SQL Assignment Report

SQL Queries:

1.

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

SELECT username, email FROM spendsmart.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     |
+-----------------------+-------------------------------------+
```

2.

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

SELECT u.username, ccs.merchant, ccs.amount FROM spendsmart.credit_card_statements AS ccs JOIN spendsmart.user AS u ON ccs.user_id = u.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                  | Clothing Store         |  60.75   |
| nguyen_le                  | Bookstore              |  40.90   |
| alex_santos                | Pet Grooming           |  35.30   |
| 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   |
+----------------------------+------------------------+----------+
24 rows in set (0.002 sec)
```

3.

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

SELECT u.username, SUM(ccs.amount) AS total_spent FROM spendsmart.credit_card_statements AS ccs JOIN spendsmart.user AS u ON ccs.user_id = u.user_id GROUP BY u.username;

```
+---------------------------+---------------+
| username                  | total_spent   |
+---------------------------+---------------+
| alex_santos               |        38.55  |
| angela_marino             |       141.55  |
| hazel_rodriguez           |       106.40  |
| iman_kouri                |       446.55  |
| melissa_anderson          |       221.15  |
| nguyen_le                 |       108.40  |
| rhian_thompson-russel     |        91.45  |
| samar_shammas             |       112.05  |
| sara_dujmovic             |       115.85  |
| yi_sun                    |       266.45  |
+---------------------------+---------------+
```

4.

Retrieve all the utility bills with amounts greater than $50.

SELECT * FROM spendsmart.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 |
+----------------+---------+------------------+------------+--------+-------------+
```

5.

Add a new user to the user table with the specified information.

```
MariaDB [spendsmart]> INSERT INTO spendsmart.user (username, email, password_hash)
    -> VALUES ('pavel_polak', 'pavel_polak@test-email.com', '1901a15662db83ab4b9e9448b83ace0f2ba02b34a090711525018f65d42b0d67');
Query OK, 1 row affected (0.001 sec)
```

6.

Update the budget limit in the budget_categories table for the category "Travel" to $500 for the user with the username "angela_marino".

```
MariaDB [spendsmart]> UPDATE spendsmart.budget_categories AS bc
    → JOIN spendsmart.user AS u ON bc.user_id = u.user_id
    → SET bc.budget_limit = 500.00
    → WHERE u.username = 'angela_marino' AND bc.category_name = 'Travel';
Query OK, 1 row affected (0.004 sec)
Rows matched: 1  Changed: 1  Warnings: 0
```

7.

Delete all credit card statements with an amount less than $10.

```
MariaDB [spendsmart]> DELETE FROM spendsmart.credit_card_statements
    → WHERE amount < 10;
Query OK, 2 rows affected (0.002 sec)
```

8.

Retrieve the usernames, category names, and total expenses for each user in the "Travel" category.

SELECT u.username, bc.category_name, SUM(ue.amount) AS total_expenses FROM spendsmart.user_expenses AS ue JOIN spendsmart.budget_categories AS bc ON budget_category_id = bc.budget_category_id JOIN spendsmart.user AS u ON bc.user_id = u.user_id WHERE bc.category_name = 'Travel' GROUP BY u.username, bc.category_name;

```
+------------------+---------------+----------------+
| username         | category_name | total_expenses |
+------------------+---------------+----------------+
| alex_santos      | Travel        |        1220.00 |
| angela_marino    | Travel        |        1220.00 |
| hazel_rodriguez  | Travel        |        1220.00 |
+------------------+---------------+----------------+
3 rows in set (0.001 sec)
```

9.

Determine the remaining budget for the "Health" category for the user "rhian_thompson-russel" in the current month.

SELECT bc.budget_limit - COALESCE(SUM(ue.amount), 0) AS remaining_budget

FROM spendsmart.budget_categories AS bc

JOIN spendsmart.user AS u ON bc.user_id = u.user_id

LEFT JOIN spendsmart.user_expenses AS ue ON budget_category_id = bc.budget_category_id

AND MONTH(ue.expense_date) = MONTH(CURRENT_DATE)

WHERE u.username = 'rhian_thompson-russel' AND bc.category_name = 'Health'

GROUP BY bc.budget_limit;

```
+------------------+
| remaining_budget |
+------------------+
|           -20.00 |
+------------------+
1 row in set (0.001 sec)
```