Task 4

1. Retrieve the customer(s) with the highest account balance.

Query:

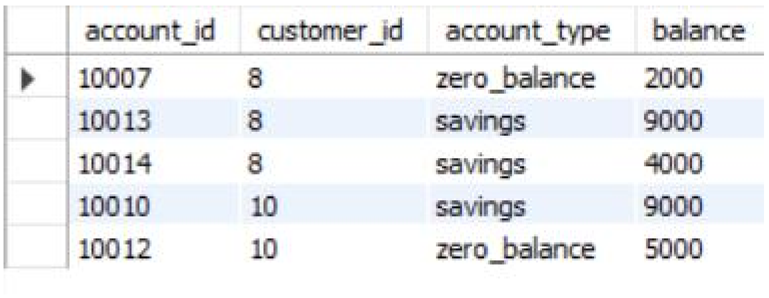
```
SELECT CONCAT(first_name,last_name) AS name,
customer_id, balance
FROM customers
WHERE balance=(SELECT MAX(balance) FROM accounts;
```

2. Calculate the average account balance for customers who have more than one account.

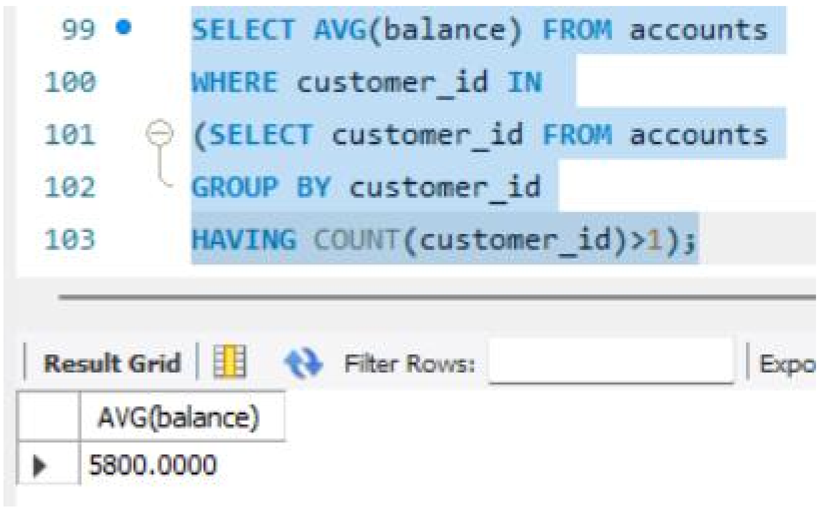
Query:

```
SELECT AVG(balance) FROM accounts
WHERE customer_id IN
(SELECT customer_id FROM accounts
GROUP BY customer_id
HAVING COUNT(customer_id)>1);
```

Output:



	account_id	customer_id	account_type	balance
▶	10007	8	zero_balance	2000
	10013	8	savings	9000
	10014	8	savings	4000
	10010	10	savings	9000
	10012	10	zero_balance	5000



```
SELECT AVG(balance) FROM accounts
WHERE customer_id IN
(SELECT customer_id FROM accounts
GROUP BY customer_id
HAVING COUNT(customer_id)>1);
```

