**Bank Customer**

CREATE TABLE BANK\_CUSTOMER ( customer\_id INT ,

customer\_name VARCHAR(20),

Address VARCHAR(20),

state\_code VARCHAR(3) ,

Telephone VARCHAR(10) );

INSERT INTO BANK\_CUSTOMER VALUES (123001,"Oliver", "225-5, Emeryville", "CA" , "1897614500");

INSERT INTO BANK\_CUSTOMER VALUES (123002,"George", "194-6,New brighton","MN" , "1897617000");

INSERT INTO BANK\_CUSTOMER VALUES (123003,"Harry", "2909-5,walnut creek","CA" , "1897617866");

INSERT INTO BANK\_CUSTOMER VALUES (123004,"Jack", "229-5, Concord", "CA" , "1897627999");

INSERT INTO BANK\_CUSTOMER VALUES (123005,"Jacob", "325-7, Mission Dist","SFO", "1897637000");

INSERT INTO BANK\_CUSTOMER VALUES (123006,"Noah", "275-9, saint-paul" , "MN" , "1897613200");

INSERT INTO BANK\_CUSTOMER VALUES (123007,"Charlie","125-1,Richfield", "MN" , "1897617666");

INSERT INTO BANK\_CUSTOMER VALUES (123008,"Robin","3005-1,Heathrow", "NY" , "1897614000");

**Bank\_Customer\_export**

CREATE TABLE BANK\_CUSTOMER\_EXPORT ( customer\_id CHAR(10),

customer\_name CHAR(20),

Address CHAR(20),

state\_code CHAR(3) ,

Telephone CHAR(10));

INSERT INTO BANK\_CUSTOMER\_EXPORT VALUES ("123001 ","Oliver", "225-5, Emeryville", "CA" , "1897614500") ;

INSERT INTO BANK\_CUSTOMER\_EXPORT VALUES ("123002 ","George", "194-6,New brighton","MN" , "189761700");

CREATE TABLE Bank\_Account\_Details(Customer\_id INT,

Account\_Number VARCHAR(19),

Account\_type VARCHAR(25),

Balance\_amount INT,

Account\_status VARCHAR(10),

Relationship\_type varchar(1) ) ;

INSERT INTO Bank\_Account\_Details VALUES (123001, "4000-1956-3456", "SAVINGS" , 200000 ,"ACTIVE","P");

INSERT INTO Bank\_Account\_Details VALUES (123001, "5000-1700-3456", "RECURRING DEPOSITS" ,9400000 ,"ACTIVE","S");

INSERT INTO Bank\_Account\_Details VALUES (123002, "4000-1956-2001", "SAVINGS", 400000 ,"ACTIVE","P");

INSERT INTO Bank\_Account\_Details VALUES (123002, "5000-1700-5001", "RECURRING DEPOSITS" ,7500000 ,"ACTIVE","S");

INSERT INTO Bank\_Account\_Details VALUES (123003, "4000-1956-2900", "SAVINGS" ,750000,"INACTIVE","P");

INSERT INTO Bank\_Account\_Details VALUES (123004, "5000-1700-6091", "RECURRING DEPOSITS" ,7500000 ,"ACTIVE","S");

INSERT INTO Bank\_Account\_Details VALUES (123004, "4000-1956-3401", "SAVINGS" , 655000 ,"ACTIVE","P");

INSERT INTO Bank\_Account\_Details VALUES (123005, "4000-1956-5102", "SAVINGS" , 300000 ,"ACTIVE","P");

INSERT INTO Bank\_Account\_Details VALUES (123006, "4000-1956-5698", "SAVINGS" , 455000 ,"ACTIVE" ,"P");

INSERT INTO Bank\_Account\_Details VALUES (123007, "5000-1700-9800", "SAVINGS" , 355000 ,"ACTIVE" ,"P");

INSERT INTO Bank\_Account\_Details VALUES (123007, "4000-1956-9977", "RECURRING DEPOSITS" , 7025000,"ACTIVE" ,"S");

INSERT INTO Bank\_Account\_Details VALUES (123007, "9000-1700-7777-4321", "Credit Card" ,0 ,"INACTIVE", "P");

INSERT INTO Bank\_Account\_Details VALUES (123007, '5900-1900-9877-5543', "Add-on Credit Card" , 0 ,"ACTIVE", "S");

INSERT INTO Bank\_Account\_Details VALUES (123008, "5000-1700-7755", "SAVINGS" ,0 ,"INACTIVE","P");

INSERT INTO Bank\_Account\_Details VALUES (123006, '5800-1700-9800-7755', "Credit Card" ,0 ,"ACTIVE", "P");

