November 8, 2022

```
-- TABLES
DROP TABLE IF EXISTS Bank;
DROP TABLE IF EXISTS Loans;
DROP TABLE IF EXISTS Accounts;
DROP TABLE IF EXISTS Customers;
DROP TABLE IF EXISTS Cards;
DROP TABLE IF EXISTS Services;
DROP TABLE IF EXISTS Transactions;

CREATE TABLE Bank (
   id INT IDENTITY(1,1) PRIMARY KEY,
   bank_name VARCHAR(255),
   address VARCHAR(255),
);

CREATE TABLE Loans (
   id INT IDENTITY(1,1) PRIMARY KEY,
   amount DECIMAL(8,2),
   bank_id INT FOREIGN KEY (bank_id) REFERENCES Bank (id)
      ON DELETE NO ACTION
      ON UPDATE NO ACTION
);

CREATE TABLE Accounts (
   id INT IDENTITY(1,1) PRIMARY KEY,
   acc_no VARCHAR(255),
   acc_type VARCHAR(255),
```

```
    balance SMALLMONEY,
    bank_id INT FOREIGN KEY (bank_id) REFERENCES Bank (id)
        ON DELETE NO ACTION
        ON UPDATE NO ACTION
);

CREATE TABLE Customers (
    id INT IDENTITY(1,1) PRIMARY KEY,
    first_name VARCHAR(255),
    last_name VARCHAR(255),
    phone_no VARCHAR(255),
    email_addr VARCHAR(255),
    address VARCHAR(255),
    acc_id INT FOREIGN KEY (acc_id) REFERENCES Accounts (id)
        ON DELETE NO ACTION
        ON UPDATE NO ACTION,