Result Grid | Filter Rows: | Expo

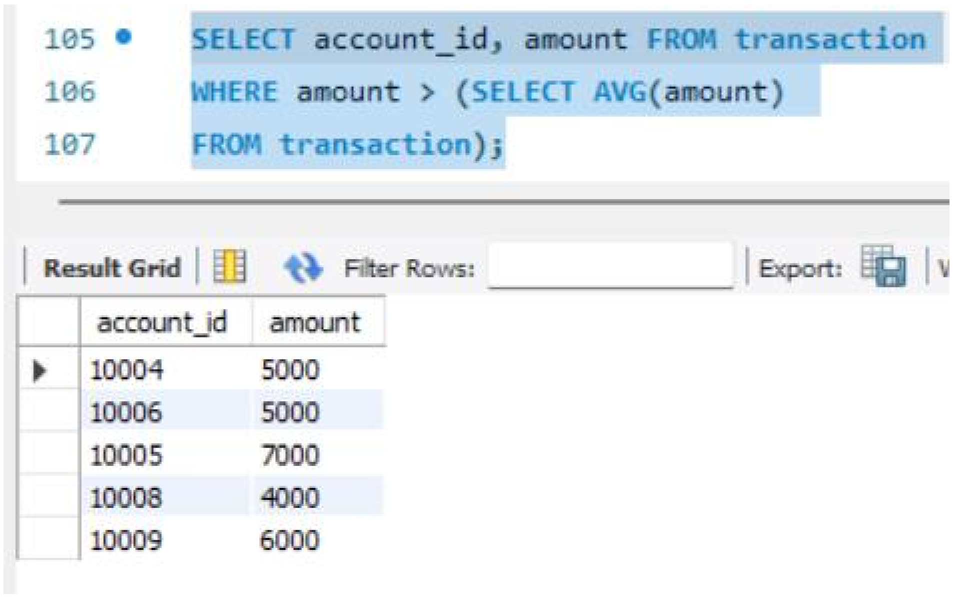
	AVG(balance)
▶	5800.0000

3. Retrieve accounts with transactions whose amounts exceed the average transaction amount.

Query:

SELECT account_id FROM transaction
WHERE amount > (SELECT AVG(amount)
FROM transaction);

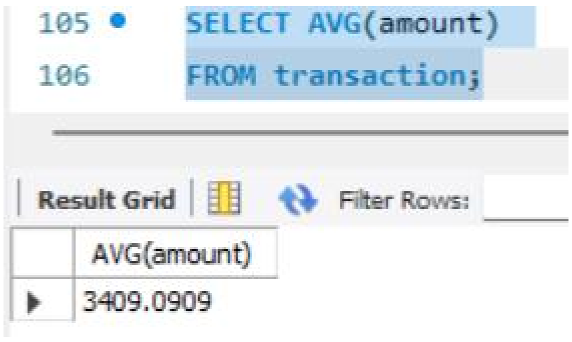
Output:



```
SELECT account_id, amount FROM transaction
WHERE amount > (SELECT AVG(amount)
FROM transaction);
```

Result Grid | Filter Rows: | Export:

	account_id	amount
▶	10004	5000
	10006	5000
	10005	7000
	10008	4000
	10009	6000



```
SELECT AVG(amount)
FROM transaction;
```

Result Grid | Filter Rows:

