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**Banking Management System**

A bank needs to maintain a database of customers who can open account in a bank, take the facility of depositing money, withdraw money, transfer funds, take help like getting loan, investing in mutual funds, getting credit card/debit card facilities. A database should be maintained for customer’s accounts and their transaction history. The bank should maintain a database of its branches, employees, managers, customers and the facilities provided by the bank. Create a database which would serve this purpose.

Database Used - MySQL

**ER Diagram first version (Before Normalization)**

Transaction

Account\_ID (PK)

DateTime

Cust\_ID (FK)

Transaction\_Type

Accounts

Account\_ID (PK)

Branch\_ID(FK)

Account\_Type (FK)

Customer\_ID (FK)

Account\_Type\_ID

Account\_Type\_Name

Bank Branches

Branch\_ID (PK)

Bank\_ID (FK)

Location

Contact Information

Bank

Bank\_ID (PK)

Bank\_Name

Bank Facility

ID (PK)

Facility\_Name

Cust\_ID(FK)

Departments

Dept\_ID (PK)

Dept\_Name

Customers

Cust\_ID (PK)

Persons

ID (PK)

First\_Name

Last\_Name

Address

Email

Contact Number

Employees

EMP\_ID (PK)

Dept\_ID (FK)

Manager\_ID

Title\_Type\_ID

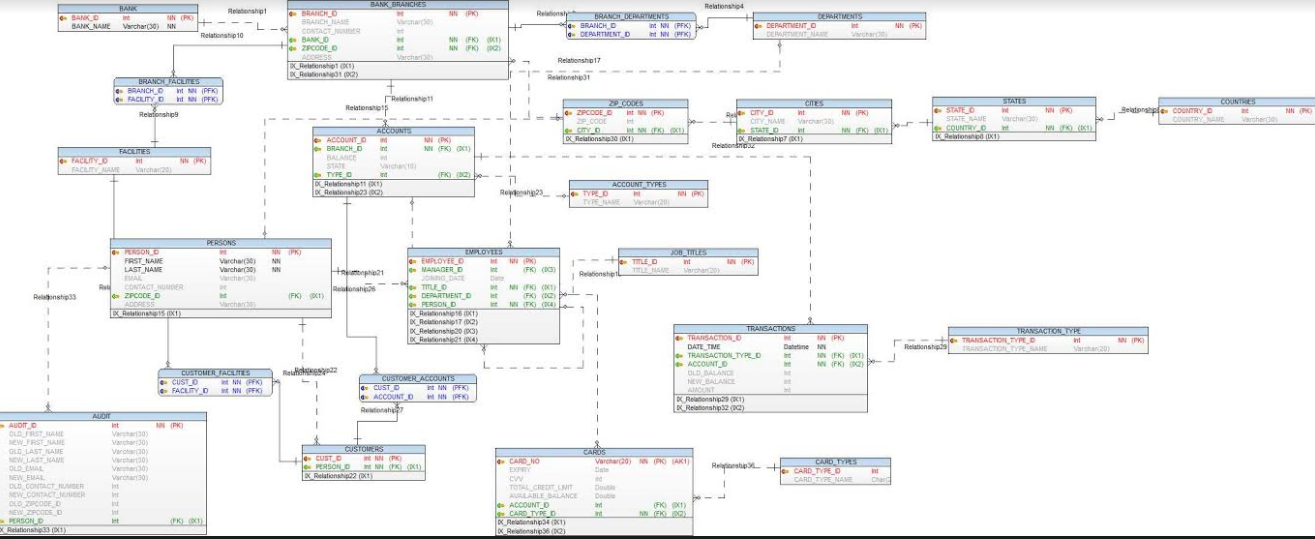
Title\_Type\_Name

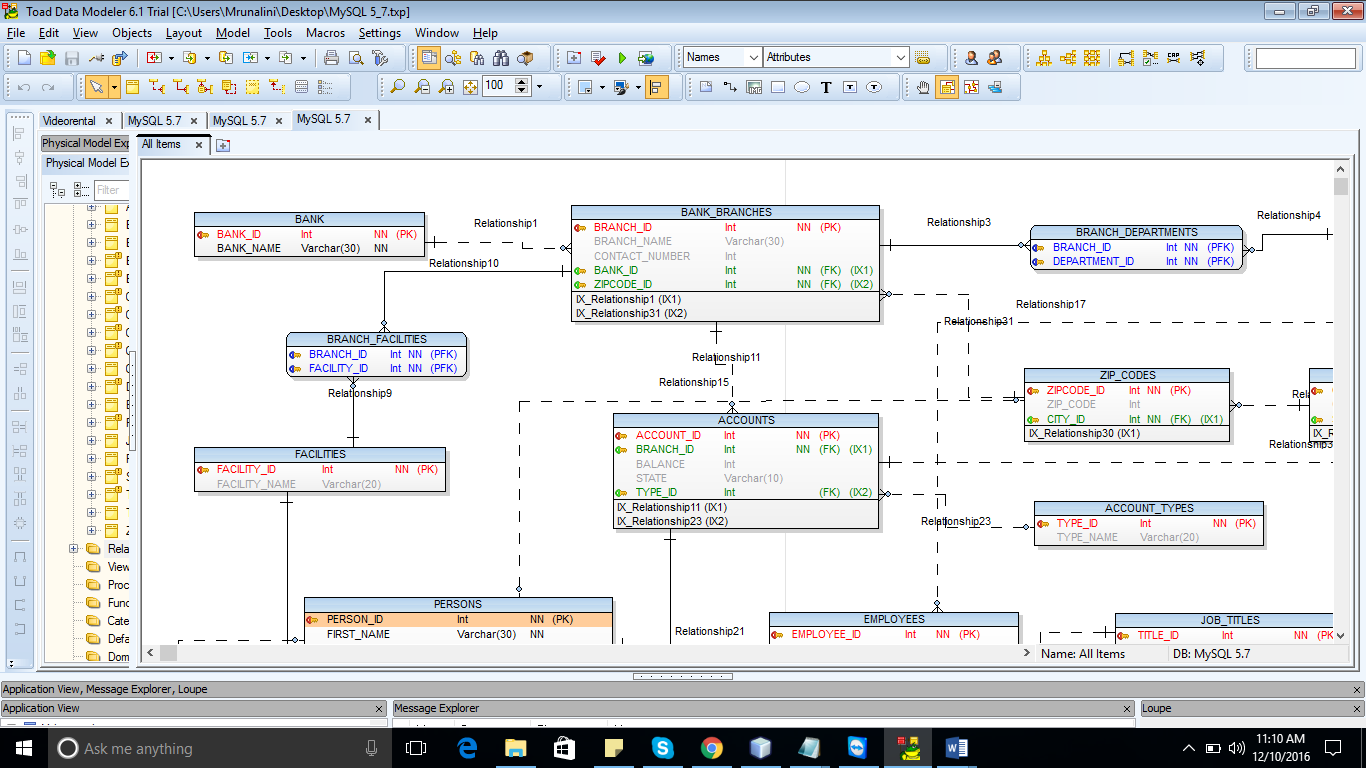
**ER Diagram (After Normalization)**

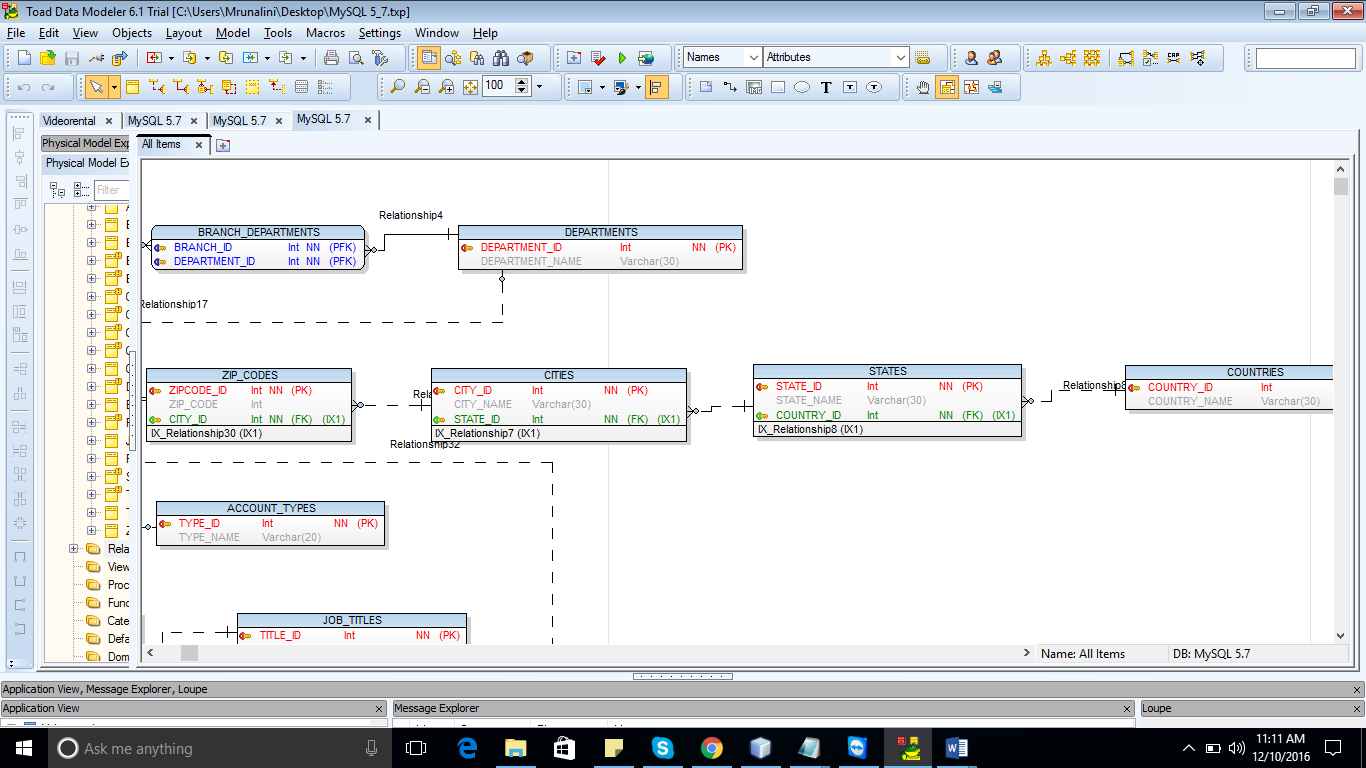
In Employees table, Title\_Type\_Name is dependent on Titile\_Type\_ID. Hence, removing transitive dependency, create a separate table with Title\_Type\_Name and Titile\_Type\_ID.

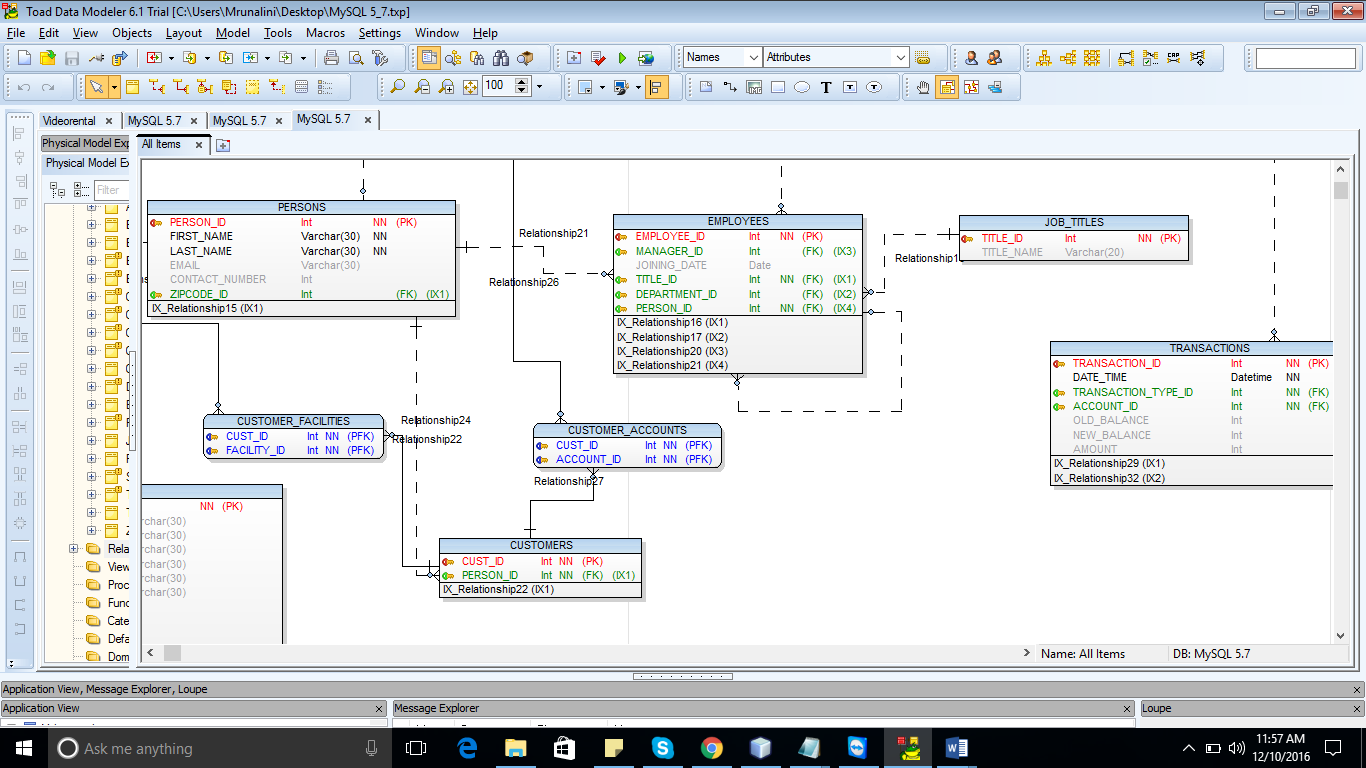
In Table Accounts, Account\_Type\_Name is dependent on Account\_Type\_ID. Hence, removing transitive dependency, create a separate table with Account\_Type\_ID and Account\_Type\_Name.

