FINANCE ANALYSIS

TABLES

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	AccoutID	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

SQL SCHEMA

```
-- Create the Customers table
CREATE TABLE Customers (
CustomerID INT PRIMARY KEY,
FirstName VARCHAR(50) NOT NULL,
LastName VARCHAR(50) NOT NULL,
City VARCHAR(50) NOT NULL,
State VARCHAR(2) NOT NULL
);
--------------------
-- Populate the Customers table
INSERT INTO Customers (CustomerID, FirstName, LastName, City, State)
VALUES (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');
--------------------
```

SQL SCHEMA

```
 -- Create the Branches table
CREATE TABLE Branches (
BranchID INT PRIMARY KEY,
BranchName VARCHAR(50) NOT NULL,
City VARCHAR(50) NOT NULL,
State VARCHAR(2) NOT NULL
);
--------------------
-- Populate the Branches table
INSERT INTO Branches (BranchID, BranchName, City, State)
VALUES (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');
--------------------
-- Create the Accounts table
CREATE TABLE Accounts (
AccountID INT PRIMARY KEY,
CustomerID INT NOT NULL,
BranchID INT NOT NULL,
AccountType VARCHAR(50) NOT NULL,
Balance DECIMAL(10, 2) NOT NULL,
FOREIGN KEY (CustomerID) REFERENCES Customers(CustomerID),
FOREIGN KEY (BranchID) REFERENCES Branches(BranchID)
);
--------------------
-- Populate the Accounts table
INSERT INTO Accounts (AccountID, CustomerID, BranchID, AccountType, Balance)
VALUES (1, 1, 5, 'Checking', 1000.00),
```

```
(2, 1, 5, 'Savings', 5000.00),
(3, 2, 1, 'Checking', 2500.00),
(4, 2, 1, 'Savings', 10000.00),
(5, 3, 2, 'Checking', 7500.00),
(6, 3, 2, 'Savings', 15000.00),
(7, 4, 8, 'Checking', 5000.00),
(8, 4, 8, 'Savings', 20000.00),
(9, 5, 14, 'Checking', 10000.00),
(10, 5, 14, 'Savings', 50000.00),
(11, 6, 2, 'Checking', 5000.00),
(12, 6, 2, 'Savings', 10000.00),
(13, 1, 5, 'Credit Card', -500.00),
(14, 2, 1, 'Credit Card', -1000.00),
(15, 3, 2, 'Credit Card', -2000.00);
--------------------
-- Create the Transactions table
CREATE TABLE Transactions (
TransactionID INT PRIMARY KEY,
AccountID INT NOT NULL,
TransactionDate DATE NOT NULL,
```

```
Amount DECIMAL(10, 2) NOT NULL,
FOREIGN KEY (AccountID) REFERENCES Accounts(AccountID)
);
--------------------
-- Populate the Transactions table
INSERT INTO Transactions (TransactionID, AccountID, TransactionDate, Amount)
VALUES (1, 1, '2022-01-01', -500.00),
(2, 1, '2022-01-02', -250.00),
(3, 2, '2022-01-03', 1000.00),
(4, 3, '2022-01-04', -1000.00),
(5, 3, '2022-01-05', 500.00),
(6, 4, '2022-01-06', 1000.00),
(7, 4, '2022-01-07', -500.00),
(8, 5, '2022-01-08', -2500.00),
(9, 6, '2022-01-09', 500.00),
(10, 6, '2022-01-10', -1000.00),
(11, 7, '2022-01-11', -500.00),
(12, 7, '2022-01-12', -250.00),
(13, 8, '2022-01-13', 1000.00),
(14, 8, '2022-01-14', -1000.00),
(15, 9, '2022-01-15', 500.00);
```