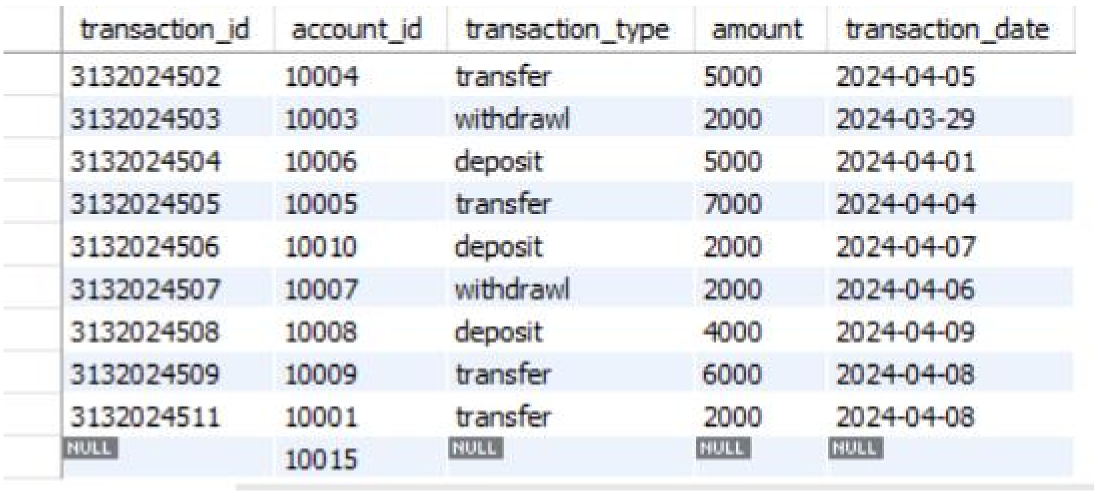
AVG(amount)
3409.0909

4. Identify customers who have no recorded transactions.

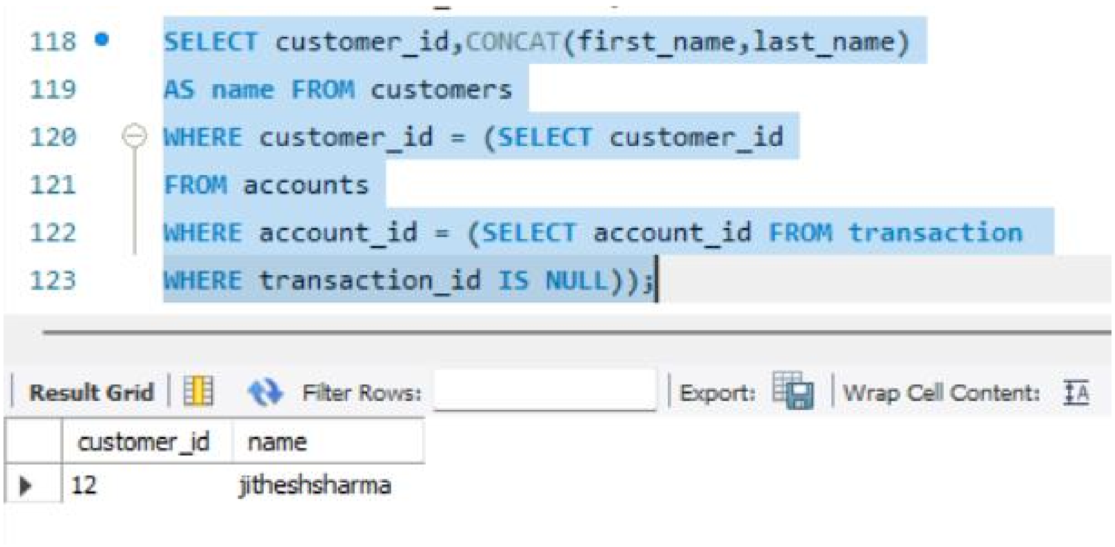
Query:

SELECT customer_id,CONCAT(first_name,last_name) AS name
FROM customers
WHERE customer_id = (SELECT customer_id
FROM accounts
WHERE account_id = (SELECT account_id FROM transaction
WHERE transaction_id IS NULL));

Output:



transaction_id	account_id	transaction_type	amount	transaction_date
3132024502	10004	transfer	5000	2024-04-05
3132024503	10003	withdrawl	2000	2024-03-29
3132024504	10006	deposit	5000	2024-04-01
3132024505	10005	transfer	7000	2024-04-04
3132024506	10010	deposit	2000	2024-04-07
3132024507	10007	withdrawl	2000	2024-04-06
3132024508	10008	deposit	4000	2024-04-09
3132024509	10009	transfer	6000	2024-04-08
3132024511	10001	transfer	2000	2024-04-08
NULL	10015	NULL	NULL	NULL



```
SELECT customer_id,CONCAT(first_name,last_name)
AS name FROM customers
WHERE customer_id = (SELECT customer_id
FROM accounts
WHERE account_id = (SELECT account_id FROM transaction
WHERE transaction_id IS NULL));
```

