SQL Assignment

Prepared by: Isabelle Jaber

SQL Queries:

1. Retrieve the usernames and email addresses of all users from the `user` table.

```
SELECT username, email
FROM user;
```

```
MariaDB [spendsmart]> SELECT username, email
    -> FROM user;
+-----------------------+-----------------------------------+
| username              | email                             |
+-----------------------+-----------------------------------+
| iman_kouri            | kouri.iman@test-email.com         |
| angela_marino         | ang.marino@test-email.com         |
| rhian_thompson-russel | r.thompson-russel@test-email.com  |
| samar_shammas         | samar_shammas@test-email.com      |
| sara_dujmovic         | sara_dujmovic@test-email.com      |
| nguyen_le             | n.le@test-email.com               |
| alex_santos           | a.santos@test-email.com           |
| yi_sun                | yisun@test-email.com              |
| hazel_rodriguez       | hrodriguez@test-email.com         |
| melissa_anderson      | melissa.anderson@test-email.com   |
+-----------------------+-----------------------------------+
10 rows in set (0.000 sec)
```

2. Retrieve the credit card statements, including the merchant name and amount, along with the corresponding usernames.

```
SELECT u.username, c.merchant, c.amount
FROM credit_card_statements c JOIN user u
WHERE u.user_id = c.user_id;
```

```
MariaDB [spendsmart]> SELECT u.username, c.merchant, c.amount
    -> FROM credit_card_statements c JOIN user u
    -> WHERE u.user_id = c.user_id;
+-----------------------+-------------------+--------+
| username              | merchant          | amount |
+-----------------------+-------------------+--------+
| iman_kouri            | Hotel Booking     | 200.75 |
| iman_kouri            | Electronics Store |  95.30 |
| iman_kouri            | Car Rental        | 150.50 |
| angela_marino         | Home Decor Store  |  75.40 |
| angela_marino         | Gas Station       |  45.90 |
| angela_marino         | Convenience Store |  20.25 |
| rhian_thompson-russel | Coffee Shop       |  10.50 |
| rhian_thompson-russel | Fitness Center    |  30.75 |
| rhian_thompson-russel | Gift Shop         |  50.20 |
| samar_shammas         | Grocery Store     |  70.90 |
| samar_shammas         | Movie Theater     |  25.75 |
| samar_shammas         | Pharmacy          |  15.40 |
| sara_dujmovic         | Home Improvement  |  85.60 |
| sara_dujmovic         | Diner             |  30.25 |
| nguyen_le             | Bakery            |   6.75 |
| nguyen_le             | Clothing Store    |  60.75 |
| nguyen_le             | Bookstore         |  40.90 |
| alex_santos           | Pet Grooming      |  35.30 |
| alex_santos           | Ice Cream Shop    |   3.25 |
| yi_sun                | Furniture Store   | 120.40 |
| yi_sun                | Toy Store         |  55.25 |
| yi_sun                | Automotive Store  |  90.80 |
| hazel_rodriguez       | Music Store       |  80.90 |
| hazel_rodriguez       | Art Supplies Store|  25.50 |
| melissa_anderson      | Jewelry Shop      | 150.75 |
| melissa_anderson      | Sporting Goods    |  70.40 |
+-----------------------+-------------------+--------+
26 rows in set (0.001 sec)
```

3. Calculate the total amount spent by each user on credit card transactions.

```
SELECT u.username, SUM(amount) AS total_amount
FROM credit_card_statements c JOIN user u
WHERE u.user_id = c.user_id GROUP BY c.user_id;
```

```
MariaDB [spendsmart]> SELECT u.username, SUM(amount) AS total_amount
    -> FROM credit_card_statements c JOIN user u
    -> WHERE u.user_id = c.user_id GROUP BY c.user_id;
+-------------------------+--------------+
| username                | total_amount |
+-------------------------+--------------+
| iman_kouri              |       446.55 |
| angela_marino           |       141.55 |
| rhian_thompson-russel   |        91.45 |
| samar_shammas           |       112.05 |
| sara_dujmovic           |       115.85 |
| nguyen_le               |       108.40 |
| alex_santos             |        38.55 |
| yi_sun                  |       266.45 |
| hazel_rodriguez         |       106.40 |
| melissa_anderson        |       221.15 |
+-------------------------+--------------+
10 rows in set (0.001 sec)
```