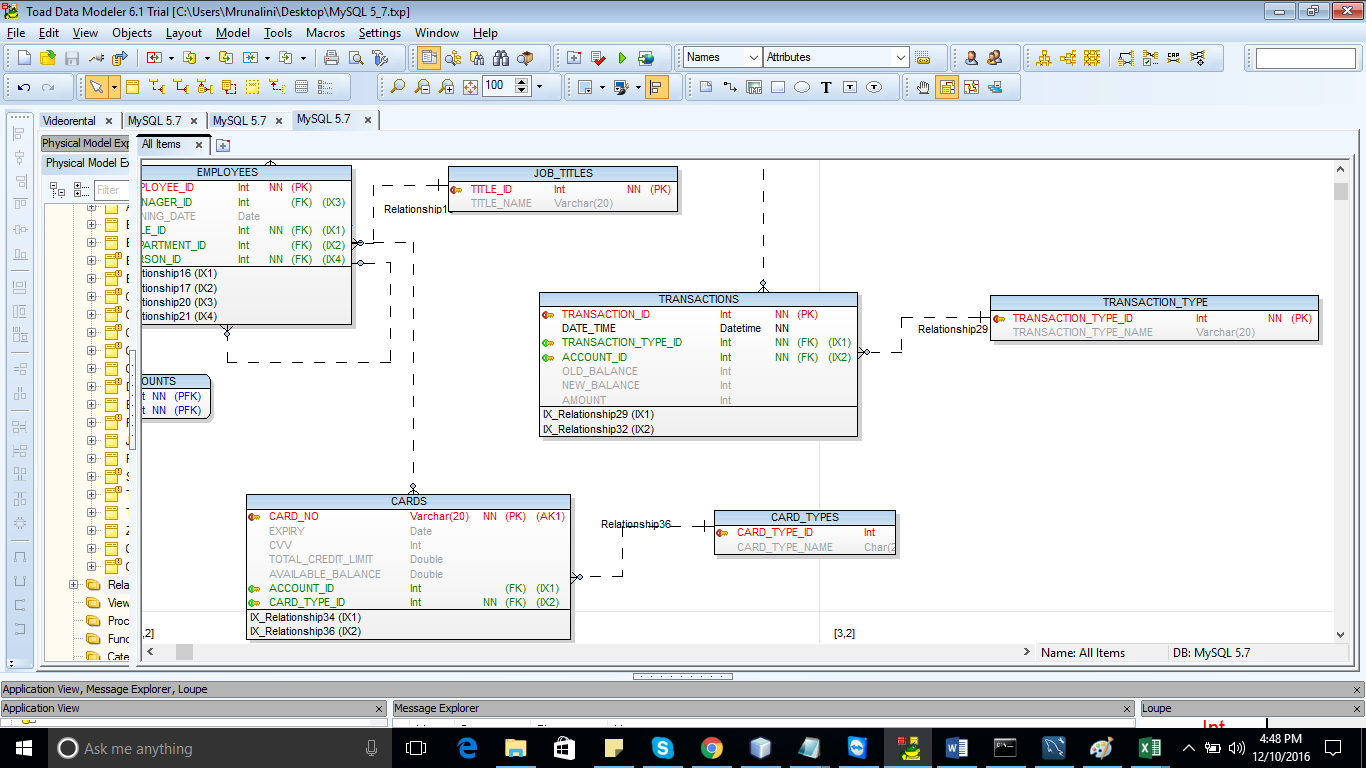
In tables where there is many to many relations, a separate bridge table is created making both the keys together as primary key.

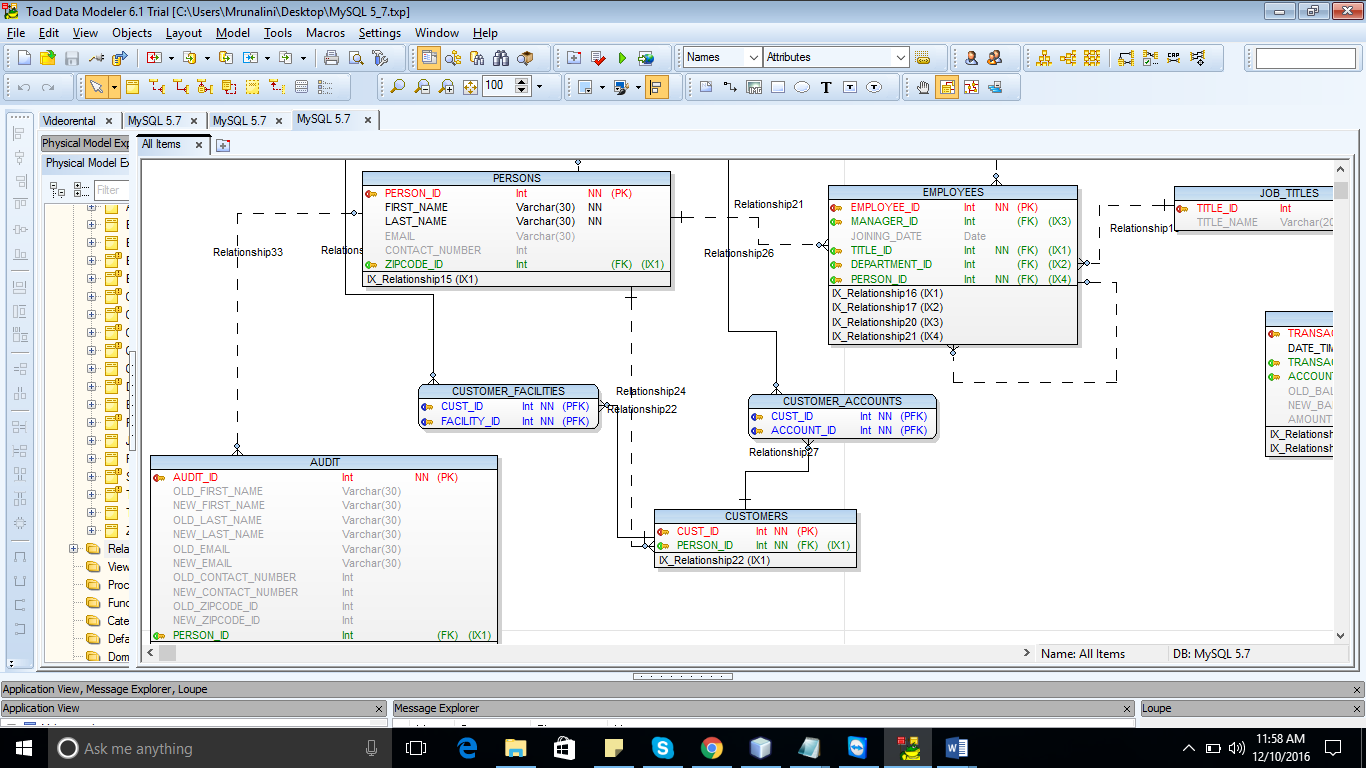












1. **Show the fund transfer from one account to another.**

**Stored Procedure for Fund Transfer**

DELIMITER $$

CREATE DEFINER=`root`@`localhost` PROCEDURE `FundTransfer`(FromAccountID INT, ToAccountID INT, Amount INT)

BEGIN

UPDATE accounts set BALANCE = BALANCE - Amount

WHERE ACCOUNT\_ID = FromAccountID;

UPDATE accounts set BALANCE = BALANCE + Amount

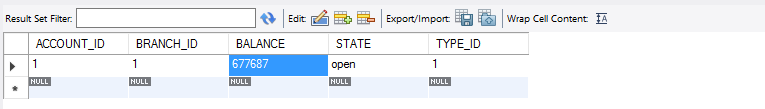
WHERE ACCOUNT\_ID = ToAccountID;

END

**Before:**

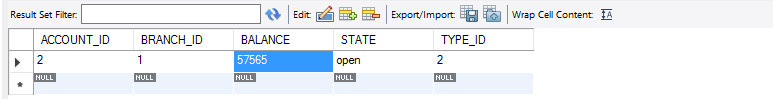
select \* from accounts

WHERE Account\_ID = 1;



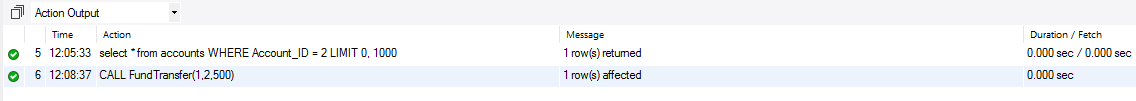
select \* from accounts

WHERE Account\_ID = 2;



**After the Stored procedure is called**

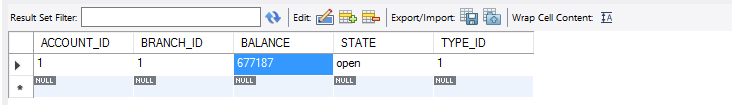
CALL FundTransfer(1,2,500);



500 transferred from ACCOUNT\_ID = 1 to ACCOUNT\_ID = 2.

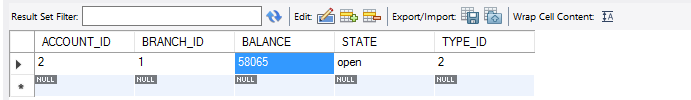
select \* from accounts

WHERE Account\_ID = 1;



select \* from accounts

WHERE Account\_ID = 2;



1. **Show Withdraw from an account.**

**Stored Procedure for Withdraw**

DELIMITER $$

CREATE DEFINER=`root`@`localhost` PROCEDURE `withdraw`(AccountId INT, Amount INT)

BEGIN

DECLARE balcanceamount INT;

SELECT BALANCE INTO balcanceamount FROM accounts

WHERE ACCOUNT\_ID = AccountId;

IF balcanceamount > Amount THEN

UPDATE accounts SET BALANCE = BALANCE - Amount

WHERE ACCOUNT\_ID = AccountId;

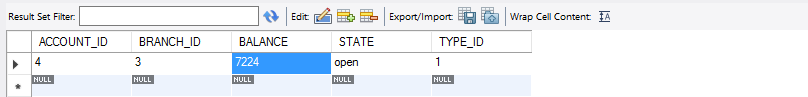
END IF;

END

**Before the stored procedure is called:**

select \* from accounts

WHERE Account\_ID = 4;



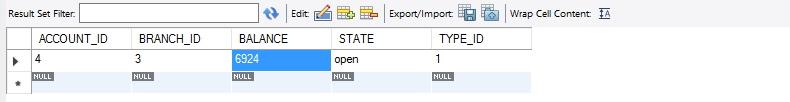
**After the Stored procedure is called:**

CALL withdraw (4,300);

Amount of 300 got deducted from ACCOUNT\_ID = 4.

select \* from accounts

WHERE Account\_ID = 4;



1. **Show the procedure to deposit amount into an account.**

**Stored Procedure to Deposit**

DELIMITER $$

CREATE DEFINER=`root`@`localhost` PROCEDURE `deposit`(AccountId INT, Amount INT)

BEGIN

UPDATE accounts SET BALANCE = BALANCE + Amount

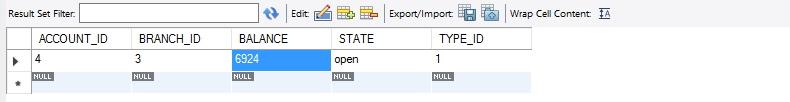
WHERE ACCOUNT\_ID = AccountId;

END

**Before calling the stored procedure:**

select \* from accounts

WHERE Account\_ID = 4;



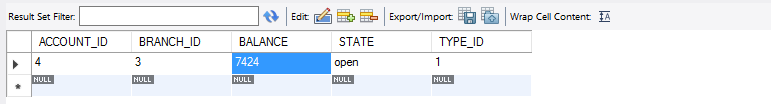
**After calling the stored procedure:**

CALL deposit (4,500);

Amount of 500 is deposited into the account with ACCOUNT\_ID = 4.

select \* from accounts

WHERE Account\_ID = 4;



1. **Show how the transaction table is maintained.**

Whenever there is any update in the balance of accounts table, there should be an entry in the transaction table to show all the details of the action taken place along with the timestamp.