QUESTIONS

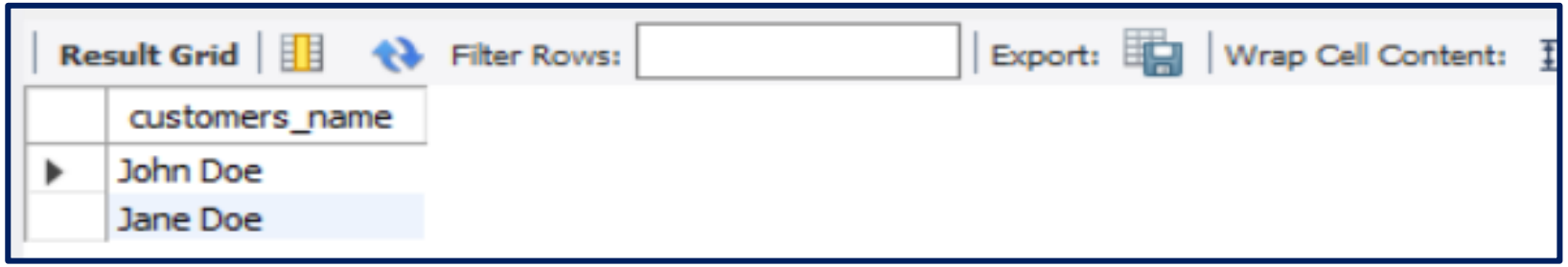
Answer the following questions:

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 customers_name FROM customers
WHERE City = 'New York';
```

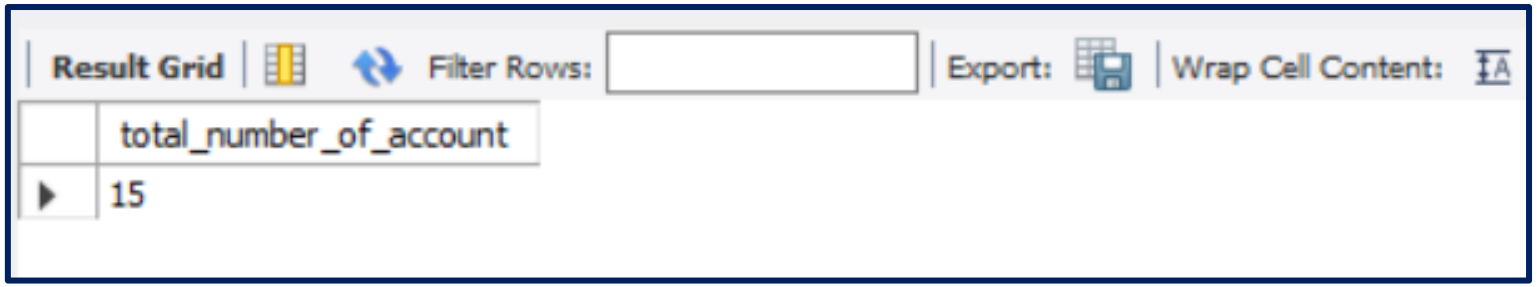
Output:



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

```
SELECT COUNT(DISTINCT AccountID) AS total_number_of_account FROM accounts;
```

Output:



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

```
SELECT SUM(Balance) AS total_balance FROM accounts
WHERE AccountType = 'Checking';
```

Output:

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

```
SELECT SUM(Balance) AS total_balance FROM accounts a
JOIN customers c ON a.CustomerID = c.CustomerID
WHERE c.city = 'Los Angeles';
```

Output:

5] Which branch has the highest average account balance?