4. Retrieve all the utility bills with amounts greater than $50. *Assuming it is exclusive.*

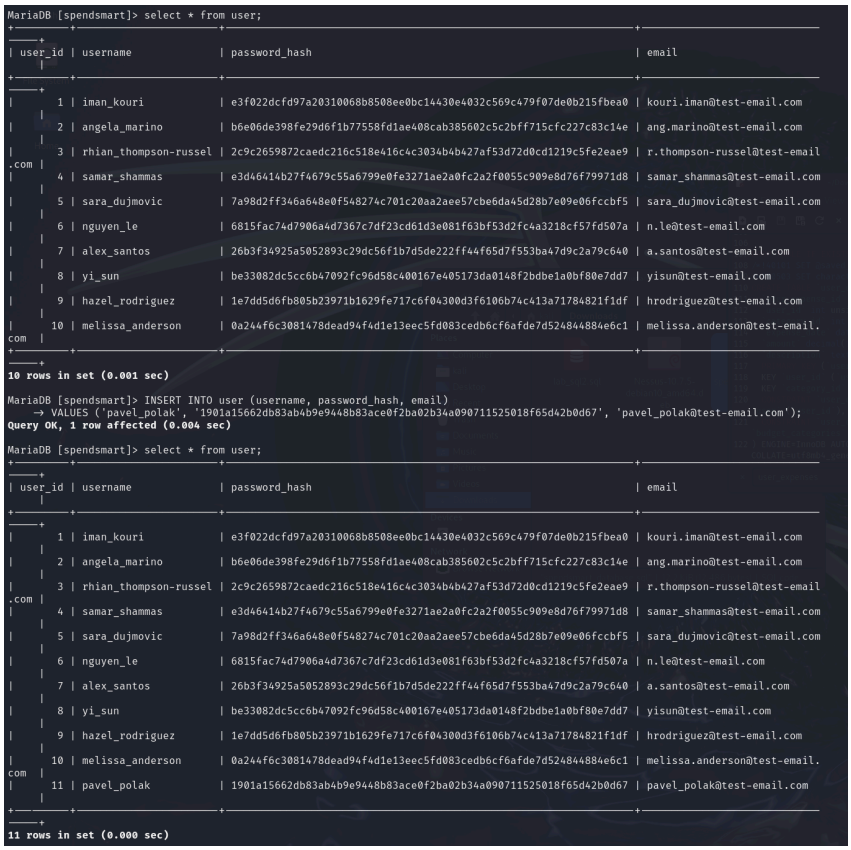
```
SELECT *
FROM utility_bills
WHERE amount > 50;
```

```
MariaDB [spendsmart]> SELECT *
    -> FROM utility_bills
    -> WHERE amount > 50;
+-----------------+---------+-------------------+-------------+--------+-------------+
| utility_bill_id | user_id | utility_company   | bill_date   | amount | category    |
+-----------------+---------+-------------------+-------------+--------+-------------+
|              11 |       1 | Gas Co.           | 2023-03-05  |  55.50 | Gas         |
|              13 |       2 | Electricity Co.   | 2023-03-15  |  60.00 | Electricity |
|              15 |       2 | Cable Co.         | 2023-03-25  |  75.50 | Cable TV    |
|              17 |       3 | Electricity Co.   | 2023-04-05  |  65.75 | Electricity |
|              19 |       4 | Cable Co.         | 2023-04-15  |  70.25 | Cable TV    |
|              21 |       5 | Gas Co.           | 2023-04-25  |  50.60 | Gas         |
|              25 |       7 | Electricity Co.   | 2023-05-15  |  65.40 | Electricity |
|              31 |       9 | Cable Co.         | 2023-06-10  |  85.75 | Cable TV    |
|              33 |      10 | Electricity Co.   | 2023-06-20  |  60.75 | Electricity |
+-----------------+---------+-------------------+-------------+--------+-------------+
9 rows in set (0.001 sec)
```

5. Add a new user to the `user` table with the following information:

- username: “pavel_polak”
- email: “pavel_polak@test-email.com”
- password hash: (1901a15662db83ab4b9e9448b83ace0f2ba02b34a090711525018f65d42b0d67)

```
INSERT INTO user (username, password_hash, email)
VALUES ('pavel_polak',
'1901a15662db83ab4b9e9448b83ace0f2ba02b34a090711525018f65d42b0d67'
, 'pavel_polak@test-email.com');
```



