



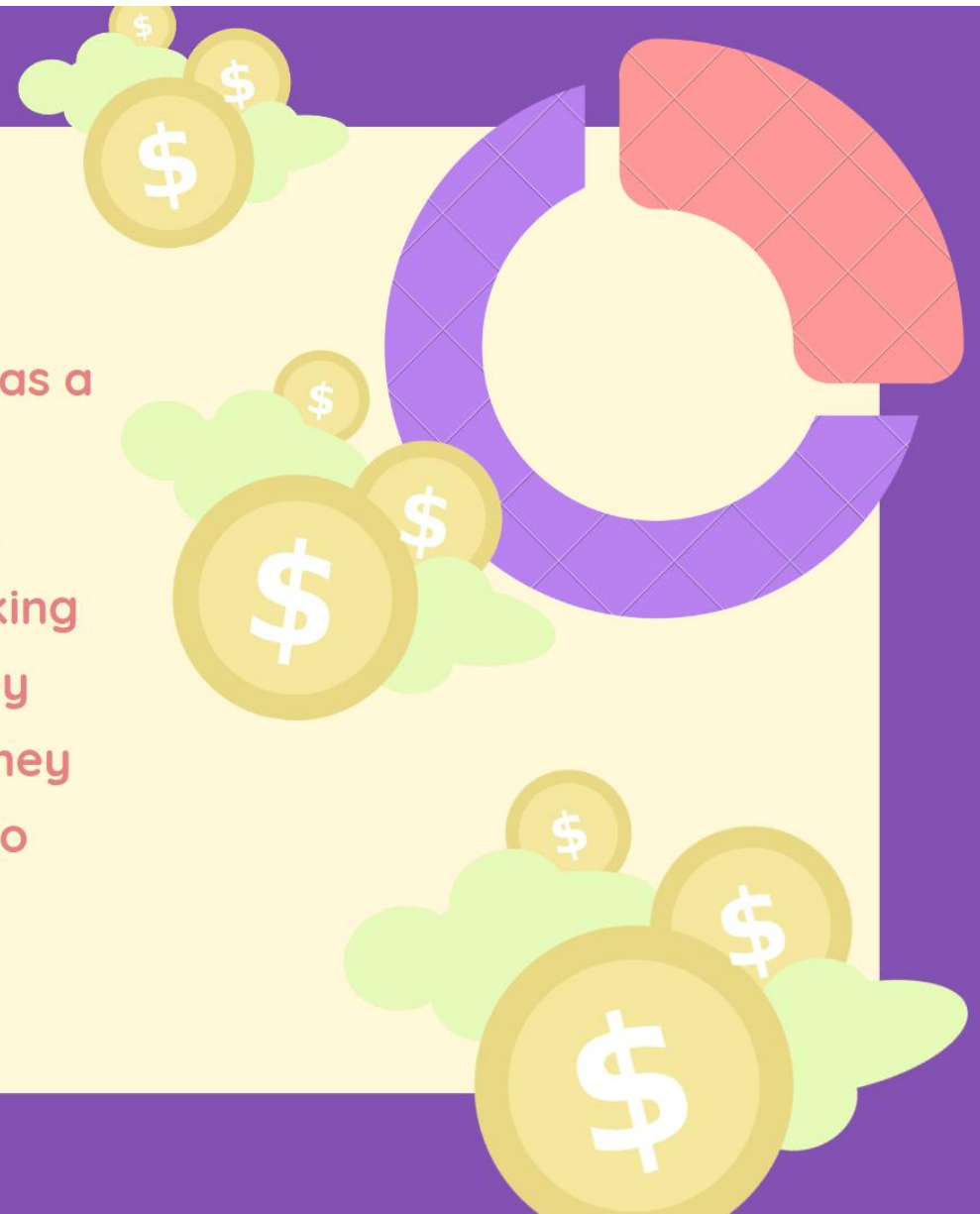
# SQL CHALLENGE **FINANCIAL ANALYSIS**

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PRESENTED BY SANNIDHYA DAS

# INTRODUCTION

In this SQL challenge, I am working as a Finance analyst for 'The Big Bank'. I have been tasked with finding out about my customers and their banking behavior. Examine the accounts they hold and the type of transactions they make to develop greater insight into my customers.



# TABLES

1. ACCOUNTS
2. BRANCHES
3. TRANSACTIONS
4. CUSTOMERS

You can get all the information regarding tables and can get all the columns from my GitHub page .



# Questions

Answer the following questions

Then write a LinkedIn post saying what you have learnt or enjoyed

Make sure to tag @Steel Data and @Matthew Steel

1. What are the names of all the customers who live in New York?
2. What is the total number of accounts in the Accounts table?
3. What is the total balance of all checking accounts?
4. What is the total balance of all accounts associated with customers who live in Los Angeles?
5. Which branch has the highest average account balance?
6. Which customer has the highest current balance in their accounts?
7. Which customer has made the most transactions in the Transactions table?
8. Which branch has the highest total balance across all of its accounts?
9. Which customer has the highest total balance across all of their accounts, including savings and checking accounts?
10. Which branch has the highest number of transactions in the Transactions table?