INSERT INTO Bank\_Account\_Details VALUES (123006, '5890-1970-7706-8912', "Add-on Credit Card" ,0 ,"ACTIVE", "S");

**Bank Account Table**

# CREATE Bank\_Account Table:

# Create Table

CREATE TABLE BANK\_ACCOUNT ( Customer\_id INT,

Account\_Number VARCHAR(19),

Account\_type VARCHAR(25),

Balance\_amount INT ,

Account\_status VARCHAR(10), Relation\_ship varchar(1) ) ;

# Insert records:

INSERT INTO BANK\_ACCOUNT VALUES (123001, "4000-1956-3456", "SAVINGS" , 200000 ,"ACTIVE","P");

INSERT INTO BANK\_ACCOUNT VALUES (123001, "5000-1700-3456", "RECURRING DEPOSITS" ,9400000 ,"ACTIVE","S");

INSERT INTO BANK\_ACCOUNT VALUES (123002, "4000-1956-2001", "SAVINGS" , 400000 ,"ACTIVE","P");

INSERT INTO BANK\_ACCOUNT VALUES (123002, "5000-1700-5001", "RECURRING DEPOSITS" ,7500000 ,"ACTIVE","S");

INSERT INTO BANK\_ACCOUNT VALUES (123003, "4000-1956-2900", "SAVINGS" ,750000,"INACTIVE","P");

INSERT INTO BANK\_ACCOUNT VALUES (123004, "5000-1700-6091", "RECURRING DEPOSITS" ,7500000 ,"ACTIVE","S");

INSERT INTO BANK\_ACCOUNT VALUES (123004, "4000-1956-3401", "SAVINGS" , 655000 ,"ACTIVE","P");

INSERT INTO BANK\_ACCOUNT VALUES (123005, "4000-1956-5102", "SAVINGS" , 300000 ,"ACTIVE","P");

INSERT INTO BANK\_ACCOUNT VALUES (123006, "4000-1956-5698", "SAVINGS" , 455000 ,"ACTIVE" ,"P");

INSERT INTO BANK\_ACCOUNT VALUES (123007, "5000-1700-9800", "SAVINGS" , 355000 ,"ACTIVE" ,"P");

INSERT INTO BANK\_ACCOUNT VALUES (123007, "4000-1956-9977", "RECURRING DEPOSITS" , 7025000,"ACTIVE" ,"S");

INSERT INTO BANK\_ACCOUNT VALUES (123007, "9000-1700-7777-4321", "CREDITCARD" ,0 ,"INACTIVE","P");

INSERT INTO BANK\_ACCOUNT VALUES (123008, "5000-1700-7755", "SAVINGS" ,NULL ,"INACTIVE","P");

**Bank\_Account\_Relationship\_Details**

# CREATE TABLE Bank\_Account\_Relationship\_Details

CREATE TABLE Bank\_Account\_Relationship\_Details

( Customer\_id INT,

Account\_Number VARCHAR(19),

Account\_type VARCHAR(25),

Linking\_Account\_Number VARCHAR(19));

INSERT INTO Bank\_Account\_Relationship\_Details VALUES (123001, "4000-1956-3456", "SAVINGS" , "");

INSERT INTO Bank\_Account\_Relationship\_Details VALUES (123001, "5000-1700-3456", "RECURRING DEPOSITS" , "4000-1956-3456");

INSERT INTO Bank\_Account\_Relationship\_Details VALUES (123002, "4000-1956-2001", "SAVINGS" , "" );

INSERT INTO Bank\_Account\_Relationship\_Details VALUES (123002, "5000-1700-5001", "RECURRING DEPOSITS" , "4000-1956-2001" );

INSERT INTO Bank\_Account\_Relationship\_Details VALUES (123003, "4000-1956-2900", "SAVINGS" , "" );

INSERT INTO Bank\_Account\_Relationship\_Details VALUES (123004, "5000-1700-6091", "RECURRING DEPOSITS" , "4000-1956-2900" );

INSERT INTO Bank\_Account\_Relationship\_Details VALUES (123004, "5000-1700-7791", "RECURRING DEPOSITS" , "4000-1956-2900" );

INSERT INTO Bank\_Account\_Relationship\_Details VALUES (123007, "5000-1700-9800", "SAVINGS" , "" );

INSERT INTO Bank\_Account\_Relationship\_Details VALUES (123007, "4000-1956-9977", "RECURRING DEPOSITS" , "5000-1700-9800" );

INSERT INTO Bank\_Account\_Relationship\_Details VALUES (NULL, "9000-1700-7777-4321", "Credit Card" , "5000-1700-9800" );