**TRIGGER to update transaction table**

DELIMITER |

CREATE trigger tr\_insert\_transaction

AFTER UPDATE ON accounts

FOR EACH row

BEGIN

DECLARE TYPE\_ID INT;

DECLARE AMOUNT INT;

IF OLD.BALANCE > NEW.BALANCE THEN

SET TYPE\_ID = 2;

SET AMOUNT = OLD.BALANCE - NEW.BALANCE;

ELSE

SET TYPE\_ID = 1;

SET AMOUNT = NEW.BALANCE - OLD.BALANCE;

END IF;

INSERT INTO transactions

(

DATE\_TIME,

Transaction\_Type\_ID,

Account\_ID,

AMOUNT,

OLD\_BALANCE,

NEW\_BALANCE)

VALUES (

CURRENT\_TIMESTAMP (),

TYPE\_ID,

OLD.Account\_ID,

AMOUNT,

OLD.Balance,

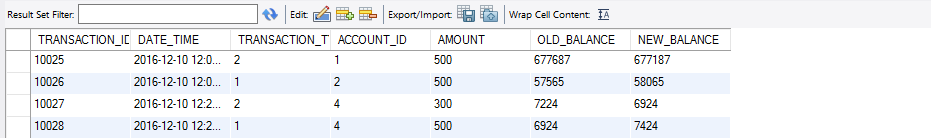
NEW.Balance);

END;

|

After the above 3 stored procedures are called, each time there is an entry in the transaction table with TRNSACTION\_ID autoincremented.

(Note: During Fund Transfer, there is withdraw from account and deposit in one account. Hence two transaction entries are created.)



1. **Show the procedure when a card (Debit/Credit) is swiped**.

When a debit card is swiped, balance from the account associated with the debit card is deducted. Transaction is maintained in the transaction table.

When a credit card is swiped, balance from the credit card limit is deducted.

**Stored Procedure:**

DELIMITER $$

CREATE DEFINER=`root`@`localhost` PROCEDURE `card\_swipe`(cardNo Varchar(20), Amount INT )

BEGIN

DECLARE CARD\_TYPE INT;

DECLARE ACC\_ID INT;

SELECT ACCOUNT\_ID, CARD\_TYPE\_ID

INTO ACC\_ID , CARD\_TYPE

FROM CARDS

WHERE CARD\_NO = cardNo;

IF CARD\_TYPE = 1 THEN

UPDATE ACCOUNTS

SET BALANCE = BALANCE - Amount

WHERE ACCOUNT\_ID = ACC\_ID;

ELSE

UPDATE CARDS

SET AVAILABLE\_BALANCE = AVAILABLE\_BALANCE - Amount

WHERE CARD\_NO = cardNo;

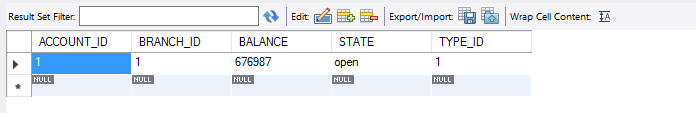
END IF;

END

**Before calling stored procedure:**

select \* from accounts

WHERE account\_id = 1;

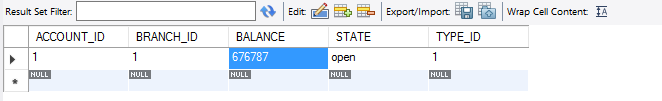


When a debit card is swiped:

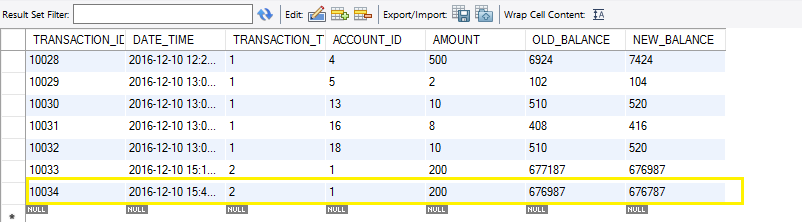
CALL card\_swipe(3099383746,200);

select \* from accounts

WHERE account\_id = 1;



SELECT \* from transactions;

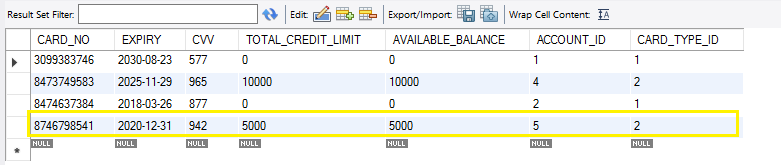


When a credit card is swiped,

CALL card\_swipe(8746798541,200);

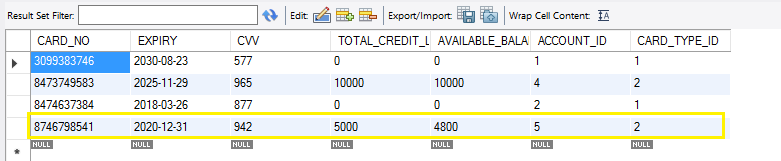
**Before:**

Select \* from cards;



**After:**

Available balance is updated.



1. **Show the procedure to make the payment to the credit card.**

**Stored Procedure:**

DELIMITER $$

CREATE DEFINER=`root`@`localhost` PROCEDURE `credit\_payment`(cardNo Varchar(20), Amount INT)

BEGIN

DECLARE CARD\_TYPE INT;

DECLARE ACC\_ID INT;

SELECT ACCOUNT\_ID, CARD\_TYPE\_ID

INTO ACC\_ID , CARD\_TYPE

FROM CARDS

WHERE CARD\_NO = cardNo;

IF CARD\_TYPE = 2 THEN

UPDATE CARDS

SET AVAILABLE\_BALANCE = AVAILABLE\_BALANCE + Amount

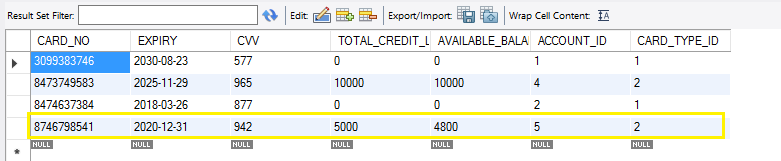
WHERE CARD\_NO = cardNo;

END IF;

END

**Before calling the stored procedure**:

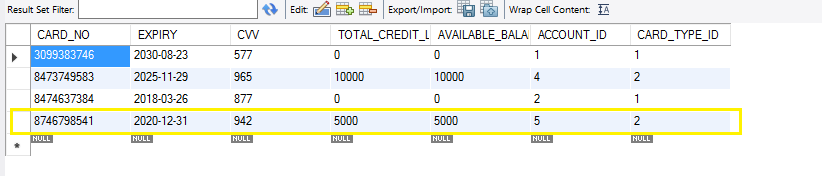
Select \* from cards;



**After calling the stored procedure:**

CALL credit\_payment(8746798541,200);

Select \* from cards;

****

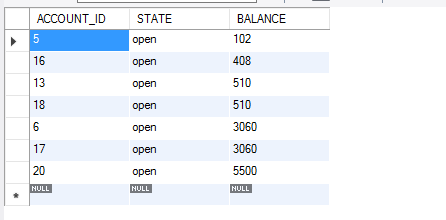
1. **Find bank accounts which are in open state and have balance under 1000$**

select ACCOUNT\_ID, STATE, BALANCE from accounts

WHERE STATE = 'open'

and BALANCE < 6000

ORDER BY BALANCE;



1. **Find the average balance of all the accounts at any branch.**

A stored procedure is created which takes an input Branch\_ID and finds the average balance of all accounts at that branch.

**Stored Procedure**

DELIMITER $$

CREATE DEFINER=`root`@`localhost` PROCEDURE `avg\_balance\_of\_all\_accounts`(branchID INT)

BEGIN

SELECT b.branch\_Name, avg(Balance) AS 'Average of Balance'

FROM accounts a

INNER JOIN bank\_branches b

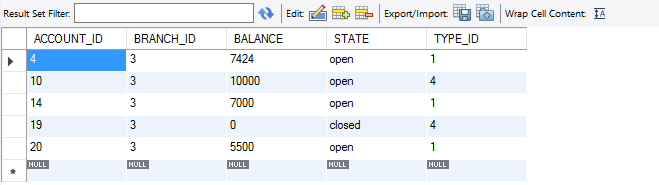
ON a.branch\_ID = b.branch\_ID

AND a.branch\_ID = branchID;

END

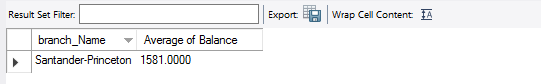
select \* from accounts

WHERE Branch\_ID = 3;



**After calling the Stored Procedure:**

CALL avg\_balance\_of\_all\_accounts(4);



1. **Find all the branches which offer loan.**

SELECT DISTINCT c.Branch\_Name AS Branch\_Name

FROM accounts a

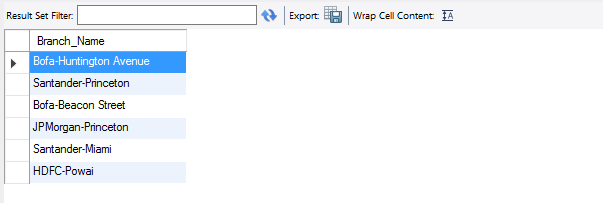
INNER JOIN account\_types b

ON a.Type\_ID = b.Type\_ID

inner JOIN bank\_branches c

ON a.BRANCH\_ID = c.Branch\_ID

WHERE b.Type\_ID = 3;



1. **Find the number of customers with more than one loan.**

SELECT a.Cust\_ID, COUNT(\*) AS number\_of\_loans

from customer\_accounts a

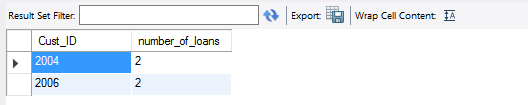
INNER JOIN accounts c

ON a.Account\_ID = c.Account\_ID

WHERE c.Type\_ID = 3

GROUP BY Cust\_ID

HAVING count (\*) > 1;



1. **Find the number of accounts in each branch of all the banks.**

SELECT c.bank\_name, b.branch\_name, a.Branch\_ID, count(\*) AS NumberOfAccounts

FROM ACCOUNTS a

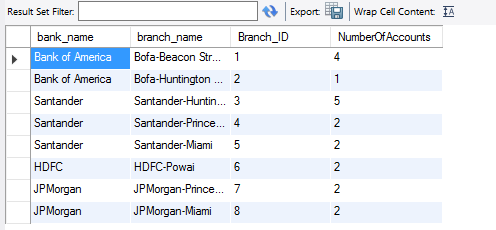
inner JOIN bank\_branches b

ON a.Branch\_ID = b.Branch\_ID

INNER JOIN bank c

ON b.Bank\_ID = c.Bank\_ID

GROUP BY Branch\_ID;



1. **Find the transactions of all the customers in a certain time period.**

A View is created and data is selected from it.