LET'S BEGAN →



Q1. WHAT ARE THE NAMES OF ALL THE CUSTOMERS WHO LIVE IN NEW YORK?

```
SELECT firstname,lastname,city FROM customers  
WHERE city = 'New York';
```









Output Messages Notifications

| firstname<br>character varying (50) | lastname<br>character varying (50) | city<br>character varying (50) |
|-------------------------------------|------------------------------------|--------------------------------|
| John                                | Doe                                | New York                       |
| Jane                                | Doe                                | New York                       |

**Q2. WHAT IS THE TOTAL NUMBER OF ACCOUNTS IN THE ACCOUNTS TABLE?**

```
SELECT COUNT(accountid) FROM accounts;
```

Output Messages Notifications

|   |   |   |   |   |   |   |  |
|---|---|---|---|---|---|---|--|
|  |  |  |  |  |  |  |  |
| count   |   |   |   |   |   |   |  |
| bigint  |   |   |   |   |   |   |  |
|   |   |   |   |   |   |   |  |
| 15  |   |   |   |   |   |   |  |

### Q3. WHAT IS THE TOTAL BALANCE OF ALL CHECKING ACCOUNTS?

```
SELECT SUM(balance) AS total_balance FROM accounts  
WHERE accounttype = 'Checking';
```

Output Messages Notifications



total\_balance  
numeric

31000.00

**Q4. WHAT IS THE TOTAL BALANCE OF ALL ACCOUNTS ASSOCIATED WITH CUSTOMERS WHO LIVE IN LOS ANGELES?**

```
SELECT SUM(balance) AS total_balance FROM accounts  
LEFT JOIN branches ON branches.branchid=accounts.branchid  
WHERE city='Los Angeles'
```

```
-- So there is no branches from Los Angeles
```

Output Messages Notifications



total\_balance  
numeric













[null]



### Q5. WHICH BRANCH HAS THE HIGHEST AVERAGE ACCOUNT BALANCE?

```
SELECT branchname,ROUND(AVG(balance),2) AS avg_balance
FROM accounts
LEFT JOIN branches ON branches.branchid=accounts.branchid
GROUP BY branches.branchname
ORDER BY 2 DESC
LIMIT 1;
```

Output Messages Notifications

|         |   |
|---|---|
| branchname  | avg_balance   |
| character varying (50)   | numeric  |
| North Beach   | 30000.00  |

ATM









xxx xxx xx

**Q6. WHICH CUSTOMER HAS THE HIGHEST CURRENT BALANCE IN THEIR ACCOUNTS?**

```
SELECT firstname,lastname,SUM(balance) AS balance FROM customers
JOIN accounts ON customers.customerid=accounts.customerid
WHERE accounttype ='Checking'
GROUP BY customers.firstname,customers.lastname
ORDER BY 3 DESC
LIMIT 1;
```

Q7. Which customer has made the most transactions in the Trans

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|  |  |  |  |  |  |  |  |
|--|--|--|--|--|--|--|--|
| firstname  | lastname   | balance  |  |  |  |  |  |
| character varying (50)   | character varying (50)   | numeric  |  |  |  |  |  |
| Michael  | Lee  | 10000.00   |  |  |  |  |  |

## Q7. WHICH CUSTOMER HAS MADE THE MOST TRANSACTIONS IN THE TRANSACTIONS TABLE?

```
SELECT firstname,lastname,  
COUNT(transactions.accountid) AS total_transactions  
FROM transactions  
JOIN accounts ON transactions.accountid=accounts.accountid  
JOIN customers ON accounts.customerid=customers.customerid  
GROUP BY customers.firstname,customers.lastname  
ORDER BY 3 DESC  
LIMIT 1;
```

Output Messages Notifications




| firstname<br>character varying (50) 🔒 | lastname<br>character varying (50) 🔒 | total_transactions<br>bigint 🔒 |
|---------------------------------------|--------------------------------------|--------------------------------|
| Alice                                 | Johnson                              | 4                              |



**Q8.WHICH BRANCH HAS THE HIGHEST TOTAL BALANCE ACROSS ALL OF ITS ACCOUNTS?**

```
SELECT branchname,SUM(balance) AS total_balance
FROM accounts
LEFT JOIN branches ON branches.branchid=accounts.branchid
GROUP BY branches.branchname
ORDER BY 2 DESC
LIMIT 1;
```

Output Messages Notifications



| branchname             | total_balance |
|------------------------|---------------|
| character varying (50) | numeric       |
| North Beach            | 60000.00      |













**Q9. WHICH CUSTOMER HAS THE HIGHEST TOTAL BALANCE ACROSS ALL OF THEIR ACCOUNTS, INCLUDING SAVINGS AND CHECKING ACCOUNTS?**

```
SELECT firstname,lastname,SUM(balance) AS total_balance FROM customers
JOIN accounts ON customers.customerid=accounts.customerid
GROUP BY customers.firstname,customers.lastname
ORDER BY 3 DESC
LIMIT 1;
```

Output Messages Notifications

|  |  |  |  |  |  |  |  |
|---|---|---|---|---|---|---|---|
| firstname   | lastname  | total_balance   |   |   |   |   |   |
| character varying (50)  | character varying (50)  | numeric   |   |   |   |   |   |
| Michael   | Lee   | 60000.00  |   |   |   |   |   |



## Q10. WHICH BRANCH HAS THE HIGHEST NUMBER OF TRANSACTIONS IN THE TRANSACTIONS TABLE?

```
WITH abcd AS (  
SELECT branches.branchid,branchname,COUNT(transactionid) AS num_of_transactions  
FROM branches  
LEFT JOIN accounts ON branches.branchid=accounts.branchid  
LEFT JOIN transactions ON accounts.accountid=transactions.accountid  
GROUP BY branches.branchid  
ORDER BY 3 DESC  
)  
SELECT * FROM abcd  
WHERE num_of_transactions = ( SELECT MAX(num_of_transactions) FROM abcd)
```

Output Messages Notifications



| branchid<br>[PK] integer | branchname<br>character varying (50) | num_of_transactions<br>bigint |
|--------------------------|--------------------------------------|-------------------------------|
| 8                        | South Bay                            | 4                             |
| 1                        | Main                                 | 4                             |





# THANK YOU

To see more of these kinds of projects, follow me on LinkedIn.



Sannidhya Das