    loan_id INT FOREIGN KEY (loan_id) REFERENCES Loans (id)
        ON DELETE NO ACTION
        ON UPDATE NO ACTION,
    join_dt DATE
);

CREATE TABLE Cards (
    id INT IDENTITY(1,1) PRIMARY KEY,
    card_type VARCHAR(255) DEFAULT 'DEBIT',
    acc_id INT FOREIGN KEY (acc_id) REFERENCES Accounts (id)
        ON DELETE NO ACTION
        ON UPDATE NO ACTION
);
```

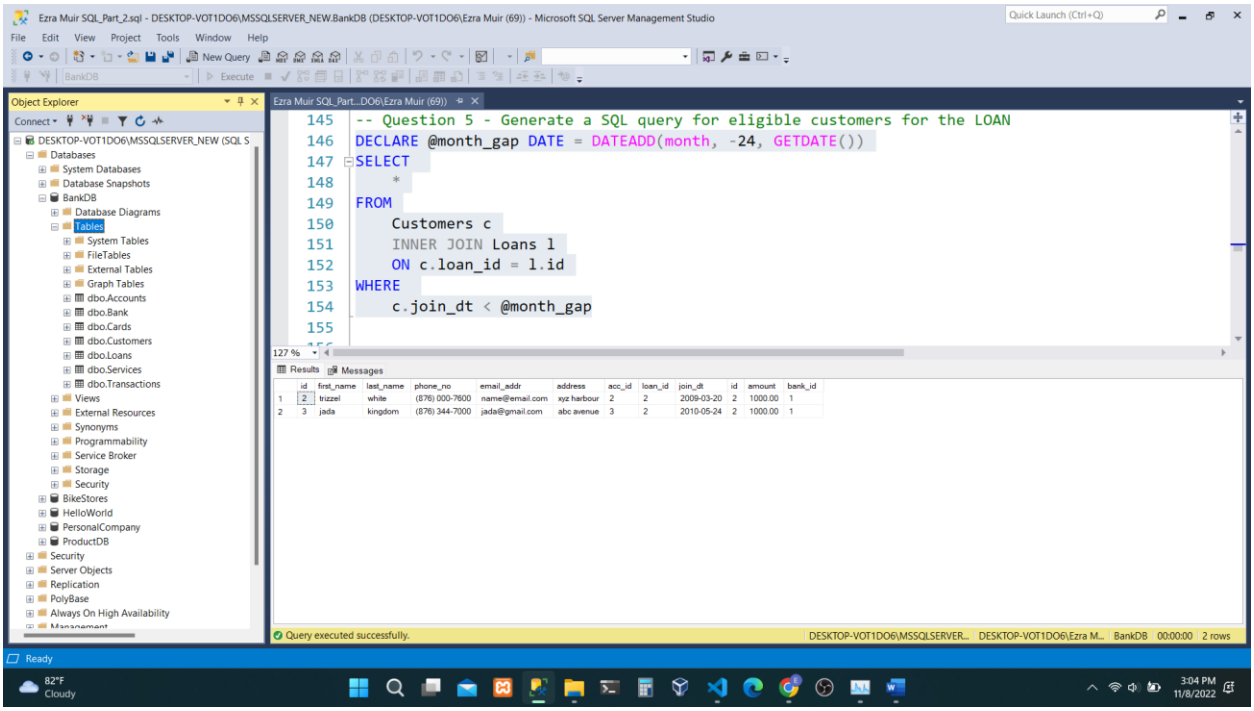
```
CREATE TABLE Services (
   id INT IDENTITY(1,1) PRIMARY KEY,
   serv_type VARCHAR(255),
   status VARCHAR(255),
);

CREATE TABLE Transactions (
   id INT IDENTITY(1,1) PRIMARY KEY,
   tran_dt DATE,
   tran_amt SMALLMONEY,
   cust_id INT FOREIGN KEY (cust_id) REFERENCES Customers (id)
      ON DELETE NO ACTION
      ON UPDATE NO ACTION,
   acc_id INT FOREIGN KEY (acc_id) REFERENCES Accounts (id)
      ON DELETE NO ACTION
      ON UPDATE NO ACTION,
   loan_id INT FOREIGN KEY (loan_id) REFERENCES Loans (id)
      ON DELETE NO ACTION
      ON UPDATE NO ACTION
);
```

```
-- INSERT INTO TABLES
INSERT INTO
   Bank (bank_name, address)
VALUES
   ('NCB', 'Kingston, Jamaica');

INSERT INTO
   Loans ( amount, bank_id)
VALUES
   (12000, 1),
   (1000, 1);

INSERT INTO