CREATE **VIEW** TransactionsBetweenGivenDates AS

SELECT c.Cust\_ID, p.First\_Name AS 'Customer Name' , t.Transaction\_ID, tt.transaction\_Type\_Name,t.ACCOUNT\_ID , t.AMOUNT, t.Date\_Time

FROM transactions t

INNER JOIN transaction\_type tt

ON t.Transaction\_Type\_ID = tt.Transaction\_Type\_ID

INNER JOIN customer\_accounts c

ON t.account\_ID = c.account\_ID

INNER JOIN customers cu

ON c.Cust\_ID = cu.Cust\_ID

INNER JOIN persons p

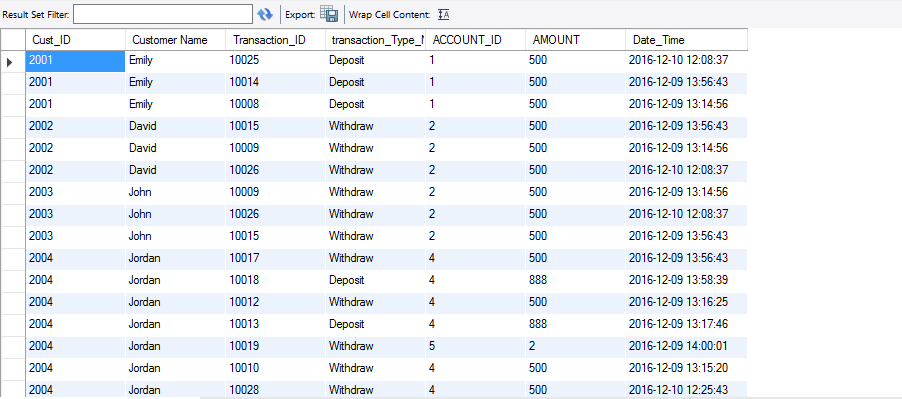
ON cu.Person\_ID = p.Person\_ID

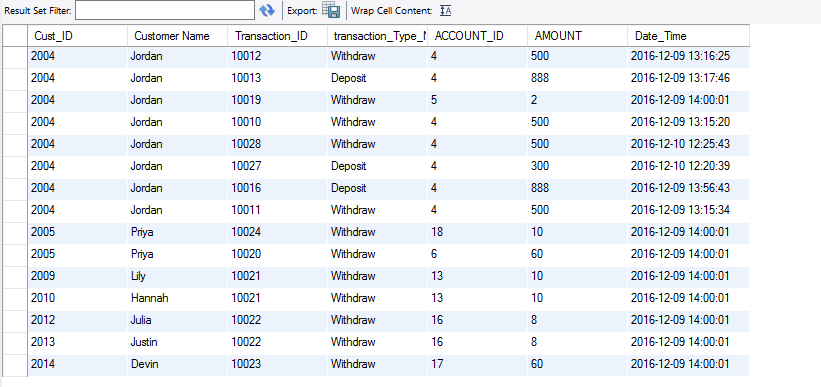
ORDER BY Cust\_ID;

To find the transactions between the given dates:

SELECT \* FROM TransactionsBetweenGivenDates

WHERE DATE\_TIME between '2016-12-09 00:00:00' AND '2016-12-10 00:00:00';





1. **Find the top banks based on the number of accounts.**

**CREATE VIEW** TopBanks AS

SELECT c.bank\_name, b.branch\_name, a.Branch\_ID, count(\*) AS NumberOfAccounts

FROM ACCOUNTS a

inner JOIN bank\_branches b

ON a.Branch\_ID = b.Branch\_ID

INNER JOIN bank c

ON b.Bank\_ID = c.Bank\_ID

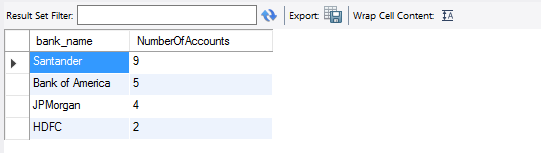
GROUP BY Branch\_ID;

SELECT bank\_name, SUM(NumberOfAccounts) AS NumberOfAccounts

FROM TopBanks

GROUP BY bank\_name

ORDER BY NumberOfAccounts DESC;



1. **Find the departments of all the employees.**

SELECT p.First\_Name AS 'Employee Name', e.employee\_ID, d.department\_name

FROM employees e

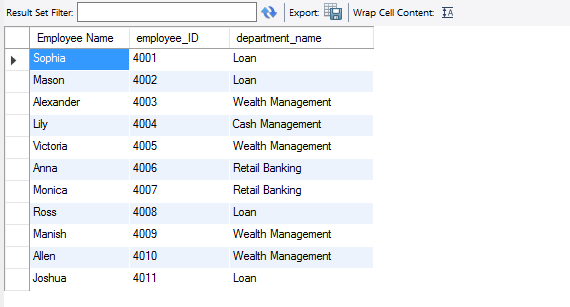
INNER JOIN departments d

ON e.department\_ID = d.department\_ID

INNER JOIN persons p

ON e.Person\_ID = p.Person\_ID

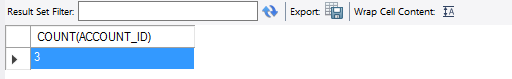
ORDER BY employee\_ID;



1. **Find the number of accounts having balance greater than average balance of all the accounts**.

SELECT COUNT(ACCOUNT\_ID) FROM accounts

WHERE BALANCE >= (SELECT avg(Balance) FROM accounts);



1. **Find the largest total account balance of any branch.**

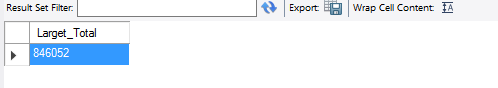
SELECT MAX(Total\_Balance) AS Larget\_Total

FROM (SELECT Branch\_ID, SUM(BALANCE) AS Total\_Balance

FROM accounts

GROUP BY Branch\_ID)

AS totals



1. **Maintain the audit table for any change in the information of customers or employees of the bank.**

DELIMITER |

CREATE trigger tr\_insert\_audit

AFTER UPDATE ON persons

FOR EACH row

BEGIN

INSERT INTO audit

(

PERSON\_ID,

DATE\_TIME,

OLD\_FIRST\_NAME,

NEW\_FIRST\_NAME,

OLD\_LAST\_NAME,

NEW\_LAST\_NAME,

OLD\_EMAIL,

NEW\_EMAIL,

OLD\_CONTACT\_NUMBER,

NEW\_CONTACT\_NUMBER,

OLD\_ZIPCODE\_ID,

NEW\_ZIPCODE\_ID

)

VALUES (

OLD.PERSON\_ID,

CURRENT\_TIMESTAMP(),

OLD.FIRST\_NAME,

NEW.FIRST\_NAME,

OLD.LAST\_NAME,

NEW.LAST\_NAME,

OLD.EMAIL,

NEW.EMAIL,

OLD.CONTACT\_NUMBER,

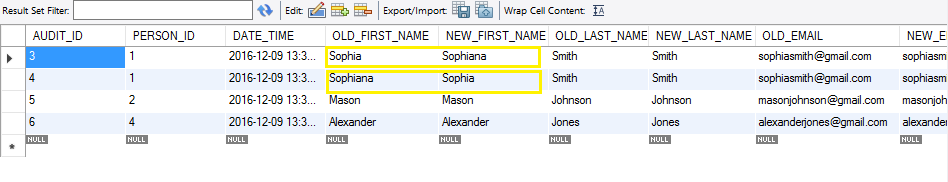
NEW.CONTACT\_NUMBER,

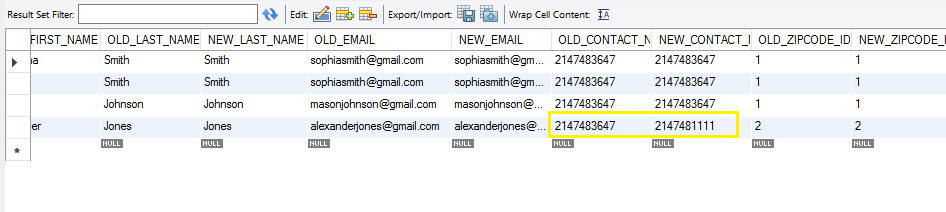
OLD.ZIPCODE\_ID,

NEW.ZIPCODE\_ID);

END;

|





1. **Add 2% interest to all the bank account balances with a balance of 3000$ or less.**

UPDATE accounts

SET BALANCE = BALANCE\*1.02

WHERE balance <= 3000

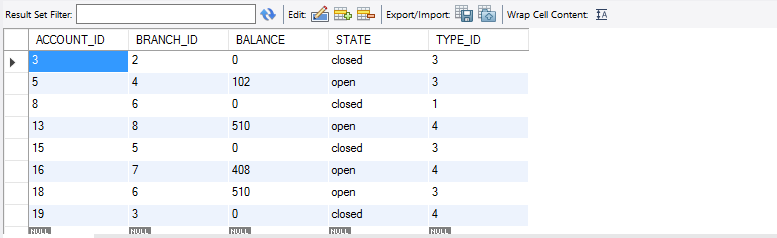
AND state = 'open'

AND ACCOUNT\_ID > 0;

**Before:**

SELECT \* FROM accounts

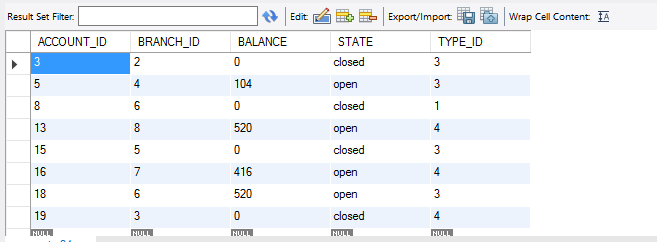
WHERE Balance < 3000;



After:

SELECT \* FROM accounts

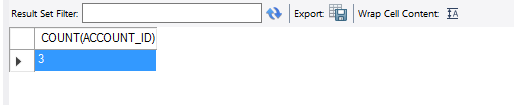
WHERE Balance < 3000;



1. **Find the number of customers having joint accounts.**

SELECT COUNT(ACCOUNT\_ID) - COUNT(DISTINCT(ACCOUNT\_ID))

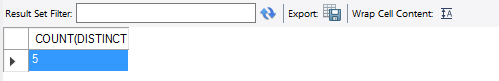
FROM customer\_accounts;



1. **Find the number of employees who are managers of some other employees**.

SELECT COUNT(DISTINCT(MANAGER\_ID))

from employees;



**APPENDIX**

CREATE DATABASE IF NOT EXISTS `bank` /\*!40100 DEFAULT CHARACTER SET latin1 \*/;

USE `bank`;

-- MySQL dump 10.13 Distrib 5.6.13, for Win32 (x86)

--

-- Host: 127.0.0.1 Database: bank

-- ------------------------------------------------------

-- Server version 5.6.33

/\*!40101 SET @OLD\_CHARACTER\_SET\_CLIENT=@@CHARACTER\_SET\_CLIENT \*/;

/\*!40101 SET @OLD\_CHARACTER\_SET\_RESULTS=@@CHARACTER\_SET\_RESULTS \*/;

/\*!40101 SET @OLD\_COLLATION\_CONNECTION=@@COLLATION\_CONNECTION \*/;

/\*!40101 SET NAMES utf8 \*/;

/\*!40103 SET @OLD\_TIME\_ZONE=@@TIME\_ZONE \*/;

/\*!40103 SET TIME\_ZONE='+00:00' \*/;

/\*!40014 SET @OLD\_UNIQUE\_CHECKS=@@UNIQUE\_CHECKS, UNIQUE\_CHECKS=0 \*/;

/\*!40014 SET @OLD\_FOREIGN\_KEY\_CHECKS=@@FOREIGN\_KEY\_CHECKS, FOREIGN\_KEY\_CHECKS=0 \*/;

/\*!40101 SET @OLD\_SQL\_MODE=@@SQL\_MODE, SQL\_MODE='NO\_AUTO\_VALUE\_ON\_ZERO' \*/;

/\*!40111 SET @OLD\_SQL\_NOTES=@@SQL\_NOTES, SQL\_NOTES=0 \*/;

--

-- Table structure for table `account\_types`

--

DROP TABLE IF EXISTS `account\_types`;

/\*!40101 SET @saved\_cs\_client = @@character\_set\_client \*/;

/\*!40101 SET character\_set\_client = utf8 \*/;

