

# SQL Assignment

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## 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](mailto:pavel_polak@test-email.com)”
- password hash:  
(1901a15662db83ab4b9e9448b83ace0f2ba02b34a090711525018f65d42b0d67)

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

```
MariaDB [spendsmart]> select * from user;
+-----+-----+-----+-----+
| user_id | username | password_hash | email |
+-----+-----+-----+-----+
| 1 | iman_kouri | e3f022cdf97a20310068b8508ee0bc14430e4032c569c479f07de0b215fbae0 | kouri.iman@test-email.com |
| 2 | angela_marino | b6e06de398fe29d6f1b77558fd1ae408cab385602c5c2bfff715cfc227c83c14e | ang.marino@test-email.com |
| 3 | rhian_thompson-russel | 2c9c2659872caedc216c518e416c4c3034b4b427af53d72d0cd1219c5fe2eae9 | r.thompson-russel@test-email.com |
| 4 | samar_shammas | e3d46414b27f4679c55a6799e0fe3271ae2a0fc2a2f0055c909e8d76f79971d8 | samar_shammas@test-email.com |
| 5 | sara_dujmovic | 7a98d2ff346a648e0f548274c701c20aa2ae57cbe6da45d28b7e09e06fccbf5 | sara_dujmovic@test-email.com |
| 6 | nguyen_le | 6815fac74d7906a4d7367c7df23cd61d3e081f63bf53d2fc4a3218cf57fd507a | n.le@test-email.com |
| 7 | alex_santos | 26b3f34925a5052893c29dc56f1b7d5de222ff44f65d7f53ba47d9c2a79c640 | a.santos@test-email.com |
| 8 | yi_sun | be33082dc5cc6b47092fc96d58c400167e405173da0148f2bdb1e1a0bf80e7dd7 | yisun@test-email.com |
| 9 | hazel_rodriguez | 1e7dd5d6fb805b23971b1629fe717c6f04300d3f6106b74c413a71784821f1df | hrodriguez@test-email.com |
| 10 | melissa_anderson | 0a244f6c3081478dead94f4d1e13eec5fd083cedb6cf6afde7d524844884e6c1 | melissa.anderson@test-email.com |
+-----+-----+-----+-----+
10 rows in set (0.001 sec)

MariaDB [spendsmart]> INSERT INTO user (username, password_hash, email)
→ VALUES ('pavel_polak', '1901a15662db83ab4b9e9448b83ace0f2ba02b34a090711525018f65d42b0d67', 'pavel_polak@test-email.com');
Query OK, 1 row affected (0.004 sec)

MariaDB [spendsmart]> select * from user;
+-----+-----+-----+-----+
| user_id | username | password_hash | email |
+-----+-----+-----+-----+
| 1 | iman_kouri | e3f022cdf97a20310068b8508ee0bc14430e4032c569c479f07de0b215fbae0 | kouri.iman@test-email.com |
| 2 | angela_marino | b6e06de398fe29d6f1b77558fd1ae408cab385602c5c2bfff715cfc227c83c14e | ang.marino@test-email.com |
| 3 | rhian_thompson-russel | 2c9c2659872caedc216c518e416c4c3034b4b427af53d72d0cd1219c5fe2eae9 | r.thompson-russel@test-email.com |
| 4 | samar_shammas | e3d46414b27f4679c55a6799e0fe3271ae2a0fc2a2f0055c909e8d76f79971d8 | samar_shammas@test-email.com |
| 5 | sara_dujmovic | 7a98d2ff346a648e0f548274c701c20aa2ae57cbe6da45d28b7e09e06fccbf5 | sara_dujmovic@test-email.com |
| 6 | nguyen_le | 6815fac74d7906a4d7367c7df23cd61d3e081f63bf53d2fc4a3218cf57fd507a | n.le@test-email.com |
| 7 | alex_santos | 26b3f34925a5052893c29dc56f1b7d5de222ff44f65d7f53ba47d9c2a79c640 | a.santos@test-email.com |
| 8 | yi_sun | be33082dc5cc6b47092fc96d58c400167e405173da0148f2bdb1e1a0bf80e7dd7 | yisun@test-email.com |
| 9 | hazel_rodriguez | 1e7dd5d6fb805b23971b1629fe717c6f04300d3f6106b74c413a71784821f1df | hrodriguez@test-email.com |
| 10 | melissa_anderson | 0a244f6c3081478dead94f4d1e13eec5fd083cedb6cf6afde7d524844884e6c1 | melissa.anderson@test-email.com |
| 11 | pavel_polak | 1901a15662db83ab4b9e9448b83ace0f2ba02b34a090711525018f65d42b0d67 | pavel_polak@test-email.com |
+-----+-----+-----+-----+
11 rows in set (0.000 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”.

```
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 JOIN
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
JOIN 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)
```