   Accounts (acc_no, acc_type, balance, bank_id)
VALUES
   ('acc-001', 'SAVINGS', 1000, 1),
   ('acc-002', 'SAVINGS', 300, 1),
   ('acc-003', 'CURRENT', 1000, 1);

INSERT INTO
   Customers (first_name, last_name, phone_no, email_addr, address, acc_id, loan_id, join_dt)
VALUES
   ('ezra', 'muir', '(876) 356-7600', 'ezra@gmail.com', 'abc avenue', 1, 1, '2022-01-28'),
   ('trizzel', 'white', '(876) 000-7600', 'name@email.com', 'xyz harbour', 2, 2, '2009-03-20'),
   ('jada', 'kingdom', '(876) 344-7000', 'jada@gmail.com', 'abc avenue', 3, 2, '2010-05-24');

INSERT INTO
   Cards (card_type, acc_id)
VALUES
```

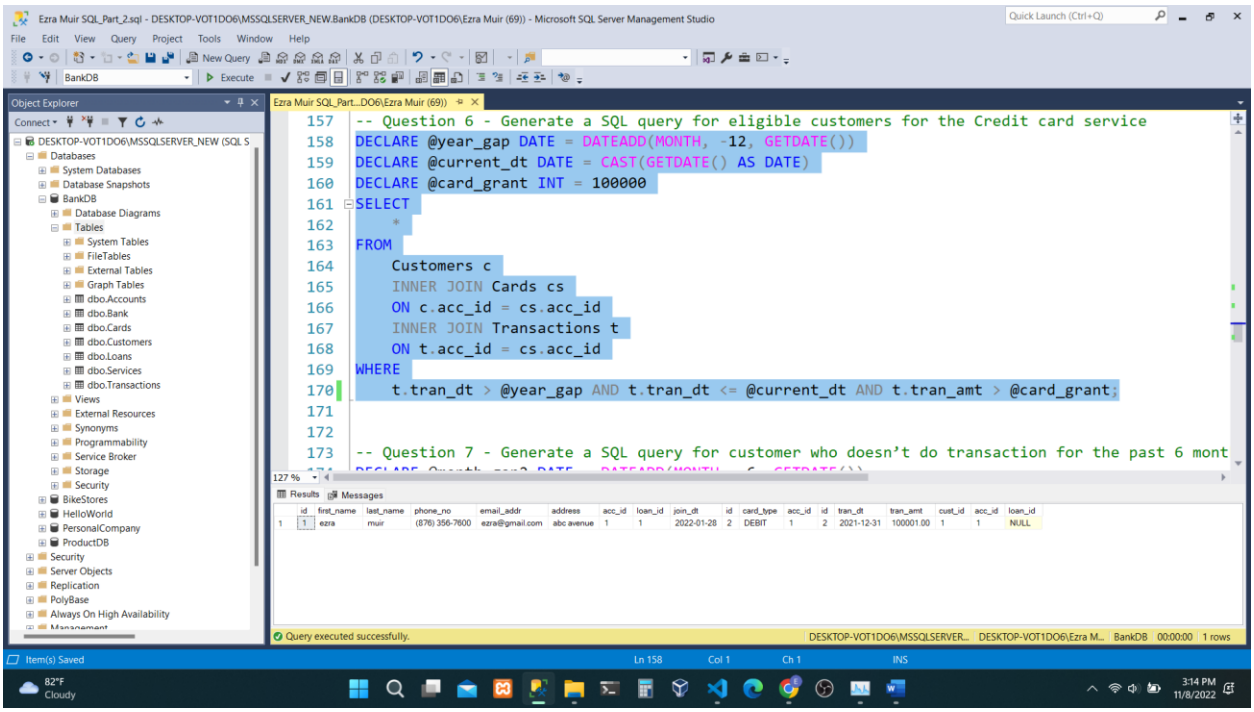
```
    ('DEBIT', 3),
    ('DEBIT', 1),
    ('DEBIT', 2);

INSERT INTO
    Services (serv_type, status)
VALUES
    ('account', 'ACTIVE'),
    ('loan', 'CLOSED'),
    ('card', 'INACTIVE');

INSERT INTO
    Transactions (tran_dt, tran_amt, cust_id, acc_id, loan_id)
VALUES
    ('2021-12-31', 100001, 1, 1, NULL),
    ('2022-02-23', 6000, 1, 1, NULL),
    ('2015-06-19', 700, 1, 1, NULL),
    ('2022-08-31', 90, 2, 2, 2),
    ('2020-10-30', 300, 3, 3, 2),
    ('2015-06-25', 200, 3, 3, 2);
```

```
-- QUERIES -- --------------------------------