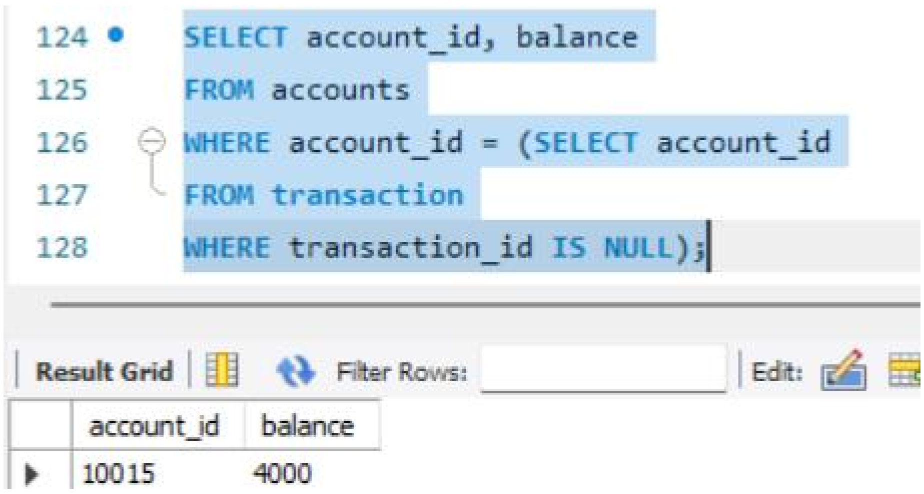
```
customer_id  name
12           jitheshsharma
```

5. Calculate the total balance of accounts with no recorded transactions.

Query:

SELECT balance
FROM accounts
WHERE account_id = (SELECT account_id
FROM transaction
WHERE transaction_id IS NULL);

Output:



```
SELECT account_id, balance
FROM accounts
WHERE account_id = (SELECT account_id
FROM transaction
WHERE transaction_id IS NULL);
```

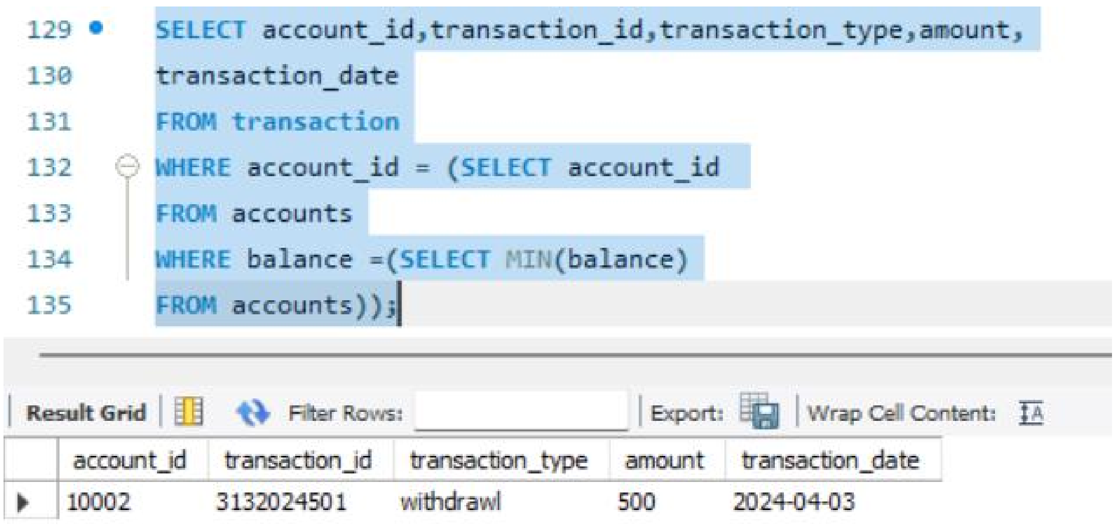
```
account_id  balance
10015       4000
```

6. Retrieve transactions for accounts with the lowest balance.

Query:

```
SELECT transaction_id,transaction_type,amount,
transaction_date
FROM transaction
WHERE account_id = (SELECT account_id
FROM accounts
WHERE balance =(SELECT MIN(balance)
FROM accounts));
```

