**ADBMS MINI PROJECT**

Bank Management System for Savings Bank Account

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| --- | --- |
| Group no: 3 |  |
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| Title of work assigned | Bank Management System for Savings Bank Account |

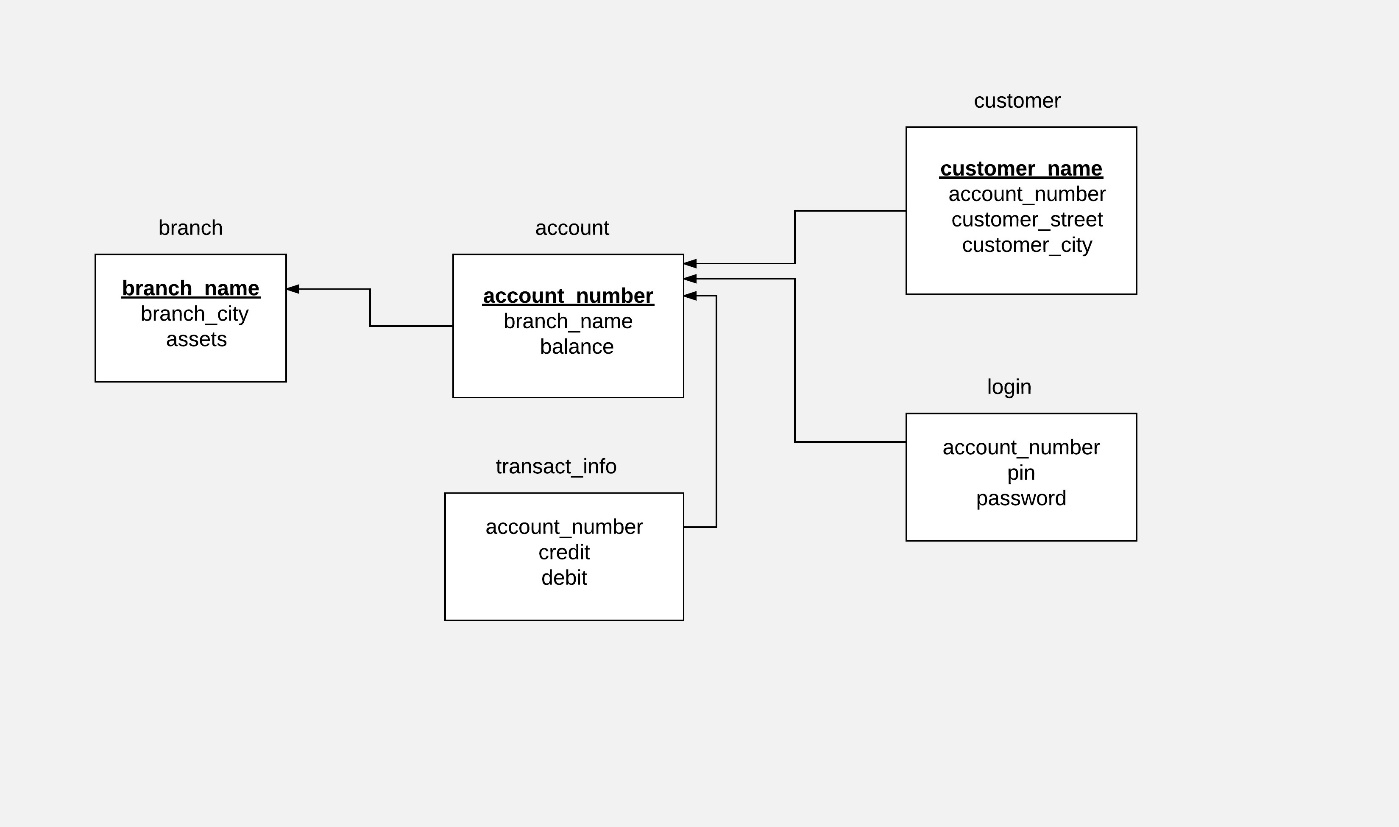
Database Name: CustomerSdn

Tables:

|  |  |
| --- | --- |
| Table 1: Branch | |
| Attribute name | Data type |
| branch\_name | varchar |
| branch\_city | varchar |
| assets | INT |
| Table 2: Customer | |
| Attribute name | Data type |
| customer\_name | varchar |
| customer\_street | varchar |
| customer\_city | varchar |
| Table 3: Account | |
| Attribute name | Data type |
| account\_num | INT |
| branch\_name | varchar |
| balance | INT |
| Table 4: Login | |
| Attribute name | Data type |
| account\_num | Varchar |
| Pin | INT |
| password | INT |
| Table 5: Transact\_info | |
| Attribute name | Data type |
| account\_num | varchar |
| credit | INT |
| debit | INT |