SELECT * FROM Bank;

SELECT * FROM Loans;

SELECT * FROM Accounts;

SELECT * FROM Customers;

SELECT * FROM Cards;

SELECT * FROM Services;

SELECT * FROM Transactions;
```

```
-- Question 5 - Generate a SQL query for eligible customers for the LOAN

DECLARE @month_gap DATE = DATEADD(month, -24, GETDATE())

SELECT

    *

FROM

    Customers c

    INNER JOIN Loans l

    ON c.loan_id = l.id

WHERE

            c.join_dt < @month_gap
```

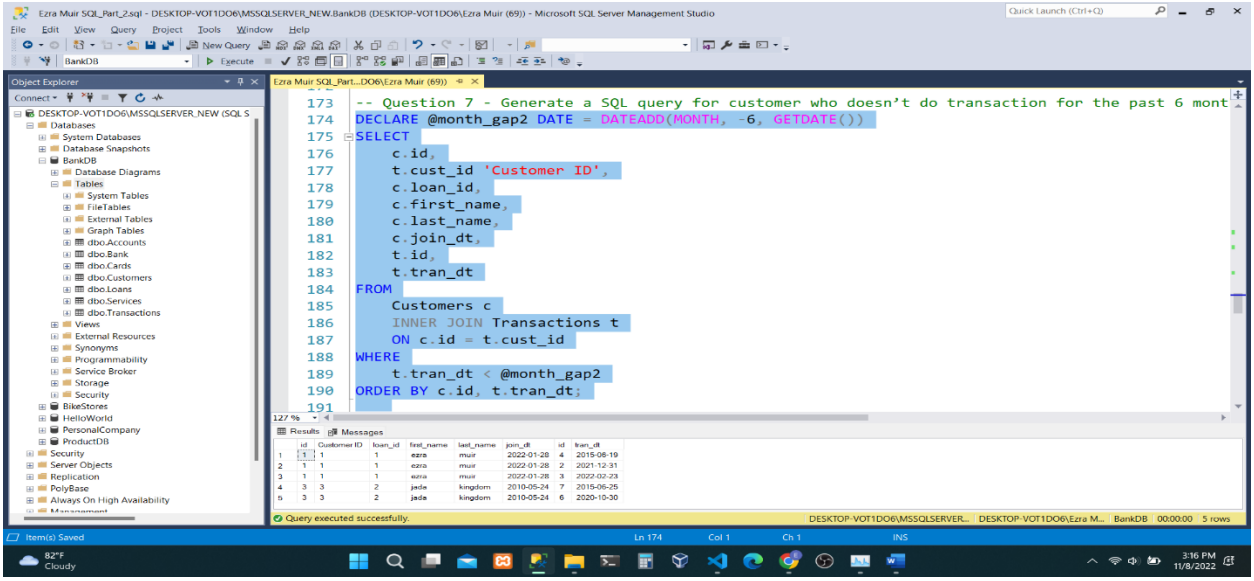


```
-- Question 6 - Generate a SQL query for eligible customers for the Credit card service

DECLARE @year_gap DATE = DATEADD(MONTH, -12, GETDATE())

DECLARE @current_dt DATE = CAST(GETDATE() AS DATE)

DECLARE @card_grant INT = 100000

SELECT

        *

FROM

        Customers c

        INNER JOIN Cards cs

        ON c.acc_id = cs.acc_id

        INNER JOIN Transactions t

        ON t.acc_id = cs.acc_id

WHERE

        t.tran_dt > @year_gap AND t.tran_dt <= @current_dt AND t.tran_amt > @card_grant;
```



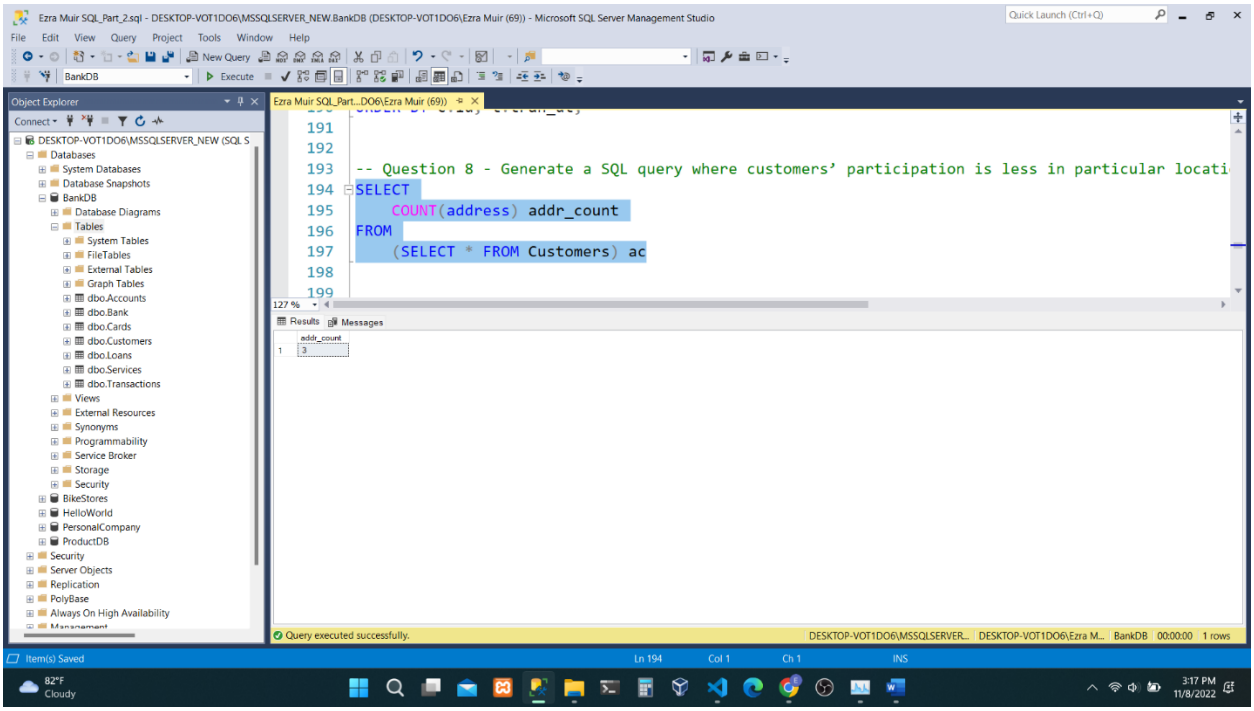
-- Question 7 - Generate a SQL query for customer who doesn’t do transaction for the past 6 months.