```
SELECT BranchName, AVG(Balance) AS Avg_Balance FROM branches b
JOIN accounts a ON b.BranchID = a.BranchID
GROUP BY BranchName
ORDER BY Avg_Balance DESC LIMIT 1;
```

Output:

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

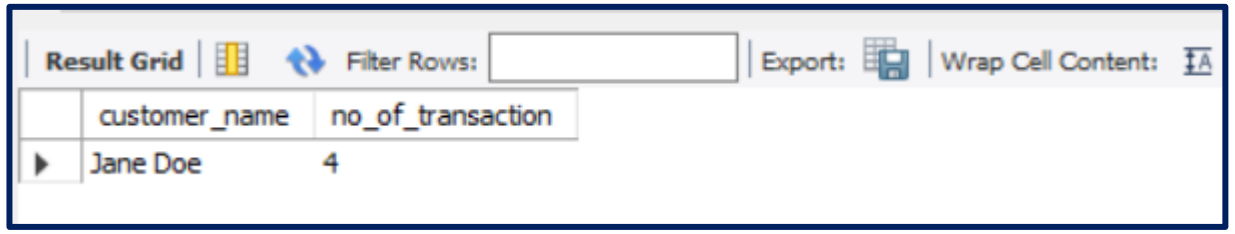
```
SELECT CONCAT(FirstName,'  ',LastName) AS customer_name, Balance FROM customers c
JOIN accounts a ON c.CustomerID = a.CustomerID
GROUP BY customer_name
ORDER BY Balance DESC LIMIT 1;
```

Output:

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

```
SELECT CONCAT(FirstName,' ',LastName) AS customer_name, COUNT(TransactionID) AS no_of_transaction
FROM customers c
JOIN accounts a ON c.CustomerID = a.CustomerID
JOIN transactions t ON a.AccountID = t.AccountID
GROUP BY c.CustomerID
ORDER BY no_of_transaction DESC LIMIT 1;
```

Output:



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

```
SELECT BranchName, SUM(Balance) AS total_balance FROM branches b
JOIN accounts a ON b.BranchID = a.BranchID
GROUP BY b.BranchName
ORDER BY total_balance DESC LIMIT 1;
```

Output:

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

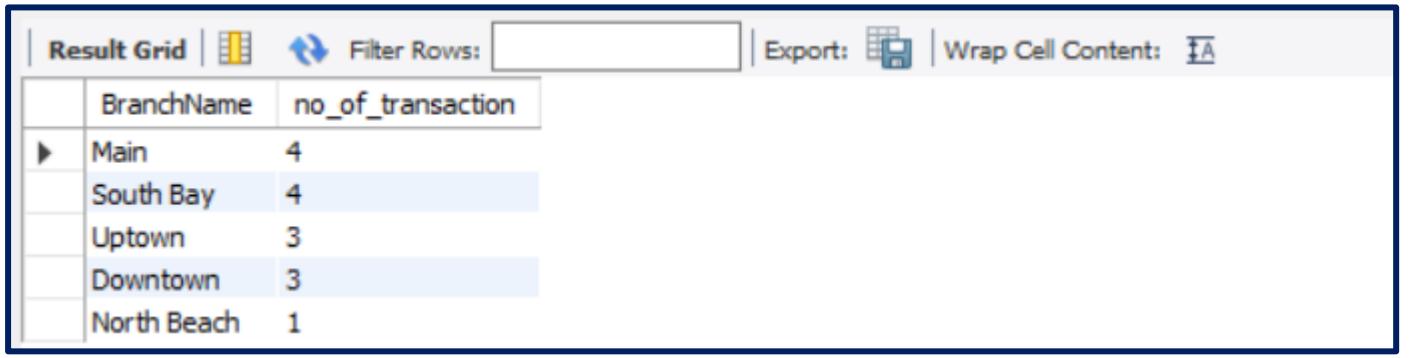
```
SELECT CONCAT(FirstName,' ',LastName) AS customer_name, SUM(Balance) AS total_balance FROM
customers c
JOIN accounts a ON c.CustomerID = a.CustomerID
GROUP BY customer_name
ORDER BY total_balance DESC LIMIT 1;
```

Output:

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

```
SELECT BranchName, COUNT(TransactionID) AS no_of_transaction FROM branches b
JOIN accounts a ON b.BranchID = a.BranchID
JOIN transactions t ON a.AccountID = t.AccountID
GROUP BY BranchName
ORDER BY no_of_transaction DESC;
```

Output:



BranchName	no_of_transaction
Main	4
South Bay	4
Uptown	3
Downtown	3
North Beach	1