Purpose: Source Code for easier reading
Group: #19
Course: CP363
Date: 3/26/2023

```sql
CREATE DATABASE `misi2700` /*!40100 DEFAULT CHARACTER SET utf8mb4 COLLATE utf8mb4_0900_ai_ci */ /*!80016 DEFAULT
ENCRYPTION='N' */;

/* create table statements */

CREATE TABLE misi2700.customerinfo (
  credit_score INT NOT NULL,
  customer_phone_number VARCHAR(45) NOT NULL,
  customer_name VARCHAR(45) NOT NULL,
  customerID INT NOT NULL,
  branchID INT NOT NULL,
  customer_email VARCHAR(45) NOT NULL,
  PRIMARY KEY (customerID));

CREATE TABLE misi2700.bankbranchlocation (
branchID INT NOT NULL,
branch_address VARCHAR(45) NOT NULL,
employeeID INT NOT NULL,
PRIMARY KEY (branchID));

CREATE TABLE misi2700.employees (
  employeeID INT NOT NULL,
  employee_name VARCHAR(45) NOT NULL,
  position VARCHAR(45) NOT NULL,
  department VARCHAR(45) NOT NULL,
  employee_phone_number VARCHAR(45) NOT NULL,
  employee_email VARCHAR(45) NOT NULL,
  assignmentID INT NOT NULL,
  PRIMARY KEY (employeeID));

CREATE TABLE misi2700.customerassignment (
  assignmentID INT NOT NULL,
  customerID INT NOT NULL,
  PRIMARY KEY (assignmentID));

CREATE TABLE misi2700.authentication (
  customer_email VARCHAR(45) NOT NULL,
  customer_username VARCHAR(45) NOT NULL,
  customer_password VARCHAR(45) NOT NULL,
  customer_phone_number VARCHAR(45) NOT NULL,
  security_questions VARCHAR(45) NOT NULL,
  accountID INT NOT NULL,
  PRIMARY KEY (customer_email));

CREATE TABLE misi2700.accounts (
  accountID INT NOT NULL,
  close_date VARCHAR(45),
```

```sql
    open_date VARCHAR(45),
    balance DECIMAL(10) NOT NULL,
    loanID INT NOT NULL,
    PRIMARY KEY (accountID));

CREATE TABLE misi2700.loan (
    loanID INT NOT NULL,
    loan_undertaker VARCHAR(45),
    loan_type VARCHAR(45) NOT NULL,
    PRIMARY KEY (loanID));

/* alter statements */

ALTER TABLE misi2700.customerinfo
ADD CONSTRAINT FK_customer_email_Authentication FOREIGN KEY (customer_email)
    REFERENCES misi2700.authentication (customer_email)
-- ADD CONSTRAINT FK_BranchID_BranchLocation FOREIGN KEY (branchID)
-- REFERENCES misi2700.bankbranchlocation (branchID)
    ON DELETE CASCADE
    ON UPDATE CASCADE
;

-- ALTER TABLE misi2700.customerinfo
-- DROP CONSTRAINT FK_BranchID_BranchLocation;
--
-- BranchID constraint not working for some reason !!!


ALTER TABLE misi2700.bankbranchlocation
ADD CONSTRAINT FK_EmployeeID_Employee FOREIGN KEY (employeeID)
REFERENCES misi2700.employees (employeeID)
    ON DELETE CASCADE
    ON UPDATE CASCADE
;

ALTER TABLE misi2700.employees
ADD CONSTRAINT FK_AssignmentID_CustomerAssignment FOREIGN KEY (assignmentID)
REFERENCES misi2700.customerassignment (assignmentID)
    ON DELETE CASCADE
    ON UPDATE CASCADE
;

ALTER TABLE misi2700.customerassignment
ADD CONSTRAINT FK_CustomerID_CustomerIdentification FOREIGN KEY (customerID)
REFERENCES misi2700.customerinfo (customerID)
    ON DELETE CASCADE
    ON UPDATE CASCADE
;

ALTER TABLE misi2700.authentication
ADD CONSTRAINT FK_AccountID FOREIGN KEY (accountID)
REFERENCES misi2700.accounts (accountID)
    ON DELETE CASCADE
    ON UPDATE CASCADE
;
```

```sql
ALTER TABLE misi2700.accounts
ADD CONSTRAINT FK_LoanID FOREIGN KEY (loanID)
REFERENCES misi2700.loan (loanID)
    ON DELETE CASCADE
    ON UPDATE CASCADE
;

/* insert statements */

INSERT INTO misi2700.loan
VALUES(1, 20000, "mortgage"),
(2, 40000, "line of credit"),
(3, 60000, "mortgage");

INSERT INTO misi2700.accounts
VALUES (1, 09-23-2022, NULL, 24555, (SELECT loanID from misi2700.loan WHERE loanID = 1)),
 (2, 10-19-2021, 11-09-2022, 3009998, (SELECT loanID from misi2700.loan WHERE loanID = 2)),
 (3, 06-17-2019, NULL, 30, (SELECT loanID from misi2700.loan WHERE loanID = 3));

INSERT INTO misi2700.authentication
VALUES ("casselrobson93@gmail.com", "robs7000", "Austin@9", "6475271049", "Where did you go to highschool?", (SELECT
accountID from misi2700.accounts WHERE accountID = 1)),
("milac@gmail.com", "mila1400", "laurier2003", "4168271415", "What is your mom's maiden name?", (SELECT accountID from
misi2700.accounts WHERE accountID = 2)),
("cap1234@outlook.com", "ericacap", "capperWLU", "6743416781", "Where did you grow up?", (SELECT accountID from
misi2700.accounts WHERE accountID = 3));

INSERT INTO misi2700.customerinfo
VALUES(724, "6475271049", "cassel", 012, 12345, (SELECT customer_email from misi2700.authentication WHERE customer_email =