INSERT INTO Bank\_Account\_Relationship\_Details VALUES (NULL, '5900-1900-9877-5543', 'Add-on Credit Card', '9000-1700-7777-4321' );

INSERT INTO Bank\_Account\_Relationship\_Details VALUES (NULL, '5800-1700-9800-7755', 'Credit Card', '4000-1956-5698' );

INSERT INTO Bank\_Account\_Relationship\_Details VALUES (NULL, '5890-1970-7706-8912', 'Add-on Credit Card', '5800-1700-9800-7755' );

**BANK\_ACCOUNT\_TRANSACTION**

# CREATE TABLE BANK\_ACCOUNT\_TRANSACTION

CREATE TABLE BANK\_ACCOUNT\_TRANSACTION (

Account\_Number VARCHAR(19),

Transaction\_amount Decimal(18,2) ,

Transcation\_channel VARCHAR(18) ,

Province varchar(3) ,

Transaction\_Date Date) ;

INSERT INTO BANK\_ACCOUNT\_TRANSACTION VALUES ( "4000-1956-3456", -2000, "ATM withdrawl" , "CA", "2020-01-13");

INSERT INTO BANK\_ACCOUNT\_TRANSACTION VALUES ( "4000-1956-2001", -4000, "POS-Walmart" , "MN", "2020-02-14");

INSERT INTO BANK\_ACCOUNT\_TRANSACTION VALUES ( "4000-1956-2001", -1600, "UPI transfer" , "MN", "2020-01-19");

INSERT INTO BANK\_ACCOUNT\_TRANSACTION VALUES ( "4000-1956-2001", -6000, "Bankers cheque", "CA", "2020-03-23");

INSERT INTO BANK\_ACCOUNT\_TRANSACTION VALUES ( "4000-1956-2001", -3000, "Net banking" , "CA", "2020-04-24");

INSERT INTO BANK\_ACCOUNT\_TRANSACTION VALUES ( "4000-1956-2001", 23000, "cheque deposit", "MN", "2020-03-15");

INSERT INTO BANK\_ACCOUNT\_TRANSACTION VALUES ( "5000-1700-6091", 40000, "ECS transfer" , "NY", "2020-02-19");

INSERT INTO BANK\_ACCOUNT\_TRANSACTION VALUES ( "5000-1700-7791", 40000, "ECS transfer" , "NY", "2020-02-19");

INSERT INTO BANK\_ACCOUNT\_TRANSACTION VALUES ( "4000-1956-3401", 8000, "Cash Deposit" , "NY", "2020-01-19");

INSERT INTO BANK\_ACCOUNT\_TRANSACTION VALUES ( "4000-1956-5102", -6500, "ATM withdrawal" , "NY", "2020-03-14");

INSERT INTO BANK\_ACCOUNT\_TRANSACTION VALUES ( "4000-1956-5698", -9000, "Cash Deposit" , "NY", "2020-03-27");

INSERT INTO BANK\_ACCOUNT\_TRANSACTION VALUES ( "4000-1956-9977", 50000, "ECS transfer" , "NY", "2020-01-16");

INSERT INTO BANK\_ACCOUNT\_TRANSACTION VALUES ( "9000-1700-7777-4321", -5000, "POS-Walmart", "NY", "2020-02-17");

INSERT INTO BANK\_ACCOUNT\_TRANSACTION VALUES ( "9000-1700-7777-4321", -8000, "Shopping Cart", "MN", "2020-03-13");

INSERT INTO BANK\_ACCOUNT\_TRANSACTION VALUES ( "9000-1700-7777-4321", -2500, "Shopping Cart", "MN", "2020-04-21");

INSERT INTO BANK\_ACCOUNT\_TRANSACTION VALUES ( "5800-1700-9800-7755", -9000, "POS-Walmart","MN", "2020-04-13");

INSERT INTO BANK\_ACCOUNT\_TRANSACTION VALUES ( '5890-1970-7706-8912', -11000, "Shopping Cart" , "NY" , "2020-03-12") ;

**BANK\_CUSTOMER\_MESSAGES**

CREATE TABLE BANK\_CUSTOMER\_MESSAGES (

Event VARCHAR(24),

Customer\_message VARCHAR(75),

Notice\_delivery\_mode VARCHAR(15)) ;

INSERT INTO BANK\_CUSTOMER\_MESSAGES VALUES ( "Adhoc", "All Banks are closed due to announcement of National strike", "mobile" ) ;

INSERT INTO BANK\_CUSTOMER\_MESSAGES VALUES ( "Transaction Limit", "Only limited withdrawals per card are allowed from ATM machines", "mobile" );