CREATE TABLE `account\_types` (

`TYPE\_ID` int(11) NOT NULL,

`TYPE\_NAME` varchar(20) DEFAULT NULL,

PRIMARY KEY (`TYPE\_ID`)

) ENGINE=InnoDB DEFAULT CHARSET=latin1;

/\*!40101 SET character\_set\_client = @saved\_cs\_client \*/;

--

-- Dumping data for table `account\_types`

--

LOCK TABLES `account\_types` WRITE;

/\*!40000 ALTER TABLE `account\_types` DISABLE KEYS \*/;

INSERT INTO `account\_types` VALUES (1,'Savings'),(2,'Checking'),(3,'Loan'),(4,'Fixed deposits'),(5,'Recurring Deposits');

/\*!40000 ALTER TABLE `account\_types` ENABLE KEYS \*/;

UNLOCK TABLES;

--

-- Table structure for table `accounts`

--

DROP TABLE IF EXISTS `accounts`;

/\*!40101 SET @saved\_cs\_client = @@character\_set\_client \*/;

/\*!40101 SET character\_set\_client = utf8 \*/;

CREATE TABLE `accounts` (

`ACCOUNT\_ID` int(11) NOT NULL,

`BRANCH\_ID` int(11) NOT NULL,

`BALANCE` int(11) DEFAULT NULL,

`STATE` varchar(10) DEFAULT NULL,

`TYPE\_ID` int(11) DEFAULT NULL,

PRIMARY KEY (`ACCOUNT\_ID`),

KEY `IX\_Relationship11` (`BRANCH\_ID`),

KEY `IX\_Relationship23` (`TYPE\_ID`),

CONSTRAINT `Relationship11` FOREIGN KEY (`BRANCH\_ID`) REFERENCES `bank\_branches` (`BRANCH\_ID`),

CONSTRAINT `Relationship23` FOREIGN KEY (`TYPE\_ID`) REFERENCES `account\_types` (`TYPE\_ID`)

) ENGINE=InnoDB DEFAULT CHARSET=latin1;

/\*!40101 SET character\_set\_client = @saved\_cs\_client \*/;

--

-- Dumping data for table `accounts`

--

LOCK TABLES `accounts` WRITE;

/\*!40000 ALTER TABLE `accounts` DISABLE KEYS \*/;

INSERT INTO `accounts` VALUES (1,1,676787,'open',1),(2,1,58065,'open',2),(3,2,0,'closed',3),(4,3,7424,'open',1),(5,4,104,'open',3),(6,4,3060,'open',2),(7,5,8999,'open',1),(8,6,0,'closed',1),(9,1,10800,'open',3),(10,3,10000,'open',4),(11,1,100000,'open',3),(12,7,8000,'open',3),(13,8,520,'open',4),(14,3,7000,'open',1),(15,5,0,'closed',3),(16,7,416,'open',4),(17,8,3060,'open',2),(18,6,520,'open',3),(19,3,0,'closed',4),(20,3,5500,'open',1);

/\*!40000 ALTER TABLE `accounts` ENABLE KEYS \*/;

UNLOCK TABLES;

/\*!50003 SET @saved\_cs\_client = @@character\_set\_client \*/ ;

/\*!50003 SET @saved\_cs\_results = @@character\_set\_results \*/ ;

/\*!50003 SET @saved\_col\_connection = @@collation\_connection \*/ ;

/\*!50003 SET character\_set\_client = utf8 \*/ ;

/\*!50003 SET character\_set\_results = utf8 \*/ ;

/\*!50003 SET collation\_connection = utf8\_general\_ci \*/ ;

/\*!50003 SET @saved\_sql\_mode = @@sql\_mode \*/ ;

/\*!50003 SET sql\_mode = 'NO\_ENGINE\_SUBSTITUTION' \*/ ;

DELIMITER ;;

/\*!50003 CREATE\*/ /\*!50017 DEFINER=`root`@`localhost`\*/ /\*!50003 trigger tr\_insert\_transaction

AFTER UPDATE ON accounts

FOR EACH row

BEGIN

DECLARE TYPE\_ID INT;

DECLARE AMOUNT INT;

IF OLD.BALANCE > NEW.BALANCE THEN

SET TYPE\_ID = 2;

SET AMOUNT = OLD.BALANCE - NEW.BALANCE;

ELSE

SET TYPE\_ID = 1;

SET AMOUNT = NEW.BALANCE - OLD.BALANCE;

END IF;

INSERT INTO transactions

(

DATE\_TIME,

Transaction\_Type\_ID,

Account\_ID,

AMOUNT,

OLD\_BALANCE,

NEW\_BALANCE)

VALUES (

CURRENT\_TIMESTAMP(),

TYPE\_ID,

OLD.Account\_ID,

AMOUNT,

OLD.Balance,

NEW.Balance);

END \*/;;

DELIMITER ;

/\*!50003 SET sql\_mode = @saved\_sql\_mode \*/ ;

/\*!50003 SET character\_set\_client = @saved\_cs\_client \*/ ;

/\*!50003 SET character\_set\_results = @saved\_cs\_results \*/ ;

/\*!50003 SET collation\_connection = @saved\_col\_connection \*/ ;

--

-- Table structure for table `audit`

--

DROP TABLE IF EXISTS `audit`;

/\*!40101 SET @saved\_cs\_client = @@character\_set\_client \*/;

/\*!40101 SET character\_set\_client = utf8 \*/;

CREATE TABLE `audit` (

`AUDIT\_ID` int(11) NOT NULL AUTO\_INCREMENT,

`PERSON\_ID` int(11) NOT NULL,

`DATE\_TIME` datetime DEFAULT NULL,

`OLD\_FIRST\_NAME` varchar(30) NOT NULL,

`NEW\_FIRST\_NAME` varchar(30) NOT NULL,

`OLD\_LAST\_NAME` varchar(30) NOT NULL,

`NEW\_LAST\_NAME` varchar(30) NOT NULL,

`OLD\_EMAIL` varchar(30) DEFAULT NULL,

`NEW\_EMAIL` varchar(30) DEFAULT NULL,

`OLD\_CONTACT\_NUMBER` int(11) DEFAULT NULL,

`NEW\_CONTACT\_NUMBER` int(11) DEFAULT NULL,

`OLD\_ZIPCODE\_ID` int(11) DEFAULT NULL,

`NEW\_ZIPCODE\_ID` int(11) DEFAULT NULL,

PRIMARY KEY (`AUDIT\_ID`),

KEY `PERSON\_ID` (`PERSON\_ID`),

CONSTRAINT `audit\_ibfk\_1` FOREIGN KEY (`PERSON\_ID`) REFERENCES `persons` (`PERSON\_ID`)

) ENGINE=InnoDB AUTO\_INCREMENT=7 DEFAULT CHARSET=latin1;

/\*!40101 SET character\_set\_client = @saved\_cs\_client \*/;

--

-- Dumping data for table `audit`

--

LOCK TABLES `audit` WRITE;

/\*!40000 ALTER TABLE `audit` DISABLE KEYS \*/;

INSERT INTO `audit` VALUES (3,1,'2016-12-09 13:31:15','Sophia','Sophiana','Smith','Smith','sophiasmith@gmail.com','sophiasmith@gmail.com',2147483647,2147483647,1,1),(4,1,'2016-12-09 13:31:45','Sophiana','Sophia','Smith','Smith','sophiasmith@gmail.com','sophiasmith@gmail.com',2147483647,2147483647,1,1),(5,2,'2016-12-09 13:31:45','Mason','Mason','Johnson','Johnson','masonjohnson@gmail.com','masonjohnson@gmail.com',2147483647,2147483647,1,1),(6,4,'2016-12-09 13:34:04','Alexander','Alexander','Jones','Jones','alexanderjones@gmail.com','alexanderjones@gmail.com',2147483647,2147481111,2,2);

/\*!40000 ALTER TABLE `audit` ENABLE KEYS \*/;

UNLOCK TABLES;

--

-- Table structure for table `bank`

--

DROP TABLE IF EXISTS `bank`;

/\*!40101 SET @saved\_cs\_client = @@character\_set\_client \*/;

/\*!40101 SET character\_set\_client = utf8 \*/;

CREATE TABLE `bank` (

`BANK\_ID` int(11) NOT NULL,

`BANK\_NAME` varchar(30) NOT NULL,

PRIMARY KEY (`BANK\_ID`)

) ENGINE=InnoDB DEFAULT CHARSET=latin1;

/\*!40101 SET character\_set\_client = @saved\_cs\_client \*/;

--

-- Dumping data for table `bank`

--

LOCK TABLES `bank` WRITE;

/\*!40000 ALTER TABLE `bank` DISABLE KEYS \*/;

INSERT INTO `bank` VALUES (1,'Bank of America'),(2,'Santander'),(3,'HDFC'),(4,'JPMorgan');

/\*!40000 ALTER TABLE `bank` ENABLE KEYS \*/;

UNLOCK TABLES;

--

-- Table structure for table `bank\_branches`

--

DROP TABLE IF EXISTS `bank\_branches`;

/\*!40101 SET @saved\_cs\_client = @@character\_set\_client \*/;

/\*!40101 SET character\_set\_client = utf8 \*/;

CREATE TABLE `bank\_branches` (

`BRANCH\_ID` int(11) NOT NULL,

`BRANCH\_NAME` varchar(30) DEFAULT NULL,

`CONTACT\_NUMBER` int(11) DEFAULT NULL,

`BANK\_ID` int(11) NOT NULL,

`ZIPCODE\_ID` int(11) NOT NULL,

PRIMARY KEY (`BRANCH\_ID`),

KEY `IX\_Relationship1` (`BANK\_ID`),

KEY `IX\_Relationship31` (`ZIPCODE\_ID`),

CONSTRAINT `Relationship1` FOREIGN KEY (`BANK\_ID`) REFERENCES `bank` (`BANK\_ID`),

CONSTRAINT `Relationship31` FOREIGN KEY (`ZIPCODE\_ID`) REFERENCES `zip\_codes` (`ZIPCODE\_ID`)

) ENGINE=InnoDB DEFAULT CHARSET=latin1;

/\*!40101 SET character\_set\_client = @saved\_cs\_client \*/;

--

-- Dumping data for table `bank\_branches`

--

LOCK TABLES `bank\_branches` WRITE;

/\*!40000 ALTER TABLE `bank\_branches` DISABLE KEYS \*/;

INSERT INTO `bank\_branches` VALUES (1,'Bofa-Beacon Street',2147483647,1,1),(2,'Bofa-Huntington Avenue',2147483647,1,2),(3,'Santander-Huntington Avenue',2147483647,2,2),(4,'Santander-Princeton',2147483647,2,3),(5,'Santander-Miami',2147483647,2,4),(6,'HDFC-Powai',2147483647,3,5),(7,'JPMorgan-Princeton',2147483647,4,3),(8,'JPMorgan-Miami',2147483647,4,4);

/\*!40000 ALTER TABLE `bank\_branches` ENABLE KEYS \*/;

UNLOCK TABLES;

--

-- Table structure for table `branch\_departments`

--

DROP TABLE IF EXISTS `branch\_departments`;

/\*!40101 SET @saved\_cs\_client = @@character\_set\_client \*/;

/\*!40101 SET character\_set\_client = utf8 \*/;

CREATE TABLE `branch\_departments` (

`BRANCH\_ID` int(11) NOT NULL,

`DEPARTMENT\_ID` int(11) NOT NULL,

PRIMARY KEY (`BRANCH\_ID`,`DEPARTMENT\_ID`),

KEY `Relationship4` (`DEPARTMENT\_ID`),

CONSTRAINT `Relationship3` FOREIGN KEY (`BRANCH\_ID`) REFERENCES `bank\_branches` (`BRANCH\_ID`),

CONSTRAINT `Relationship4` FOREIGN KEY (`DEPARTMENT\_ID`) REFERENCES `departments` (`DEPARTMENT\_ID`)

) ENGINE=InnoDB DEFAULT CHARSET=latin1;

/\*!40101 SET character\_set\_client = @saved\_cs\_client \*/;

--

-- Dumping data for table `branch\_departments`

--

LOCK TABLES `branch\_departments` WRITE;

/\*!40000 ALTER TABLE `branch\_departments` DISABLE KEYS \*/;

