

FINANCE ANALYSIS



CUSTOMERS



| CustomerID | FirstName | LastName | City | State |
|------------|-----------|----------|---------------|-------|
| 1 | John | Doe | New York | NY |
| 2 | Jane | Doe | New York | NY |
| 3 | Bob | Smith | San Francisco | CA |
| 4 | Alice | Johnson | San Francisco | CA |
| 5 | Michael | Lee | Los Angeles | CA |
| 6 | Jennifer | Wang | Los Angeles | CA |

ACCOUNTS

| AccountID | CustomerID | BranchID | AccountType | Balance |
|-----------|------------|----------|-------------|---------|
| 1 | 1 | 5 | Checking | 1000 |
| 2 | 1 | 5 | Savings | 5000 |
| 3 | 2 | 1 | Checking | 2500 |
| 4 | 2 | 1 | Savings | #### |
| 5 | 3 | 2 | Checking | 7500 |
| 6 | 3 | 2 | Savings | #### |
| 7 | 4 | 8 | Checking | 5000 |
| 8 | 4 | 8 | Savings | #### |
| 9 | 5 | 14 | Checking | #### |
| 10 | 5 | 14 | Savings | #### |
| 11 | 6 | 2 | Checking | 5000 |
| 12 | 6 | 2 | Savings | #### |
| 13 | 1 | 5 | Credit Card | -500 |
| 14 | 2 | 1 | Credit Card | -1000 |
| 15 | 3 | 2 | Credit Card | -2000 |

TRANSACTIONS

| TransactionID | AccountID | TransactionDate | Amount |
|---------------|-----------|-----------------|--------|
| 1 | 1 | 2022-01-01 | -500 |
| 2 | 1 | 2022-01-02 | -250 |
| 3 | 2 | 2022-01-03 | 1000 |
| 4 | 3 | 2022-01-04 | -1000 |
| 5 | 3 | 2022-01-05 | 500 |
| 6 | 4 | 2022-01-06 | 1000 |
| 7 | 4 | 2022-01-07 | -500 |
| 8 | 5 | 2022-01-08 | -2500 |
| 9 | 6 | 2022-01-09 | 500 |
| 10 | 6 | 2022-01-10 | -1000 |
| 11 | 7 | 2022-01-11 | -500 |
| 12 | 7 | 2022-01-12 | -250 |
| 13 | 8 | 2022-01-13 | 1000 |
| 14 | 8 | 2022-01-14 | -1000 |
| 15 | 9 | 2022-01-15 | 500 |

BRANCHES

| BranchID | BranchName | City | State |
|----------|--------------------|---------------|-------|
| 1 | Main | New York | NY |
| 2 | Downtown | San Francisco | CA |
| 3 | West LA | Los Angeles | CA |
| 4 | East LA | Los Angeles | CA |
| 5 | Uptown | New York | NY |
| 6 | Financial District | San Francisco | CA |
| 7 | Midtown | New York | NY |
| 8 | South Bay | San Francisco | CA |
| 9 | Downtown | Los Angeles | CA |
| 10 | Chinatown | New York | NY |
| 11 | Marina | San Francisco | CA |
| 12 | Beverly Hills | Los Angeles | CA |
| 13 | Brooklyn | New York | NY |
| 14 | North Beach | San Francisco | CA |
| 15 | Pasadena | Los Angeles | CA |

QUESTIONS

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?

1. What are the names of all the customers who live in New York?

```
SELECT concat(firstname, ' ', lastname) AS fullname, city FROM customers  
WHERE city='New York';
```

| ! fullname | city |
|------------|----------|
| John Doe | New York |
| Jane Doe | New York |

2. What is the total number of accounts in the Accounts table?

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

| no_of_accounts |
|----------------|
| 15 |

3. What is the total balance of all checking accounts?

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

| accounttype | total_balance |
|-------------|---------------|
| Checking | 31000.00 |

4. What is the total balance of all accounts associated with customers who live in Los Angeles?

```
SELECT CONCAT(firstname, ' ', lastname) AS full_name, C.city, SUM(A.balance) AS total_balance FROM customers C  
JOIN accounts A ON C.customerid=A.customerid  
WHERE C.city='Los Angeles'  
GROUP BY 1,2;
```

| full_name | city | total_balance |
|---------------|-------------|---------------|
| Jennifer Wang | Los Angeles | 15000.00 |
| Michael Lee | Los Angeles | 60000.00 |
| | | |

5. Which branch has the highest average account balance?

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

| branchid | branchname | avg_balance |
|----------|-------------|--------------------|
| 14 | North Beach | 30000.000000000000 |

6. Which customer has the highest current balance in their accounts?

```
SELECT C.customerid,concat(C.firstname,' ',C.lastname) AS customer_name,SUM(A.balance) AS current_balance FROM customers C
JOIN accounts A ON C.customerid=A.customerid
GROUP BY C.customerid
ORDER BY current_balance DESC
LIMIT 1;
```

| customerid | customer_name | current_balance |
|------------|---------------|-----------------|
| 5 | Michael Lee | 60000.00 |

7. Which customer has made the most transactions in the Transactions table?

```
SELECT C.customerid,concat(C.firstname,' ',C.lastname) AS full_name,C.city,C.state,COUNT(T.transactionid) AS no_of_transactions
JOIN accounts A ON C.customerid=A.customerid
JOIN transactions T ON A.accountid=T.accountid
GROUP BY C.customerid
ORDER BY no_of_transactions DESC
LIMIT 2;
```

| ⋮ | customerid | full_name | city | state | no_of_transactions |
|---|------------|---------------|---------------|-------|--------------------|
| 4 | | Alice Johnson | San Francisco | CA | 4 |
| 2 | | Jane Doe | New York | NY | 4 |

8. Which branch has the highest total balance across all of its accounts?

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

| branchid | branchname | city | state | total_balance |
|----------|-------------|---------------|-------|---------------|
| 14 | North Beach | San Francisco | CA | 60000.00 |

9. Which customer has the highest total balance across all of their accounts, including savings and checking accounts?

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

| name | total_balance |
|-------------|---------------|
| Michael Lee | 60000.00 |
| | |

10. Which branch has the highest number of transactions in the Transactions table?

```
SELECT b.*,COUNT(T.transactionid) AS no_of_transactions FROM branches b
JOIN accounts A ON b.branchid=A.branchid
JOIN transactions T ON A.accountid=T.accountid
GROUP BY b.branchid
ORDER BY no_of_transactions DESC
LIMIT 2;
```

| | branchid | branchname | city | state | no_of_transactions |
|---|----------|------------|---------------|-------|--------------------|
| 1 | | Main | New York | NY | 4 |
| 8 | | South Bay | San Francisco | CA | 4 |