* **Table relationships in CustomerSdn**

**Class diagram:**



***Fig 1: Class diagram***

* **To create a SQLite database (use DB Browser) and Tables through program**

CREATE TABLE `branch` (

branch\_name varchar(20) primary key,

branch\_city varchar(20),

assets int(10)

);

CREATE TABLE `account` (

account\_number varchar(10) primary key,

Branch\_name varchar(20),

balance varchar(20),

foreign key(branch\_name) references branch(branch\_name)

);

CREATE TABLE `customer` (

customer\_name varchar(20) ,

account\_number varchar(10),

customer\_street varchar(20),

customer\_city varchar(20),

foreign key(account\_number) references account(account\_number)

);

CREATE TABLE `transact\_info` (

account\_number varchar(10) primary key,

credit int(10),

debit int(10),

foreign key(account\_number) references account(account\_number)

);

CREATE TABLE `login` (

account\_number varchar(10) primary key,

password varchar(20),

pin int(4),

foreign key(account\_number) references account(account\_number)

);

* **To insert data into a table (10 records)**

query="insert into customerdb values(?,?,?,?,?)";

pmt=con.prepareStatement(query);

int Acc\_no=c1++;

System.out.println("PIN No. =");

int en=Inte-ger.parseInt(br.readLine());

System.out.println("CUSTOMER NAME =");

String name=br.readLine();

System.out.println("ACCOUNT BALANCE =");

int s=Integer.parseInt(br.readLine());

System.out.println("PASSWORD =");

String c=br.readLine();

int r=pmt.executeUpdate();

insert into branch values('Brighton', 'Brooklyn', 7100000);

insert into branch values('Downtown', 'Brooklyn', 9000000);

insert into branch values('Mianus', 'Horseneck', 400000);

insert into branch values('North Town', 'Rye', 3700000);

insert into branch values('Perryridge', 'Horseneck', 1700000);

insert into branch values('Pownal', 'Bennington', 300000);

insert into branch values('Redwood', 'Palo Alto', 2100000);

insert into branch values('Round Hill', 'Horseneck', 8000000);

insert into account values('A-101', 'Downtown', 500);

insert into account values('A-102', 'Perryridge', 400);

insert into account values('A-201', 'Brighton', 900);

insert into account values('A-215', 'Mianus', 700);

insert into account values('A-217', 'Brighton', 750);

insert into account values('A-222', 'Redwood', 700);

insert into account values('A-305', 'Round Hill', 350);

insert into customer values('Adams', 'Spring', 'Pittsfield');

insert into customer values('Brooks', 'Senator', 'Brooklyn');

insert into customer values('Curry', 'North', 'Rye');

insert into customer values('Glenn', 'Sand Hill', 'Woodside');

insert into customer values('Green', 'Walnut', 'Stamford');

insert into customer values('Hayes', 'Main', 'Harrison');

insert into customer values('Johnson', 'Alma', 'Palo Alto');

insert into customer values('Jones', 'Main', 'Harrison');

insert into customer values('Lindsay', 'Park', 'Pittsfield');

insert into customer values('Smith', 'North', 'Rye');

insert into transact\_info values(‘A-101’,0,6000);

insert into transact\_info values(‘A-101’,6000,0);

insert into transact\_info values(‘A-102’,5412,0);

insert into transact\_info values(‘A-102’,0,6600);

insert into transact\_info values(‘A-201’,0,8560);

insert into transact\_info values(‘A-201’,4520,0);

insert into transact\_info values(‘A-222’,0,6000);

insert into transact\_info values(‘A-222’,5210,0);

insert into login values(‘A-101’,’AlmaJohn’,1234);

insert into login values(‘A-102’,’mainjone’,4567);

insert into login values(‘A-201’,’smithsinian’,8462);

insert into login values(‘A-222’,’Soanpro’,6524);

You can use SQL command ‘select \* from [table\_name];’ to check if data have been inserted.