INSERT INTO `branch\_departments` VALUES (1,1),(3,1),(5,1),(7,1),(8,1),(1,2),(3,2),(4,2),(6,2),(8,2),(2,3),(3,3),(6,3),(7,3),(8,3),(2,4),(3,4),(4,4),(5,4),(6,4),(7,4),(8,4),(1,5),(2,5),(3,5),(5,5),(8,5);

/\*!40000 ALTER TABLE `branch\_departments` ENABLE KEYS \*/;

UNLOCK TABLES;

--

-- Table structure for table `branch\_facilities`

--

DROP TABLE IF EXISTS `branch\_facilities`;

/\*!40101 SET @saved\_cs\_client = @@character\_set\_client \*/;

/\*!40101 SET character\_set\_client = utf8 \*/;

CREATE TABLE `branch\_facilities` (

`BRANCH\_ID` int(11) NOT NULL,

`FACILITY\_ID` int(11) NOT NULL,

PRIMARY KEY (`BRANCH\_ID`,`FACILITY\_ID`),

KEY `Relationship9` (`FACILITY\_ID`),

CONSTRAINT `Relationship10` FOREIGN KEY (`BRANCH\_ID`) REFERENCES `bank\_branches` (`BRANCH\_ID`),

CONSTRAINT `Relationship9` FOREIGN KEY (`FACILITY\_ID`) REFERENCES `facilities` (`FACILITY\_ID`)

) ENGINE=InnoDB DEFAULT CHARSET=latin1;

/\*!40101 SET character\_set\_client = @saved\_cs\_client \*/;

--

-- Dumping data for table `branch\_facilities`

--

LOCK TABLES `branch\_facilities` WRITE;

/\*!40000 ALTER TABLE `branch\_facilities` DISABLE KEYS \*/;

INSERT INTO `branch\_facilities` VALUES (1,1),(2,1),(5,1),(6,1),(8,1),(1,2),(2,2),(3,2),(4,2),(6,2),(7,2),(1,3),(2,3),(6,3),(7,3),(8,3),(2,4),(4,4),(5,4),(7,4),(2,5),(3,5),(4,5),(6,5),(8,5);

/\*!40000 ALTER TABLE `branch\_facilities` ENABLE KEYS \*/;

UNLOCK TABLES;

--

-- Table structure for table `card\_types`

--

DROP TABLE IF EXISTS `card\_types`;

/\*!40101 SET @saved\_cs\_client = @@character\_set\_client \*/;

/\*!40101 SET character\_set\_client = utf8 \*/;

CREATE TABLE `card\_types` (

`CARD\_TYPE\_ID` int(11) NOT NULL,

`CARD\_TYPE\_NAME` varchar(20) DEFAULT NULL,

PRIMARY KEY (`CARD\_TYPE\_ID`)

) ENGINE=InnoDB DEFAULT CHARSET=latin1;

/\*!40101 SET character\_set\_client = @saved\_cs\_client \*/;

--

-- Dumping data for table `card\_types`

--

LOCK TABLES `card\_types` WRITE;

/\*!40000 ALTER TABLE `card\_types` DISABLE KEYS \*/;

INSERT INTO `card\_types` VALUES (1,'Debit Card'),(2,'Credit Card');

/\*!40000 ALTER TABLE `card\_types` ENABLE KEYS \*/;

UNLOCK TABLES;

--

-- Table structure for table `cards`

--

DROP TABLE IF EXISTS `cards`;

/\*!40101 SET @saved\_cs\_client = @@character\_set\_client \*/;

/\*!40101 SET character\_set\_client = utf8 \*/;

CREATE TABLE `cards` (

`CARD\_NO` varchar(20) NOT NULL,

`EXPIRY` date NOT NULL,

`CVV` int(11) NOT NULL,

`TOTAL\_CREDIT\_LIMIT` double DEFAULT NULL,

`AVAILABLE\_BALANCE` double DEFAULT NULL,

`ACCOUNT\_ID` int(11) NOT NULL,

`CARD\_TYPE\_ID` int(11) NOT NULL,

PRIMARY KEY (`CARD\_NO`),

KEY `ACCOUNT\_ID` (`ACCOUNT\_ID`),

KEY `CARD\_TYPE\_ID` (`CARD\_TYPE\_ID`),

CONSTRAINT `cards\_ibfk\_1` FOREIGN KEY (`ACCOUNT\_ID`) REFERENCES `accounts` (`ACCOUNT\_ID`),

CONSTRAINT `cards\_ibfk\_2` FOREIGN KEY (`CARD\_TYPE\_ID`) REFERENCES `card\_types` (`CARD\_TYPE\_ID`)

) ENGINE=InnoDB DEFAULT CHARSET=latin1;

/\*!40101 SET character\_set\_client = @saved\_cs\_client \*/;

--

-- Dumping data for table `cards`

--

LOCK TABLES `cards` WRITE;

/\*!40000 ALTER TABLE `cards` DISABLE KEYS \*/;

INSERT INTO `cards` VALUES ('3099383746','2030-08-23',577,0,0,1,1),('8473749583','2025-11-29',965,10000,10000,4,2),('8474637384','2018-03-26',877,0,0,2,1),('8746798541','2020-12-31',942,5000,5000,5,2);

/\*!40000 ALTER TABLE `cards` ENABLE KEYS \*/;

UNLOCK TABLES;

--

-- Table structure for table `cities`

--

DROP TABLE IF EXISTS `cities`;

/\*!40101 SET @saved\_cs\_client = @@character\_set\_client \*/;

/\*!40101 SET character\_set\_client = utf8 \*/;

CREATE TABLE `cities` (

`CITY\_ID` int(11) NOT NULL,

`CITY\_NAME` varchar(30) DEFAULT NULL,

`STATE\_ID` int(11) NOT NULL,

PRIMARY KEY (`CITY\_ID`),

KEY `IX\_Relationship7` (`STATE\_ID`),

CONSTRAINT `Relationship7` FOREIGN KEY (`STATE\_ID`) REFERENCES `states` (`STATE\_ID`)

) ENGINE=InnoDB DEFAULT CHARSET=latin1;

/\*!40101 SET character\_set\_client = @saved\_cs\_client \*/;

--

-- Dumping data for table `cities`

--

LOCK TABLES `cities` WRITE;

/\*!40000 ALTER TABLE `cities` DISABLE KEYS \*/;

INSERT INTO `cities` VALUES (1,'Boston',1),(2,'Jersey City',2),(3,'Miami',3),(4,'Mumbai',4);

/\*!40000 ALTER TABLE `cities` ENABLE KEYS \*/;

UNLOCK TABLES;

--

-- Table structure for table `countries`

--

DROP TABLE IF EXISTS `countries`;

/\*!40101 SET @saved\_cs\_client = @@character\_set\_client \*/;

/\*!40101 SET character\_set\_client = utf8 \*/;

CREATE TABLE `countries` (

`COUNTRY\_ID` int(11) NOT NULL,

`COUNTRY\_NAME` varchar(30) DEFAULT NULL,

PRIMARY KEY (`COUNTRY\_ID`)

) ENGINE=InnoDB DEFAULT CHARSET=latin1;

/\*!40101 SET character\_set\_client = @saved\_cs\_client \*/;

--

-- Dumping data for table `countries`

--

LOCK TABLES `countries` WRITE;

/\*!40000 ALTER TABLE `countries` DISABLE KEYS \*/;

INSERT INTO `countries` VALUES (1,'USA'),(2,'India');

/\*!40000 ALTER TABLE `countries` ENABLE KEYS \*/;

UNLOCK TABLES;

--

-- Table structure for table `customer\_accounts`

--

DROP TABLE IF EXISTS `customer\_accounts`;

/\*!40101 SET @saved\_cs\_client = @@character\_set\_client \*/;

/\*!40101 SET character\_set\_client = utf8 \*/;

CREATE TABLE `customer\_accounts` (

`CUST\_ID` int(11) NOT NULL,

`ACCOUNT\_ID` int(11) NOT NULL,

PRIMARY KEY (`CUST\_ID`,`ACCOUNT\_ID`),

KEY `Relationship26` (`ACCOUNT\_ID`),

CONSTRAINT `Relationship26` FOREIGN KEY (`ACCOUNT\_ID`) REFERENCES `accounts` (`ACCOUNT\_ID`),

CONSTRAINT `Relationship27` FOREIGN KEY (`CUST\_ID`) REFERENCES `customers` (`CUST\_ID`)

) ENGINE=InnoDB DEFAULT CHARSET=latin1;

/\*!40101 SET character\_set\_client = @saved\_cs\_client \*/;

--

-- Dumping data for table `customer\_accounts`

--

LOCK TABLES `customer\_accounts` WRITE;

/\*!40000 ALTER TABLE `customer\_accounts` DISABLE KEYS \*/;

INSERT INTO `customer\_accounts` VALUES (2001,1),(2002,2),(2003,2),(2004,3),(2004,4),(2004,5),(2005,6),(2005,7),(2006,9),(2007,10),(2006,11),(2008,12),(2009,13),(2010,13),(2011,14),(2012,15),(2012,16),(2013,16),(2014,17),(2005,18),(2002,19),(2014,20);

/\*!40000 ALTER TABLE `customer\_accounts` ENABLE KEYS \*/;

UNLOCK TABLES;

--

-- Table structure for table `customer\_facilities`

--

DROP TABLE IF EXISTS `customer\_facilities`;

/\*!40101 SET @saved\_cs\_client = @@character\_set\_client \*/;

/\*!40101 SET character\_set\_client = utf8 \*/;

CREATE TABLE `customer\_facilities` (

`CUST\_ID` int(11) NOT NULL,

`FACILITY\_ID` int(11) NOT NULL,

PRIMARY KEY (`CUST\_ID`,`FACILITY\_ID`),

KEY `Relationship25` (`FACILITY\_ID`),

CONSTRAINT `Relationship24` FOREIGN KEY (`CUST\_ID`) REFERENCES `customers` (`CUST\_ID`),

CONSTRAINT `Relationship25` FOREIGN KEY (`FACILITY\_ID`) REFERENCES `facilities` (`FACILITY\_ID`)

) ENGINE=InnoDB DEFAULT CHARSET=latin1;

/\*!40101 SET character\_set\_client = @saved\_cs\_client \*/;

--

-- Dumping data for table `customer\_facilities`

--

LOCK TABLES `customer\_facilities` WRITE;

/\*!40000 ALTER TABLE `customer\_facilities` DISABLE KEYS \*/;

INSERT INTO `customer\_facilities` VALUES (2001,1),(2002,1),(2003,1),(2005,1),(2007,1),(2008,1),(2011,1),(2001,2),(2005,2),(2007,2),(2008,2),(2010,2),(2013,2),(2003,3),(2005,3),(2009,3),(2012,3),(2013,3),(2002,4),(2003,4),(2005,4),(2006,4),(2009,4),(2010,4),(2011,4),(2004,5),(2006,5),(2007,5),(2009,5),(2011,5),(2014,5);

/\*!40000 ALTER TABLE `customer\_facilities` ENABLE KEYS \*/;

UNLOCK TABLES;

--

-- Table structure for table `customers`

--

DROP TABLE IF EXISTS `customers`;

/\*!40101 SET @saved\_cs\_client = @@character\_set\_client \*/;

/\*!40101 SET character\_set\_client = utf8 \*/;

CREATE TABLE `customers` (

`CUST\_ID` int(11) NOT NULL,

`PERSON\_ID` int(11) NOT NULL,

PRIMARY KEY (`CUST\_ID`),

KEY `IX\_Relationship22` (`PERSON\_ID`),

CONSTRAINT `Relationship22` FOREIGN KEY (`PERSON\_ID`) REFERENCES `persons` (`PERSON\_ID`)

) ENGINE=InnoDB DEFAULT CHARSET=latin1;

/\*!40101 SET character\_set\_client = @saved\_cs\_client \*/;

--

-- Dumping data for table `customers`

--

LOCK TABLES `customers` WRITE;

/\*!40000 ALTER TABLE `customers` DISABLE KEYS \*/;

INSERT INTO `customers` VALUES (2001,3),(2002,6),(2003,8),(2004,12),(2005,14),(2006,15),(2007,16),(2008,17),(2009,19),(2010,20),(2011,22),(2012,23),(2013,24),(2014,25);

/\*!40000 ALTER TABLE `customers` ENABLE KEYS \*/;

UNLOCK TABLES;

--

-- Table structure for table `departments`

--

DROP TABLE IF EXISTS `departments`;

/\*!40101 SET @saved\_cs\_client = @@character\_set\_client \*/;