INSERT INTO `bank\_account\_transaction`(`Account\_Number`, `Transaction\_amount`, `Transcation\_channel`, `Province`, `Transaction\_Date`) VALUES

('4000-1956-9977' , 10000.00 ,'ECS transfer', 'MN' , '2020-02-16' ) ;

-- inserted for queries after 17th

INSERT INTO `bank\_account\_transaction`(`Account\_Number`, `Transaction\_amount`, `Transcation\_channel`, `Province`, `Transaction\_Date`) VALUES

('4000-1956-9977' , 40000.00 ,'ECS transfer', 'MN' , '2020-03-18' ) ;

INSERT INTO `bank\_account\_transaction`(`Account\_Number`, `Transaction\_amount`, `Transcation\_channel`, `Province`, `Transaction\_Date`) VALUES

('4000-1956-9977' , 60000.00 ,'ECS transfer', 'MN' , '2020-04-18' ) ;

INSERT INTO `bank\_account\_transaction`(`Account\_Number`, `Transaction\_amount`, `Transcation\_channel`, `Province`, `Transaction\_Date`) VALUES

('4000-1956-9977' , 20000.00 ,'ECS transfer', 'MN' , '2020-03-20' ) ;

-- inserted for queries after 24th

INSERT INTO `bank\_account\_transaction`(`Account\_Number`, `Transaction\_amount`, `Transcation\_channel`, `Province`, `Transaction\_Date`) VALUES

('4000-1956-9977' , 49000.00 ,'ECS transfer', 'MN' , '2020-06-18' ) ;

**BANK\_INTEREST\_RATE**

CREATE TABLE BANK\_INTEREST\_RATE(

account\_type varchar(24),

interest\_rate decimal(4,2),

month varchar(2),

year varchar(4)

);

INSERT INTO BANK\_INTEREST\_RATE VALUES ( "SAVINGS" , 0.04 , '02' , '2020' );

INSERT INTO BANK\_INTEREST\_RATE VALUES ( "RECURRING DEPOSITS" , 0.07, '02' , '2020' );

INSERT INTO BANK\_INTEREST\_RATE VALUES ( "PRIVILEGED\_INTEREST\_RATE" , 0.08 , '02' , '2020' )

# Question 1:

# 1) Print customer Id, customer name and average account\_balance maintained by each customer for all of his/her accounts in the bank.(8 Rows)

# Question 2:

# 2) Print customer\_id , account\_number and balance\_amount , condition that if balance\_amount is nil then assign transaction\_amount for account\_type = "Credit Card"(4 Rows)

# Question 3:

# 3) Print account\_number and balance\_amount , transaction\_amount,Transaction\_Date from Bank\_Account\_Details and bank\_account\_transaction for all the transactions occurred during march,2020 and april, 2020(12 Rows)

# Question 4:

# 4) Print all of the customer id, account number, balance\_amount, transaction\_amount , Transaction\_Date from bank\_customer, Bank\_Account\_Details and bank\_account\_transaction tables where excluding all of their transactions in march, 2020 month (22 Rows)

# Question 5:

# 5) Print only the customer id, account\_number, balance\_amount,transaction\_amount ,transaction\_date who did transactions during the first quarter. Do not display the accounts if they have not done any transactions in the first quarter.(16 Rows)

# Question 6:

# 6) Print account\_number, Event and Customer\_message from BANK\_CUSTOMER\_MESSAGES and Bank\_Account\_Details to display an “Adhoc" Event for all customers who have “SAVINGS" account\_type account.(8 Rows)

# Question 7:

# 7) Print all Customer\_id, Account\_Number, Account\_type, and display deducted balance\_amount by subtracting only negative transaction\_amounts for Relationship\_type ="P" ( P - means Primary , S - means Secondary ) .(27 Rows)

# Question 8:

# a) Display records of All Accounts , their Account\_types, the transaction amount.

# b) Along with first step, Display other columns with corresponding linking account number, account types (15 Rows)

# Question 9:

# a) Display records of All Accounts , their Account\_types, the transaction amount.

# b) Along with first step, Display other columns with corresponding linking account number, account types

# c) After retrieving all records of accounts and their linked accounts, display the transaction amount of accounts appeared in another column.(26 Rows)

# Question 10:

# 10) Display all saving account holders have “Add-on Credit Cards" and “Credit cards" (3 Rows

# Question 11:

# 11) Display records of “SAVINGS” account linked with “Credit cards" account\_type and its credit

# aggregate sum of transaction amount. (1 Row)

# Ref: Check linking relationship in bank\_transaction\_relationship\_details.

# Check transaction\_amount in bank\_account\_transaction.