6. Update the budget limit in the `budget_categories` table for the category “Travel” to $500 for the user with the username “angela_marino”.

```
UPDATE budget_categories b
SET budget_limit = 500
```

```
WHERE b.user_id = (SELECT user_id FROM user WHERE username =
'angela_marino') AND category_name = 'Travel';
```

```
MariaDB [spendsmart]> select u.username, b.category_name, b.budget_limit from user u join
 budget_categories b where b.user_id = u.user_id AND u.username = 'angela_marino' AND b.c
ategory_name = 'Travel';
+----------------+----------------+---------------+
| username       | category_name | budget_limit |
+----------------+----------------+---------------+
| angela_marino | Travel        |       200.00 |
+----------------+----------------+---------------+
1 row in set (0.001 sec)

MariaDB [spendsmart]> UPDATE budget_categories b
    -> SET budget_limit = 500
    -> WHERE b.user_id = (SELECT user_id FROM user WHERE username = 'angela_marino') AND
category_name = 'Travel';
Query OK, 1 row affected (0.003 sec)
Rows matched: 1  Changed: 1  Warnings: 0

MariaDB [spendsmart]> select u.username, b.category_name, b.budget_limit from user u join
 budget_categories b where b.user_id = u.user_id AND u.username = 'angela_marino' AND b.c
ategory_name = 'Travel';
+----------------+----------------+---------------+
| username       | category_name | budget_limit |
+----------------+----------------+---------------+
| angela_marino | Travel        |       500.00 |
+----------------+----------------+---------------+
1 row in set (0.001 sec)
```

7. Delete all credit card statements with an amount less than $10. *Assuming it is exclusive.*

```
DELETE FROM credit_card_statements
WHERE amount < 10;
```

```
MariaDB [spendsmart]> SELECT *
    -> FROM credit_card_statements
    -> WHERE amount < 10;
+---------------------------+---------+---------------------+---------------------+-----------------+---------------+--------+
| credit_card_statement_id | user_id | credit_card_number | institution         | transaction_date | merchant      | amount |
+---------------------------+---------+---------------------+---------------------+-----------------+---------------+--------+
|                        45 |       6 | ************3456   | Bank of America     | 2023-05-10       | Bakery        |   6.75 |
|                        49 |       7 | ************6543   | JPMorgan Chase & Co. | 2023-05-30       | Ice Cream Shop |   3.25 |
+---------------------------+---------+---------------------+---------------------+-----------------+---------------+--------+
2 rows in set (0.000 sec)

MariaDB [spendsmart]> DELETE FROM credit_card_statements
    -> WHERE amount < 10;
Query OK, 2 rows affected (0.003 sec)

MariaDB [spendsmart]> SELECT *
    -> FROM credit_card_statements
    -> WHERE amount < 10;
Empty set (0.001 sec)
```

8. Retrieve the usernames, category names, and total expenses for each user in the “Travel” category.

```
SELECT u.username, b.category_name, SUM(ue.amount) AS
total_expenses
```

```
FROM user_expenses ue JOIN budget_categories b JOIN user u
WHERE u.user_id = b.user_id AND b.budget_category_id =
ue.category_id AND b.category_name = 'Travel' GROUP BY u.username;
```

```
MariaDB [spendsmart]> SELECT u.username, b.category_name, SUM(ue.amount) AS total_expenses FROM user_expenses ue JOI
N budget_categories b JOIN user u WHERE u.user_id = b.user_id AND b.budget_category_id = ue.category_id AND b.catego
ry_name = 'Travel' GROUP BY u.username;
+-----------------+---------------+----------------+
| username        | category_name | total_expenses |
+-----------------+---------------+----------------+
| alex_santos     | Travel        |         120.00 |
| angela_marino   | Travel        |         150.00 |
| hazel_rodriguez | Travel        |          80.00 |
+-----------------+---------------+----------------+
3 rows in set (0.001 sec)
```

9. For the user with the username “rhian_thompson-russel,” determine the remaining budget for the “Health” category in the current month. Consider the budget limit from the `budget_categories` table and subtract the total expenses from the `user_expenses` table for that category and user.

```
SELECT u.username, (b.budget_limit-SUM(ue.amount)) AS
remaining_budget
FROM user_expenses ue JOIN budget_categories b JOIN user u
WHERE u.user_id = b.user_id AND b.budget_category_id =
ue.category_id AND b.category_name = 'Health' AND
u.username = 'rhian_thompson-russel';
```

```
MariaDB [spendsmart]> SELECT u.username, (b.budget_limit-SUM(ue.amount)) AS remaining_budget FROM user_expenses ue J
OIN budget_categories b JOIN user u WHERE u.user_id = b.user_id AND b.budget_category_id = ue.category_id AND b.cate
gory_name = 'Health' AND u.username = 'rhian_thompson-russel';
+-----------------------+------------------+
| username              | remaining_budget |
+-----------------------+------------------+
| rhian_thompson-russel |            25.00 |
+-----------------------+------------------+
1 row in set (0.001 sec)
```