/\*!40101 SET character\_set\_client = utf8 \*/;

CREATE TABLE `departments` (

`DEPARTMENT\_ID` int(11) NOT NULL,

`DEPARTMENT\_NAME` varchar(30) DEFAULT NULL,

PRIMARY KEY (`DEPARTMENT\_ID`)

) ENGINE=InnoDB DEFAULT CHARSET=latin1;

/\*!40101 SET character\_set\_client = @saved\_cs\_client \*/;

--

-- Dumping data for table `departments`

--

LOCK TABLES `departments` WRITE;

/\*!40000 ALTER TABLE `departments` DISABLE KEYS \*/;

INSERT INTO `departments` VALUES (1,'Loan'),(2,'Wealth Management'),(3,'Cash Management'),(4,'Retail Banking '),(5,'Wire transfer operations');

/\*!40000 ALTER TABLE `departments` ENABLE KEYS \*/;

UNLOCK TABLES;

--

-- Table structure for table `employees`

--

DROP TABLE IF EXISTS `employees`;

/\*!40101 SET @saved\_cs\_client = @@character\_set\_client \*/;

/\*!40101 SET character\_set\_client = utf8 \*/;

CREATE TABLE `employees` (

`EMPLOYEE\_ID` int(11) NOT NULL,

`MANAGER\_ID` int(11) DEFAULT NULL,

`JOINING\_DATE` date DEFAULT NULL,

`TITLE\_ID` int(11) NOT NULL,

`DEPARTMENT\_ID` int(11) DEFAULT NULL,

`PERSON\_ID` int(11) NOT NULL,

PRIMARY KEY (`EMPLOYEE\_ID`),

KEY `IX\_Relationship16` (`TITLE\_ID`),

KEY `IX\_Relationship17` (`DEPARTMENT\_ID`),

KEY `IX\_Relationship20` (`MANAGER\_ID`),

KEY `IX\_Relationship21` (`PERSON\_ID`)

) ENGINE=InnoDB DEFAULT CHARSET=latin1;

/\*!40101 SET character\_set\_client = @saved\_cs\_client \*/;

--

-- Dumping data for table `employees`

--

LOCK TABLES `employees` WRITE;

/\*!40000 ALTER TABLE `employees` DISABLE KEYS \*/;

INSERT INTO `employees` VALUES (4001,0,'2013-12-12',1,1,1),(4002,1,'2014-06-03',3,1,2),(4003,0,'2011-05-07',4,2,4),(4004,0,'2008-08-20',3,3,5),(4005,4,'2009-04-07',2,2,7),(4006,0,'2015-04-01',3,4,9),(4007,9,'2016-03-30',2,4,10),(4008,2,'2013-06-18',2,1,11),(4009,4,'2007-08-27',3,2,13),(4010,4,'2015-03-23',3,2,18),(4011,2,'0000-00-00',1,1,21);

/\*!40000 ALTER TABLE `employees` ENABLE KEYS \*/;

UNLOCK TABLES;

--

-- Table structure for table `facilities`

--

DROP TABLE IF EXISTS `facilities`;

/\*!40101 SET @saved\_cs\_client = @@character\_set\_client \*/;

/\*!40101 SET character\_set\_client = utf8 \*/;

CREATE TABLE `facilities` (

`FACILITY\_ID` int(11) NOT NULL,

`FACILITY\_NAME` varchar(20) DEFAULT NULL,

PRIMARY KEY (`FACILITY\_ID`)

) ENGINE=InnoDB DEFAULT CHARSET=latin1;

/\*!40101 SET character\_set\_client = @saved\_cs\_client \*/;

--

-- Dumping data for table `facilities`

--

LOCK TABLES `facilities` WRITE;

/\*!40000 ALTER TABLE `facilities` DISABLE KEYS \*/;

INSERT INTO `facilities` VALUES (1,'Fixed Deposits'),(2,'Mutual Funds'),(3,'ATM'),(4,'Online Banking'),(5,'Cash Credit');

/\*!40000 ALTER TABLE `facilities` ENABLE KEYS \*/;

UNLOCK TABLES;

--

-- Table structure for table `job\_titles`

--

DROP TABLE IF EXISTS `job\_titles`;

/\*!40101 SET @saved\_cs\_client = @@character\_set\_client \*/;

/\*!40101 SET character\_set\_client = utf8 \*/;

CREATE TABLE `job\_titles` (

`TITLE\_ID` int(11) NOT NULL,

`TITLE\_NAME` varchar(20) DEFAULT NULL,

PRIMARY KEY (`TITLE\_ID`)

) ENGINE=InnoDB DEFAULT CHARSET=latin1;

/\*!40101 SET character\_set\_client = @saved\_cs\_client \*/;

--

-- Dumping data for table `job\_titles`

--

LOCK TABLES `job\_titles` WRITE;

/\*!40000 ALTER TABLE `job\_titles` DISABLE KEYS \*/;

INSERT INTO `job\_titles` VALUES (1,'Clerk'),(2,'Officer'),(3,'Manager'),(4,'Senior Manager');

/\*!40000 ALTER TABLE `job\_titles` ENABLE KEYS \*/;

UNLOCK TABLES;

--

-- Table structure for table `persons`

--

DROP TABLE IF EXISTS `persons`;

/\*!40101 SET @saved\_cs\_client = @@character\_set\_client \*/;

/\*!40101 SET character\_set\_client = utf8 \*/;

CREATE TABLE `persons` (

`PERSON\_ID` int(11) NOT NULL,

`FIRST\_NAME` varchar(30) NOT NULL,

`LAST\_NAME` varchar(30) NOT NULL,

`EMAIL` varchar(30) DEFAULT NULL,

`CONTACT\_NUMBER` int(11) DEFAULT NULL,

`ZIPCODE\_ID` int(11) DEFAULT NULL,

PRIMARY KEY (`PERSON\_ID`),

KEY `IX\_Relationship15` (`ZIPCODE\_ID`),

CONSTRAINT `Relationship15` FOREIGN KEY (`ZIPCODE\_ID`) REFERENCES `zip\_codes` (`ZIPCODE\_ID`)

) ENGINE=InnoDB DEFAULT CHARSET=latin1;

/\*!40101 SET character\_set\_client = @saved\_cs\_client \*/;

--

-- Dumping data for table `persons`

--

LOCK TABLES `persons` WRITE;

/\*!40000 ALTER TABLE `persons` DISABLE KEYS \*/;

INSERT INTO `persons` VALUES (1,'Sophia','Smith','sophiasmith@gmail.com',2147483647,1),(2,'Mason','Johnson','masonjohnson@gmail.com',2147483647,1),(3,'Emily','Williams','emilywilliams@gmail.com',2147483647,1),(4,'Alexander','Jones','alexanderjones@gmail.com',2147481111,2),(5,'Lily','Brown','lilybrown@gmail.com',2147483647,2),(6,'David','Davis','daviddavis@gmail.com',2147483647,2),(7,'Victoria','Miller','victoriamiller@gmail.com',2147483647,2),(8,'John','Taylor','johntaylor@gmail.com',2147483647,2),(9,'Anna','Thomas','annathomas@gmail.com',2147483647,3),(10,'Monica','Russel','monicarussel@gmail.com',2147483647,3),(11,'Ross','Green','rossgreen@gmail.com',2147483647,4),(12,'Jordan ','Martin','jordanmartin@gmail.com',2147483647,4),(13,'Manish','Malhotra','manishmalhotra@gmail.com',2147483647,5),(14,'Priya','Deshpande','priyadeshpande@gmail.com',2147483647,5),(15,'Ashwini','Ratnaparkhi','ashwiniratnaparkhi@gmail.com',2147483647,5),(16,'Radha ','Deodhar','radhadeodhar@gmail.com',2147483647,5),(17,'Neha ','Shetty','nehashetty@gmail.com',2147483647,5),(18,'Allen ','Green','allengreen@gmail.com',2147483647,3),(19,'Lily','Taylor','lilytaylor@gmail.com',2147483647,3),(20,'Hannah','Clark','hannahclark@gmail.com',2147483647,3),(21,'Joshua','Lee','joshualee@gmail.com',2147483647,4),(22,'Benjamin','Hall','benjaminhall@gmail.com',2147483647,4),(23,'Julia','King','juliaking@gmail.com',2147483647,4),(24,'Justin','Baker','justinbaker@gmail.com',2147483647,1),(25,'Devin','Parker','devinparker@gmail.com',2147483647,2);

/\*!40000 ALTER TABLE `persons` ENABLE KEYS \*/;

UNLOCK TABLES;

/\*!50003 SET @saved\_cs\_client = @@character\_set\_client \*/ ;

/\*!50003 SET @saved\_cs\_results = @@character\_set\_results \*/ ;

/\*!50003 SET @saved\_col\_connection = @@collation\_connection \*/ ;

/\*!50003 SET character\_set\_client = utf8 \*/ ;

/\*!50003 SET character\_set\_results = utf8 \*/ ;

/\*!50003 SET collation\_connection = utf8\_general\_ci \*/ ;

/\*!50003 SET @saved\_sql\_mode = @@sql\_mode \*/ ;

/\*!50003 SET sql\_mode = 'NO\_ENGINE\_SUBSTITUTION' \*/ ;

DELIMITER ;;

/\*!50003 CREATE\*/ /\*!50017 DEFINER=`root`@`localhost`\*/ /\*!50003 trigger tr\_insert\_audit

AFTER UPDATE ON persons

FOR EACH row

BEGIN

INSERT INTO audit

(

PERSON\_ID,

DATE\_TIME,

OLD\_FIRST\_NAME,

NEW\_FIRST\_NAME,

OLD\_LAST\_NAME,

NEW\_LAST\_NAME,

OLD\_EMAIL,

NEW\_EMAIL,

OLD\_CONTACT\_NUMBER,

NEW\_CONTACT\_NUMBER,

OLD\_ZIPCODE\_ID,

NEW\_ZIPCODE\_ID

)

VALUES (

OLD.PERSON\_ID,

CURRENT\_TIMESTAMP(),

OLD.FIRST\_NAME,

NEW.FIRST\_NAME,

OLD.LAST\_NAME,

NEW.LAST\_NAME,

OLD.EMAIL,

NEW.EMAIL,

OLD.CONTACT\_NUMBER,

NEW.CONTACT\_NUMBER,

OLD.ZIPCODE\_ID,

NEW.ZIPCODE\_ID);

END \*/;;

DELIMITER ;

/\*!50003 SET sql\_mode = @saved\_sql\_mode \*/ ;

/\*!50003 SET character\_set\_client = @saved\_cs\_client \*/ ;

/\*!50003 SET character\_set\_results = @saved\_cs\_results \*/ ;

/\*!50003 SET collation\_connection = @saved\_col\_connection \*/ ;

--

-- Table structure for table `states`

--

DROP TABLE IF EXISTS `states`;

/\*!40101 SET @saved\_cs\_client = @@character\_set\_client \*/;

/\*!40101 SET character\_set\_client = utf8 \*/;

CREATE TABLE `states` (

`STATE\_ID` int(11) NOT NULL,

`STATE\_NAME` varchar(30) DEFAULT NULL,

`COUNTRY\_ID` int(11) NOT NULL,

PRIMARY KEY (`STATE\_ID`),

KEY `IX\_Relationship8` (`COUNTRY\_ID`),

CONSTRAINT `Relationship8` FOREIGN KEY (`COUNTRY\_ID`) REFERENCES `countries` (`COUNTRY\_ID`)

) ENGINE=InnoDB DEFAULT CHARSET=latin1;

/\*!40101 SET character\_set\_client = @saved\_cs\_client \*/;

--

-- Dumping data for table `states`

--

LOCK TABLES `states` WRITE;

/\*!40000 ALTER TABLE `states` DISABLE KEYS \*/;

INSERT INTO `states` VALUES (1,'Masachussets',1),(2,'New Jersey',1),(3,'Florida',1),(4,'Maharashtra',2);

/\*!40000 ALTER TABLE `states` ENABLE KEYS \*/;

UNLOCK TABLES;

--

-- Temporary table structure for view `topbanks`

--

DROP TABLE IF EXISTS `topbanks`;

/\*!50001 DROP VIEW IF EXISTS `topbanks`\*/;

SET @saved\_cs\_client = @@character\_set\_client;

SET character\_set\_client = utf8;