"casselrobson93@gmail.com")),
(800, "4168271415", "mila", 013, 12346, (SELECT customer_email from misi2700.authentication WHERE customer_email =
"milac@gmail.com")),
(795, "4167443321", "erika", 014, 12347, (SELECT customer_email from misi2700.authentication WHERE customer_email =
"cap1234@outlook.com"));

INSERT INTO misi2700.customerassignment
VALUES(100, (SELECT customerID from misi2700.customerinfo WHERE customerID = 012)),
(101, (SELECT customerID from misi2700.customerinfo WHERE customerID = 013)),
(102, (SELECT customerID from misi2700.customerinfo WHERE customerID = 014));

INSERT INTO misi2700.employees
VALUES(111, "marko", "janitor", "janatorial services", "4161111111", "misic@gmail.com", (SELECT assignmentID from
misi2700.customerassignment WHERE assignmentID= 100)),
(112, "erika", "CEO", "leadership", "6475240603", "erikacapper@gmail.com", (SELECT assignmentID from
misi2700.customerassignment WHERE assignmentID = 101)),
(113, "cassel", "marketing intern", "marketing", "6473333603", "casselrob@gmail.com", (SELECT assignmentID from
misi2700.customerassignment WHERE assignmentID = 102));

INSERT INTO misi2700.bankbranchlocation
VALUES(12345, "67 University", (SELECT employeeID from misi2700.employees WHERE employeeID = 111)),
(12346, "80 Maple Lane", (SELECT employeeID from misi2700.employees WHERE employeeID = 112)),
(12347, "45 Weber", (SELECT employeeID from misi2700.employees WHERE employeeID = 113));

/* creating views */
```

```sql
CREATE VIEW misi2700.CUSTOMER_VIEW AS
SELECT customerinfo.customer_name, customerinfo.customer_phone_number, authentication.security_questions,
authentication.customer_email
FROM misi2700.customerinfo
JOIN misi2700.authentication ON customerinfo.customer_email = authentication.customer_email;

CREATE VIEW misi2700.CUSTOMER_BALANCE_VIEW AS
SELECT accounts.balance, accounts.accountID, authentication.customer_username
FROM misi2700.accounts
JOIN misi2700.authentication ON accounts.accountID = authentication.accountID;

CREATE VIEW misi2700.EMPLOY_CUST_RELATION AS
SELECT employees.employee_name, employees.employeeID, employees.position, customerassignment.customerID,
customerassignment.assignmentID, customerinfo.customer_name
FROM misi2700.employees
JOIN misi2700.customerassignment ON employees.assignmentID = customerassignment.assignmentID
JOIN misi2700.customerinfo ON customerinfo.customerID = customerassignment.customerID;

/* tables added for 3NF Form */

CREATE TABLE `misi2700`.`transaction_info` (
 `transactionID` INT NOT NULL,
 `timestamp` DATETIME NOT NULL,
 `amount` DECIMAL NOT NULL,
 `customer_name` VARCHAR(45) NOT NULL,
 `branchID` INT NOT NULL,
 PRIMARY KEY (`transactionID`),
 INDEX `branchID_idx` (`branchID` ASC) VISIBLE,
 CONSTRAINT `branchID`
  FOREIGN KEY (`branchID`)
  REFERENCES `misi2700`.`bankbranchlocation` (`branchID`)
  ON DELETE NO ACTION
  ON UPDATE NO ACTION);


CREATE TABLE `misi2700`.`transaction_types` (
 `typeID` INT NOT NULL,
 `typeDescription` VARCHAR(45) NOT NULL,
 `errorClass` INT NULL DEFAULT NULL,
 `errorDescription` VARCHAR(45) NULL DEFAULT NULL,
 `transactionID` INT NOT NULL,
 PRIMARY KEY (`typeID`),
 INDEX `FK_transactionID_idx` (`transactionID` ASC) VISIBLE,
 CONSTRAINT `FK_transactionID`
  FOREIGN KEY (`transactionID`)
  REFERENCES `misi2700`.`transaction_info` (`transactionID`)
  ON DELETE NO ACTION
  ON UPDATE NO ACTION);

CREATE TABLE `misi2700`.`transaction_error_types` (
 `errorID` INT NOT NULL,
 `errorInfo` VARCHAR(45) NOT NULL,
 `errorSeverity` VARCHAR(45) NOT NULL,
 `typeID` INT NOT NULL,
```

```
  PRIMARY KEY (`errorID`),
  INDEX `FK_typeID_idx` (`typeID` ASC) VISIBLE,
  CONSTRAINT `FK_typeID`
    FOREIGN KEY (`typeID`)
    REFERENCES `misi2700`.`transaction_types` (`typeID`)
    ON DELETE NO ACTION
    ON UPDATE NO ACTION);


/* tables added for BCNF Form */

ALTER TABLE misi2700.loan
DROP COLUMN loan_balance;
CREATE TABLE misi2700.loan_Add_Info (
loan_undertaker VARCHAR(45) NOT NULL,
loan_balance DECIMAL(45) NOT NULL,
PRIMARY KEY (loan_undertaker));

ALTER TABLE misi2700.loan
ADD COLUMN loan_undertaker VARCHAR(45) NOT NULL AFTER loan_type,
ADD INDEX loan_undertaker_idx (loan_undertaker ASC) VISIBLE,
ALTER TABLE misi2700.loan
ADD CONSTRAINT FK_loan_undertaker
FOREIGN KEY (loan_undertaker)
REFERENCES misi2700.loan_Add_Info (loan_undertaker)
ON DELETE NO ACTION
ON UPDATE NO ACTION;
```