SQL Workflow

This document contains the SQL queries used for preparing and importing the data into PostgreSQL for the Credit Card Weekly Status Report project. Each step is described along with its SQL code so that it is easy to reproduce and understand the workflow.

Create the database

We start by creating a dedicated database `ccdb` to store all credit card and customer data. After creation, connect to the database in psql.

```
CREATE DATABASE ccdb;
```

Create cc_detail table

This table holds transaction-level credit card details, including fees, balances, transaction amounts, utilization ratio, and whether the customer used chip, etc.

```
CREATE TABLE cc_detail (
    Client_Num INT,
    Card_Category VARCHAR(20),
    Annual_Fees INT,
    Activation_30_Days INT,
    Customer_Acq_Cost INT,
    Week_Start_Date DATE,
    Week_Num VARCHAR(20),
    Qtr VARCHAR(10),
    current_year INT,
    Credit_Limit DECIMAL(10,2),
    Total_Revolving_Bal INT,
    Total_Trans_Amt INT,
    Total_Trans_Ct INT,
    Avg_Utilization_Ratio DECIMAL(10,3),
    Use_Chip VARCHAR(10),
    Exp_Type VARCHAR(50),
    Interest_Earned DECIMAL(10,3),
    Delinquent_Acc VARCHAR(5)
);
```

Create cust_detail table

This table stores customer demographic and profile data such as age, gender, education level, marital status, job, and income. It is linked to `cc_detail` using the `Client_Num` field.

```
CREATE TABLE cust_detail (
   Client_Num INT,
   Customer_Age INT,
   Gender VARCHAR(5),
   Dependent_Count INT,
   Education_Level VARCHAR(50),
   Marital_Status VARCHAR(20),
   State_cd VARCHAR(50),
   Zipcode VARCHAR(20),
   Car_Owner VARCHAR(5),
   House_Owner VARCHAR(5),
   Personal_Loan VARCHAR(5),
   Contact VARCHAR(50),
   Customer_Job VARCHAR(50),
   Income INT,
   Cust_Satisfaction_Score INT
);
```

Set correct date format

Ensure that PostgreSQL interprets dates correctly while importing. Here we set the date style to ISO format with day-month-year ordering.

```
SET datestyle TO 'ISO, DMY';
```

Copy data into cc_detail

Import the primary credit card transaction data from a CSV file into the `cc_detail` table.

```
COPY cc_detail
FROM 'D:\\credit_card.csv'
DELIMITER ','
CSV HEADER;
```

Copy data into cust_detail

Import the customer profile data from a CSV file into the `cust_detail` table.

```
COPY cust_detail
FROM 'D:\\customer.csv'
DELIMITER ','
CSV HEADER;
```

Copy additional data (week-53) into cc_detail

If additional weekly data is available (such as week 53), it can be appended into the same table.

```
COPY cc_detail
FROM 'D:\\cc_add.csv'
DELIMITER ','
CSV HEADER;
```

Copy additional data (week-53) into cust_detail

Similarly, import any additional customer data updates (e.g., for week 53).

```
COPY cust_detail
FROM 'D:\\cust_add.csv'
DELIMITER ','
CSV HEADER;
```