/\*!50001 CREATE TABLE `topbanks` (

`bank\_name` tinyint NOT NULL,

`branch\_name` tinyint NOT NULL,

`Branch\_ID` tinyint NOT NULL,

`NumberOfAccounts` tinyint NOT NULL

) ENGINE=MyISAM \*/;

SET character\_set\_client = @saved\_cs\_client;

--

-- Table structure for table `transaction\_type`

--

DROP TABLE IF EXISTS `transaction\_type`;

/\*!40101 SET @saved\_cs\_client = @@character\_set\_client \*/;

/\*!40101 SET character\_set\_client = utf8 \*/;

CREATE TABLE `transaction\_type` (

`TRANSACTION\_TYPE\_ID` int(11) NOT NULL,

`TRANSACTION\_TYPE\_NAME` varchar(20) DEFAULT NULL,

PRIMARY KEY (`TRANSACTION\_TYPE\_ID`)

) ENGINE=InnoDB DEFAULT CHARSET=latin1;

/\*!40101 SET character\_set\_client = @saved\_cs\_client \*/;

--

-- Dumping data for table `transaction\_type`

--

LOCK TABLES `transaction\_type` WRITE;

/\*!40000 ALTER TABLE `transaction\_type` DISABLE KEYS \*/;

INSERT INTO `transaction\_type` VALUES (1,'Withdraw'),(2,'Deposit');

/\*!40000 ALTER TABLE `transaction\_type` ENABLE KEYS \*/;

UNLOCK TABLES;

--

-- Table structure for table `transactions`

--

DROP TABLE IF EXISTS `transactions`;

/\*!40101 SET @saved\_cs\_client = @@character\_set\_client \*/;

/\*!40101 SET character\_set\_client = utf8 \*/;

CREATE TABLE `transactions` (

`TRANSACTION\_ID` int(11) NOT NULL AUTO\_INCREMENT,

`DATE\_TIME` datetime NOT NULL,

`TRANSACTION\_TYPE\_ID` int(11) NOT NULL,

`ACCOUNT\_ID` int(11) NOT NULL,

`AMOUNT` int(11) NOT NULL,

`OLD\_BALANCE` int(11) NOT NULL,

`NEW\_BALANCE` int(11) NOT NULL,

PRIMARY KEY (`TRANSACTION\_ID`),

KEY `IX\_Relationship29` (`TRANSACTION\_TYPE\_ID`),

KEY `IX\_Relationship32` (`ACCOUNT\_ID`)

) ENGINE=InnoDB AUTO\_INCREMENT=10035 DEFAULT CHARSET=latin1;

/\*!40101 SET character\_set\_client = @saved\_cs\_client \*/;

--

-- Dumping data for table `transactions`

--

LOCK TABLES `transactions` WRITE;

/\*!40000 ALTER TABLE `transactions` DISABLE KEYS \*/;

INSERT INTO `transactions` VALUES (10001,'2016-12-07 10:33:35',1,4,500,10948,11448),(10002,'2016-12-07 10:34:55',1,4,500,11448,11948),(10003,'2016-12-07 10:35:41',1,4,500,11948,12448),(10004,'2016-12-07 10:35:57',2,4,888,12448,11560),(10005,'2016-12-07 10:36:17',2,1,500,675187,674687),(10006,'2016-12-07 10:36:17',1,2,500,60065,60565),(10007,'2016-12-07 10:36:35',1,3,500,0,500),(10008,'2016-12-09 13:14:56',2,1,500,678687,678187),(10009,'2016-12-09 13:14:56',1,2,500,56565,57065),(10010,'2016-12-09 13:15:20',1,4,500,7888,8388),(10011,'2016-12-09 13:15:34',1,4,500,8388,8888),(10012,'2016-12-09 13:16:25',1,4,500,8888,9388),(10013,'2016-12-09 13:17:46',2,4,888,9388,8500),(10014,'2016-12-09 13:56:43',2,1,500,678187,677687),(10015,'2016-12-09 13:56:43',1,2,500,57065,57565),(10016,'2016-12-09 13:56:43',2,4,888,8500,7612),(10017,'2016-12-09 13:56:43',1,4,500,7612,8112),(10018,'2016-12-09 13:58:39',2,4,888,8112,7224),(10019,'2016-12-09 14:00:01',1,5,2,100,102),(10020,'2016-12-09 14:00:01',1,6,60,3000,3060),(10021,'2016-12-09 14:00:01',1,13,10,500,510),(10022,'2016-12-09 14:00:01',1,16,8,400,408),(10023,'2016-12-09 14:00:01',1,17,60,3000,3060),(10024,'2016-12-09 14:00:01',1,18,10,500,510),(10025,'2016-12-10 12:08:37',2,1,500,677687,677187),(10026,'2016-12-10 12:08:37',1,2,500,57565,58065),(10027,'2016-12-10 12:20:39',2,4,300,7224,6924),(10028,'2016-12-10 12:25:43',1,4,500,6924,7424),(10029,'2016-12-10 13:07:48',1,5,2,102,104),(10030,'2016-12-10 13:07:48',1,13,10,510,520),(10031,'2016-12-10 13:07:48',1,16,8,408,416),(10032,'2016-12-10 13:07:48',1,18,10,510,520),(10033,'2016-12-10 15:17:54',2,1,200,677187,676987),(10034,'2016-12-10 15:40:37',2,1,200,676987,676787);

/\*!40000 ALTER TABLE `transactions` ENABLE KEYS \*/;

UNLOCK TABLES;

--

-- Temporary table structure for view `transactionsbetweengivendates`

--

DROP TABLE IF EXISTS `transactionsbetweengivendates`;

/\*!50001 DROP VIEW IF EXISTS `transactionsbetweengivendates`\*/;

SET @saved\_cs\_client = @@character\_set\_client;

SET character\_set\_client = utf8;

/\*!50001 CREATE TABLE `transactionsbetweengivendates` (

`Cust\_ID` tinyint NOT NULL,

`Customer Name` tinyint NOT NULL,

`Transaction\_ID` tinyint NOT NULL,

`transaction\_Type\_Name` tinyint NOT NULL,

`ACCOUNT\_ID` tinyint NOT NULL,

`AMOUNT` tinyint NOT NULL,

`Date\_Time` tinyint NOT NULL

) ENGINE=MyISAM \*/;

SET character\_set\_client = @saved\_cs\_client;

--

-- Table structure for table `zip\_codes`

--

DROP TABLE IF EXISTS `zip\_codes`;

/\*!40101 SET @saved\_cs\_client = @@character\_set\_client \*/;

/\*!40101 SET character\_set\_client = utf8 \*/;

CREATE TABLE `zip\_codes` (

`ZIPCODE\_ID` int(11) NOT NULL,

`ZIP\_CODE` int(11) DEFAULT NULL,

`CITY\_ID` int(11) NOT NULL,

PRIMARY KEY (`ZIPCODE\_ID`),

KEY `IX\_Relationship30` (`CITY\_ID`),

CONSTRAINT `Relationship30` FOREIGN KEY (`CITY\_ID`) REFERENCES `cities` (`CITY\_ID`)

) ENGINE=InnoDB DEFAULT CHARSET=latin1;

/\*!40101 SET character\_set\_client = @saved\_cs\_client \*/;

--

-- Dumping data for table `zip\_codes`

--

LOCK TABLES `zip\_codes` WRITE;

/\*!40000 ALTER TABLE `zip\_codes` DISABLE KEYS \*/;

INSERT INTO `zip\_codes` VALUES (1,2108,1),(2,2116,1),(3,8540,2),(4,33101,3),(5,440029,4);

/\*!40000 ALTER TABLE `zip\_codes` ENABLE KEYS \*/;

UNLOCK TABLES;

--

-- Final view structure for view `topbanks`

--

/\*!50001 DROP TABLE IF EXISTS `topbanks`\*/;

/\*!50001 DROP VIEW IF EXISTS `topbanks`\*/;

/\*!50001 SET @saved\_cs\_client = @@character\_set\_client \*/;

/\*!50001 SET @saved\_cs\_results = @@character\_set\_results \*/;

/\*!50001 SET @saved\_col\_connection = @@collation\_connection \*/;

/\*!50001 SET character\_set\_client = utf8 \*/;

/\*!50001 SET character\_set\_results = utf8 \*/;

/\*!50001 SET collation\_connection = utf8\_general\_ci \*/;

/\*!50001 CREATE ALGORITHM=UNDEFINED \*/

/\*!50013 DEFINER=`root`@`localhost` SQL SECURITY DEFINER \*/

/\*!50001 VIEW `topbanks` AS select `c`.`BANK\_NAME` AS `bank\_name`,`b`.`BRANCH\_NAME` AS `branch\_name`,`a`.`BRANCH\_ID` AS `Branch\_ID`,count(0) AS `NumberOfAccounts` from ((`accounts` `a` join `bank\_branches` `b` on((`a`.`BRANCH\_ID` = `b`.`BRANCH\_ID`))) join `bank` `c` on((`b`.`BANK\_ID` = `c`.`BANK\_ID`))) group by `a`.`BRANCH\_ID` \*/;

/\*!50001 SET character\_set\_client = @saved\_cs\_client \*/;

/\*!50001 SET character\_set\_results = @saved\_cs\_results \*/;

/\*!50001 SET collation\_connection = @saved\_col\_connection \*/;

--

-- Final view structure for view `transactionsbetweengivendates`

--

/\*!50001 DROP TABLE IF EXISTS `transactionsbetweengivendates`\*/;

/\*!50001 DROP VIEW IF EXISTS `transactionsbetweengivendates`\*/;

/\*!50001 SET @saved\_cs\_client = @@character\_set\_client \*/;

/\*!50001 SET @saved\_cs\_results = @@character\_set\_results \*/;

/\*!50001 SET @saved\_col\_connection = @@collation\_connection \*/;

/\*!50001 SET character\_set\_client = utf8 \*/;

/\*!50001 SET character\_set\_results = utf8 \*/;

/\*!50001 SET collation\_connection = utf8\_general\_ci \*/;

/\*!50001 CREATE ALGORITHM=UNDEFINED \*/

/\*!50013 DEFINER=`root`@`localhost` SQL SECURITY DEFINER \*/

/\*!50001 VIEW `transactionsbetweengivendates` AS select `c`.`CUST\_ID` AS `Cust\_ID`,`p`.`FIRST\_NAME` AS `Customer Name`,`t`.`TRANSACTION\_ID` AS `Transaction\_ID`,`tt`.`TRANSACTION\_TYPE\_NAME` AS `transaction\_Type\_Name`,`t`.`ACCOUNT\_ID` AS `ACCOUNT\_ID`,`t`.`AMOUNT` AS `AMOUNT`,`t`.`DATE\_TIME` AS `Date\_Time` from ((((`transactions` `t` join `transaction\_type` `tt` on((`t`.`TRANSACTION\_TYPE\_ID` = `tt`.`TRANSACTION\_TYPE\_ID`))) join `customer\_accounts` `c` on((`t`.`ACCOUNT\_ID` = `c`.`ACCOUNT\_ID`))) join `customers` `cu` on((`c`.`CUST\_ID` = `cu`.`CUST\_ID`))) join `persons` `p` on((`cu`.`PERSON\_ID` = `p`.`PERSON\_ID`))) order by `c`.`CUST\_ID` \*/;

/\*!50001 SET character\_set\_client = @saved\_cs\_client \*/;

/\*!50001 SET character\_set\_results = @saved\_cs\_results \*/;

/\*!50001 SET collation\_connection = @saved\_col\_connection \*/;

/\*!40103 SET TIME\_ZONE=@OLD\_TIME\_ZONE \*/;

/\*!40101 SET SQL\_MODE=@OLD\_SQL\_MODE \*/;

/\*!40014 SET FOREIGN\_KEY\_CHECKS=@OLD\_FOREIGN\_KEY\_CHECKS \*/;

/\*!40014 SET UNIQUE\_CHECKS=@OLD\_UNIQUE\_CHECKS \*/;

/\*!40101 SET CHARACTER\_SET\_CLIENT=@OLD\_CHARACTER\_SET\_CLIENT \*/;

/\*!40101 SET CHARACTER\_SET\_RESULTS=@OLD\_CHARACTER\_SET\_RESULTS \*/;

/\*!40101 SET COLLATION\_CONNECTION=@OLD\_COLLATION\_CONNECTION \*/;

/\*!40111 SET SQL\_NOTES=@OLD\_SQL\_NOTES \*/;

-- Dump completed on 2016-12-10 18:15:50