```
DECLARE @month_gap2 DATE = DATEADD(MONTH, -6, GETDATE())

SELECT

        c.id,

        t.cust_id 'Customer ID',

        c.loan_id,

        c.first_name,

        c.last_name,

        c.join_dt,

        t.id,

        t.tran_dt

FROM

        Customers c

        INNER JOIN Transactions t

        ON c.id = t.cust_id

WHERE

        t.tran_dt < @month_gap2

ORDER BY c.id, t.tran_dt;
```

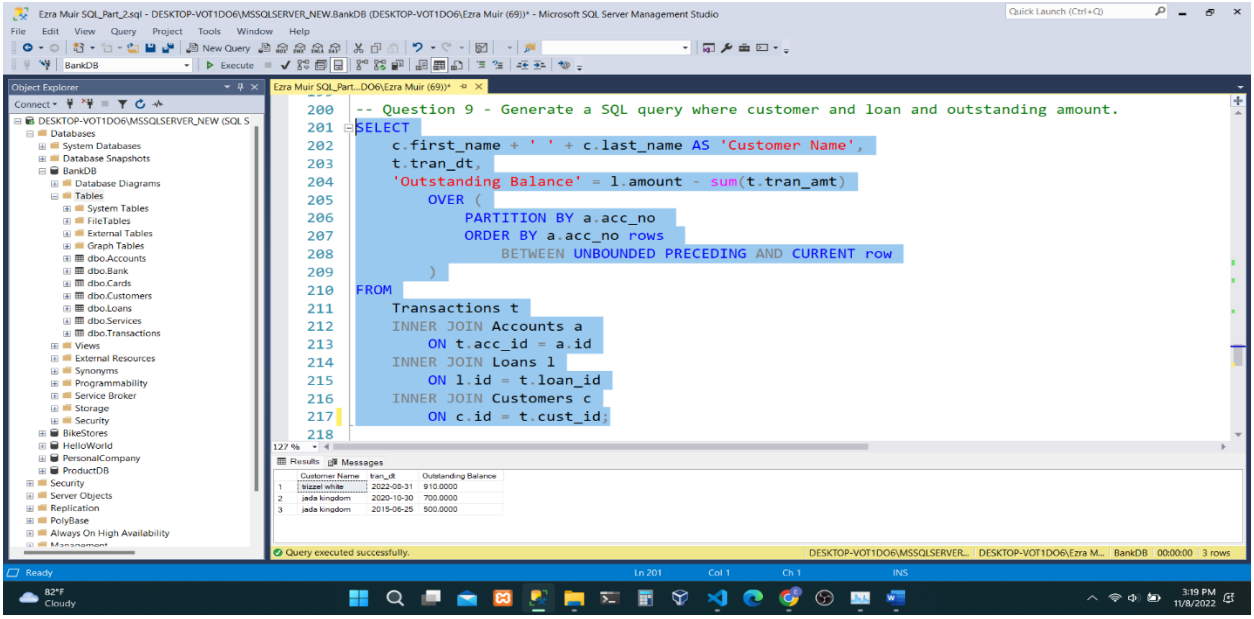


-- Question 8 - Generate a SQL query where customers’ participation is less in particular location.