Output:



```
SELECT account_id,transaction_id,transaction_type,amount,
transaction_date
FROM transaction
WHERE account_id = (SELECT account_id
FROM accounts
WHERE balance =(SELECT MIN(balance)
FROM accounts));
```

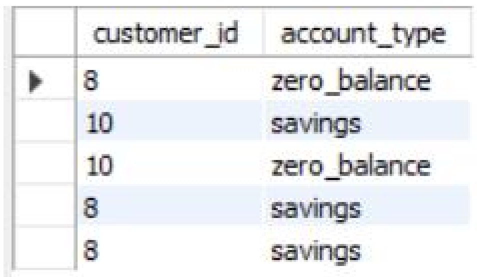
account_id	transaction_id	transaction_type	amount	transaction_date
10002	3132024501	withdrawl	500	2024-04-03

7. Identify customers who have accounts of multiple types.

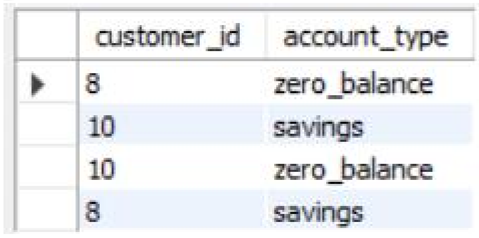
Query:

```
SELECT customer_id,CONCAT(first_name,last_name)
AS PeopleWithMultipleTypeAccounts
FROM customers
WHERE customer_id IN (SELECT DISTINCT(customer_id)
FROM accounts
WHERE customer_id IN (SELECT customer_id
FROM accounts
GROUP BY customer_id
HAVING COUNT(customer_id)>1));
```

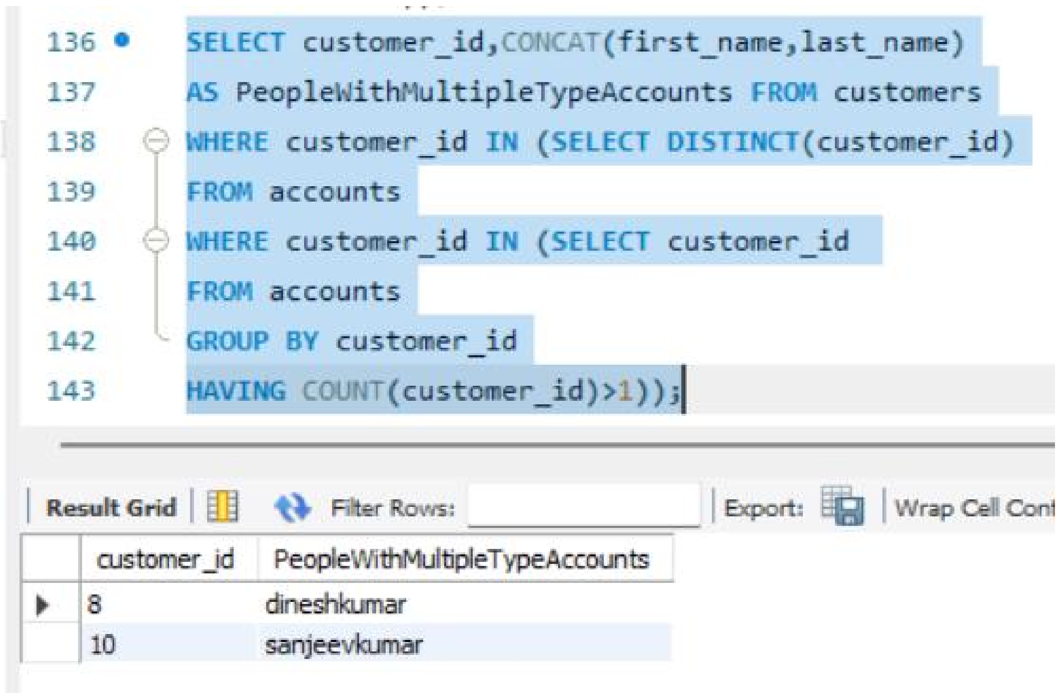
Output:



customer_id	account_type
8	zero_balance
10	savings
10	zero_balance
8	savings
8	savings



customer_id	account_type
8	zero_balance
10	savings
10	zero_balance
8	savings



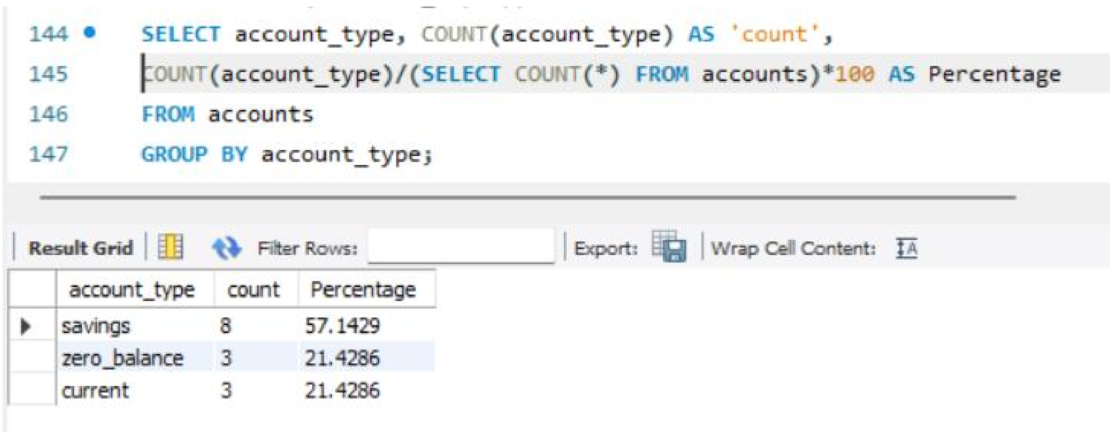
```
SELECT customer_id,CONCAT(first_name,last_name)
AS PeopleWithMultipleTypeAccounts FROM customers
WHERE customer_id IN (SELECT DISTINCT(customer_id)
FROM accounts
WHERE customer_id IN (SELECT customer_id
FROM accounts
GROUP BY customer_id
HAVING COUNT(customer_id)>1));
```

customer_id	PeopleWithMultipleTypeAccounts
8	dineshkumar
10	sanjeevkumar

8. Calculate the percentage of each account type out of the total number of accounts.

Query:

SELECT account_type, COUNT(account_type) AS 'count', COUNT(account_type)/(SELECT COUNT(*) FROM accounts)*100 AS Percentage
FROM accounts
GROUP BY account_type;
Output:



```
SELECT account_type, COUNT(account_type) AS 'count',
COUNT(account_type)/(SELECT COUNT(*) FROM accounts)*100 AS Percentage
FROM accounts
GROUP BY account_type;
```

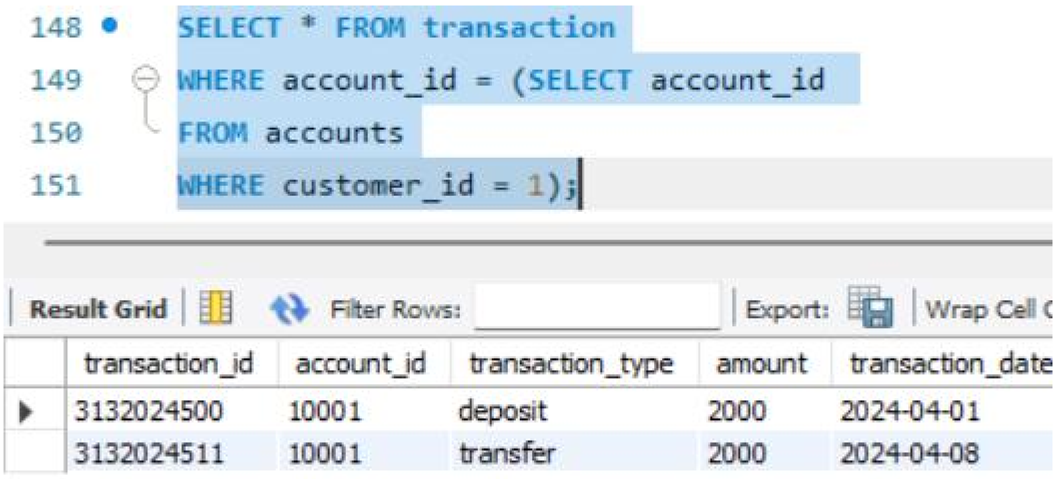
account_type	count	Percentage
savings	8	57.1429
zero_balance	3	21.4286
current	3	21.4286

