEST | 75.0 |  |
| Tennis Court 2 | GUEST GUEST | 75.0 |  |
| Squash Court | GUEST GUEST | 70.0 |  |
| Massage Room 1 | Jemima Farrell | 39.6 |  |
| Squash Court | GUEST GUEST | 35.0 |  |
| Squash Court | GUEST GUEST | 35.0 |  |

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

SELECT \*

FROM(

SELECT Facilities.name AS facility, CONCAT( Members.firstname, ' ', Members.surname ) AS name,

CASE WHEN Bookings.memid =0

THEN Facilities.guestcost \* Bookings.slots

ELSE Facilities.membercost \* Bookings.slots

END AS cost

FROM Bookings

INNER JOIN Facilities ON Bookings.facid = Facilities.facid

AND Bookings.starttime LIKE '2012-09-14%'

INNER JOIN Members ON Bookings.memid = Members.memid

)sub

WHERE sub.cost>30

ORDER BY sub.cost DESC

| **facility** | **name** | **cost** |  |
| --- | --- | --- | --- |
| Massage Room 2 | GUEST GUEST | 320.0 |  |
| Massage Room 1 | GUEST GUEST | 160.0 |  |
| Massage Room 1 | GUEST GUEST | 160.0 |  |
| Massage Room 1 | GUEST GUEST | 160.0 |  |
| Tennis Court 2 | GUEST GUEST | 150.0 |  |
| Tennis Court 1 | GUEST GUEST | 75.0 |  |
| Tennis Court 1 | GUEST GUEST | 75.0 |  |
| Tennis Court 2 | GUEST GUEST | 75.0 |  |
| Squash Court | GUEST GUEST | 70.0 |  |
| Massage Room 1 | Jemima Farrell | 39.6 |  |
| Squash Court | GUEST GUEST | 35.0 |  |
| Squash Court | GUEST GUEST | 35.0 |  |

/\* Q10: Produce a list of facilities with a total revenue less than 1000.

The output of facility name and total revenue, sorted by revenue. Remember

that there's a different cost for guests and members! \*/

SELECT \*

FROM (

SELECT sub.facility, SUM( sub.cost ) AS total\_revenue

FROM (

SELECT Facilities.name AS facility,

CASE WHEN Bookings.memid =0

THEN Facilities.guestcost \* Bookings.slots

ELSE Facilities.membercost \* Bookings.slots

END AS cost

FROM Bookings

INNER JOIN Facilities ON Bookings.facid = Facilities.facid

INNER JOIN Members ON Bookings.memid = Members.memid

)sub

GROUP BY sub.facility

)sub2

WHERE sub2.total\_revenue <1000

| **facility** | **total\_revenue** |  |
| --- | --- | --- |
| Pool Table | 270.0 |  |
| Snooker Table | 240.0 |  |
| Table Tennis | 180.0 |  |