```
SELECT
        COUNT(address) addr_count
FROM
        (SELECT * FROM Customers) ac
```

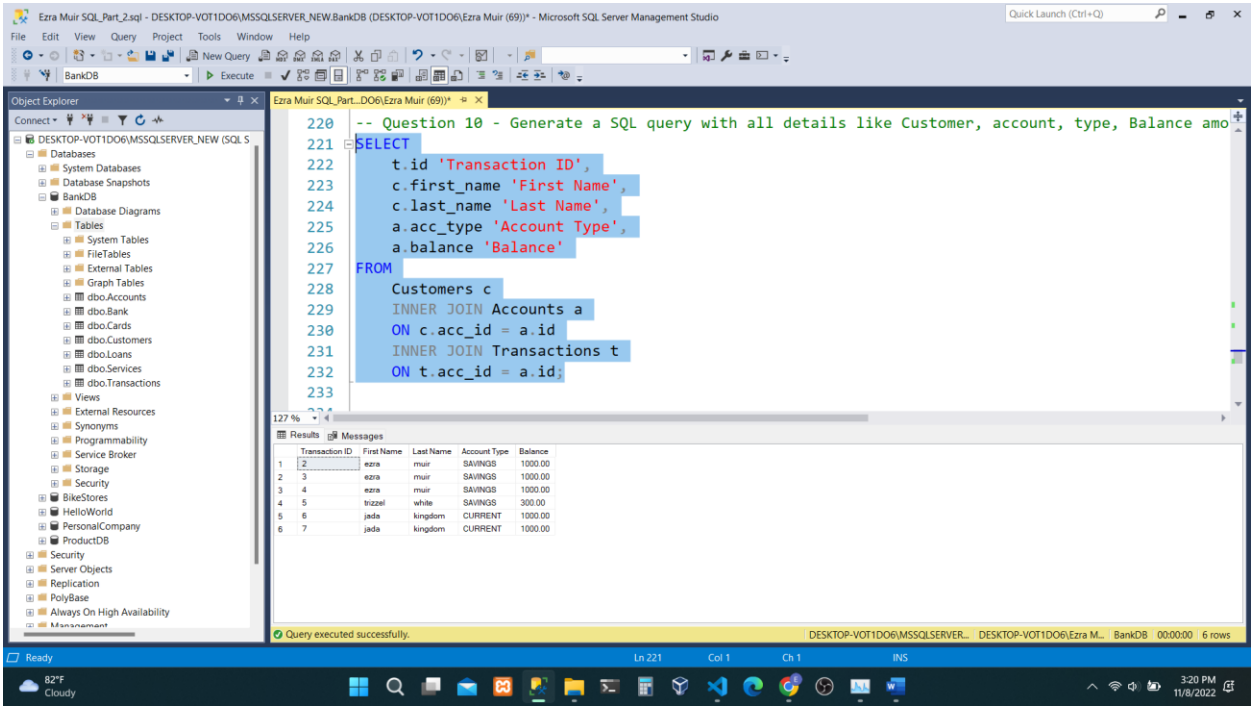


```
-- Question 9 - Generate a SQL query where customer and loan and outstanding amount.
SELECT
        c.first_name + ' ' + c.last_name AS 'Customer Name',
   t.tran_dt,
   'Outstanding Balance' = l.amount - sum(t.tran_amt)
      OVER (
         PARTITION BY a.acc_no
         ORDER BY a.acc_no rows
            BETWEEN UNBOUNDED PRECEDING AND CURRENT row
      )
FROM
   Transactions t
   INNER JOIN Accounts a
      ON t.acc_id = a.id
         INNER JOIN Loans l
               ON l.id = t.loan_id
         INNER JOIN Customers c
               ON c.id = t.cust_id
```



-- Question 10 - Generate a SQL query with all details like Customer, account, type, Balance amount based on the transaction.

```
SELECT
        t.id 'Transaction ID',
        c.first_name 'First Name',
        c.last_name 'Last Name',
        a.acc_type 'Account Type',
        a.balance 'Balance'
FROM
        Customers c
        INNER JOIN Accounts a
        ON c.acc_id = a.id
        INNER JOIN Transactions t
        ON t.acc_id = a.id;
```



-- Question 11 - Generate a SQL query with loan details and history of payments done by the customer and outstanding amount to be paid.

```
SELECT
        c.first_name 'First Name',
        c.last_name 'Last Name',
        l.id 'Loan ID',
        l.amount 'Loan Amount',
        t.id 'Transaction ID',
        t.acc_id 'Account ID',
        t.cust_id 'Customer ID',
        t.loan_id 'Loan ID',
        t.tran_amt 'Transaction Amount',
        t.tran_dt 'Transaction Date'
FROM
        Customers c
        INNER JOIN Loans l
        ON c.loan_id = l.id
        INNER JOIN Transactions t
        ON t.id = l.id
```