9. Retrieve all transactions for a customer with a given customer_id.

Query:

```
SELECT * FROM transaction
WHERE account_id = (SELECT account_id
FROM accounts
WHERE customer_id = 1);
```

Output:



```
SELECT * FROM transaction
WHERE account_id = (SELECT account_id
FROM accounts
WHERE customer_id = 1);
```

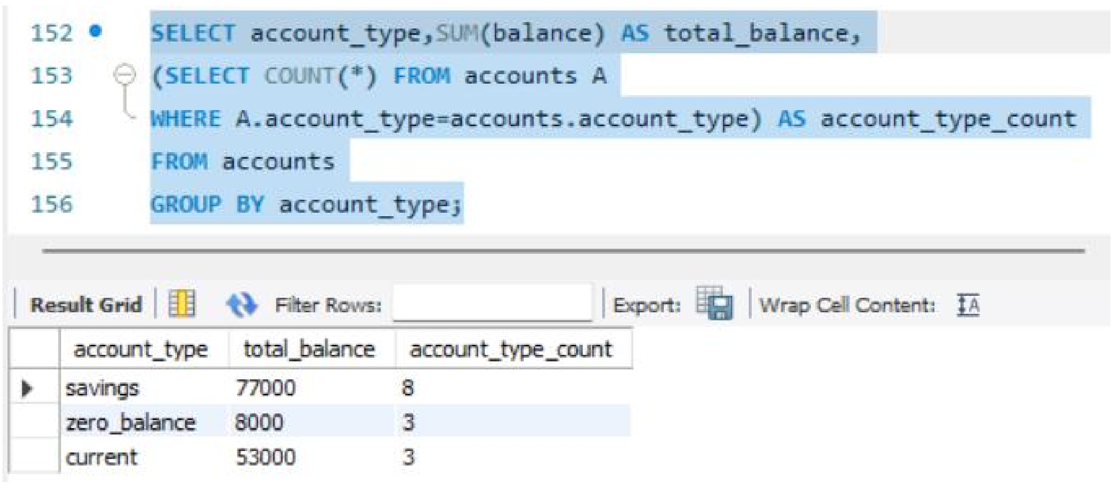
	transaction_id	account_id	transaction_type	amount	transaction_date
▶	3132024500	10001	deposit	2000	2024-04-01
	3132024511	10001	transfer	2000	2024-04-08

10. Calculate the total balance for each account type, including a subquery within the SELECT clause.

Query:

```
SELECT account_type,SUM(balance) AS total_balance,
(SELECT COUNT(*) FROM accounts A
WHERE A.account_type=accounts.account_type)
AS account_type_count
FROM accounts
GROUP BY account_type;
```

Output:



```sql
SELECT account_type,SUM(balance) AS total_balance,
(SELECT COUNT(*) FROM accounts A
WHERE A.account_type=accounts.account_type) AS account_type_count
FROM accounts
GROUP BY account_type;
```

account_type	total_balance	account_type_count
savings	77000	8
zero_balance	8000	3
current	53000	3