* **To edit the data**

**Deposit:**

query = "update customerdb set balance=balance+? where pin= ?";

pmt=con.prepareStatement(query);

System.out.println("PIN No. =");

int en=Integer.parseInt(br.readLine());

System.out.println("ENTER AMOUNT TO DEPOSIT =");

int m=Integer.parseInt(br.readLine());

int r=pmt.executeUpdate();

if(r>0)

System.out.println("RECORD UPDATED SUCCESSFULLY");

else

System.out.println("ERROR IN UPDATION!!!");

**Change Password:**

query = "update customerdb set password=? where password= ?";

pmt=con.prepareStatement(query);

System.out.println("OLD PASSWORD=");

String p=br.readLine();

System.out.println("NEW PASSWORD=");

String pa=br.readLine();

int r=pmt.executeUpdate();

if(r>0)

System.out.println("PASSWORD UPDATED SUCCESSFULLY");

else

System.out.println("ERROR IN UPDATION!!!");

**Withdraw:**

query = "update customerdb set balance=balance-? where pin= ? and password =?";

pmt=con.prepareStatement(query);

Statement pmt1= con.createStatement();

System.out.println("PIN No. =");

int en=Integer.parseInt(br.readLine());

System.out.println("PASSWORD =");

String p=br.readLine();

System.out.println("ENTER AMOUNT TO WITHDRAW=");

int m=Integer.parseInt(br.readLine());

//setting values to place holders

if(m<=0){

System.out.println("INVALID AMOUNT ENTERED");

}

else

{

pmt.setInt(1,m);

pmt.setInt(2,en);

pmt.setString(3,p);

//execute query

query1="select \* from customerdb where pin='"+en+"' and password='"+p+"'";

rs=pmt1.executeQuery(query1);

int bal=0;

while(rs.next()){bal=rs.getInt("balance");}

if(m<=bal)

{

int r=pmt.executeUpdate();

if(r>0)

System.out.println("AMOUNT WITHDRAWN SUCCESSFULLY");

else

System.out.println("INSUFFICIENT AMOUNT TO WITHDRAW!!!");

}

else

System.out.println("INSUFFICIENT AMOUNT TO WITHDRAW!!!");

}

}

* **To delete the data**

query= "delete from customerdb where pin=? and password=?";

pmt=con.prepareStatement(query);

System.out.println("TO DELETE CUSTOMER ACCOUNT, ENTER PIN No. =");

int en=Integer.parseInt(br.readLine());

System.out.println("PASSWORD =");

String p=br.readLine();

int r=pmt.executeUpdate();

if(r>0)

System.out.println("RECORD DELETED SUCCESSFULLY");

else

System.out.println("ERROR IN DELETION!!!");

* **To drop/alter the table**

DROP TABLE IF EXISTS `branch`;

DROP TABLE IF EXISTS `account`;

DROP TABLE IF EXISTS `customer`;

DROP TABLE IF EXISTS `transact\_info`;

DROP TABLE IF EXISTS `login`;

Execute the SQL queries through java program for the following.

* **To retrieve data from a table**

1. Enter withdraw amount

query = "update customerdb set balance=balance-? where pin= ? and password =?";

pmt=con.prepareStatement(query);

Statement pmt1= con.createStatement();

System.out.println("PIN No. =");

int en=Integer.parseInt(br.readLine());

System.out.println("PASSWORD =");

String p=br.readLine();

System.out.println("ENTER AMOUNT TO WITHDRAW=");

int m=Integer.parseInt(br.readLine());

if(m<=0){

System.out.println("INVALID AMOUNT ENTERED");

}

ii) Record update

int r=pmt.executeUpdate();

if(r>0)

{

System.out.println("RECORD UPDATED SUCCESSFULLY");

else

System.out.println("ERROR IN UPDATION!!!");

}

catch(ClassNotFoundException ce)

{

System.out.println("CLASS NOT FOUND!!!");

ce.printStackTrace();

}

catch(SQLException se)

{

se.printStackTrace();

}

catch(IOException ie)

{

ie.printStackTrace();

}

To retrieve data from a table using where clause or condition

1. Delete customer

query= "delete from customerdb where pin=? and password=?";

pmt=con.prepareStatement(query);

System.out.println("TO DELETE CUSTOMER ACCOUNT, ENTER PIN No. =");

int en=Integer.parseInt(br.readLine());

System.out.println("PASSWORD =");

String p=br.readLine();

1. execute query

query1="select \* from customerdb where pin='"+en+"' and password='"+p+"'";

rs=pmt1.executeQuery(query1);

int bal=0;

while(rs.next()){bal=rs.getInt("balance");}

if(m<=bal){

int r=pmt.executeUpdate();

if(r>0)

System.out.println("AMOUNT WITHDRAWN SUCCESSFULLY");

else

System.out.println("INSUFFICIENT AMOUNT TO WITHDRAW!!!");

}else

System.out.println("INSUFFICIENT AMOUNT TO WITHDRAW!!!");