**package** com.app;

**public** **class** Date {

**private** **int** day,month,year;

**public** Date(**int** day, **int** month, **int** year) {

**super**();

**this**.day = day;

**this**.month = month;

**this**.year = year;

}

**public** **int** getDay() {

**return** day;

}

**public** **void** setDay(**int** day) {

**this**.day = day;

}

**public** **int** getMonth() {

**return** month;

}

**public** **void** setMonth(**int** month) {

**this**.month = month;

}

**public** **int** getYear() {

**return** year;

}

**public** **void** setYear(**int** year) {

**this**.year = year;

}

@Override

**public** String toString() {

**return** day+"/"+month+"/"+year;

}

}

**package** com.app;

**public** **enum** AccountType {

***SAVING***,***LOAN***,***CURRENT***,***MARCHANT***;

}

**package** com.app;

**public** **class** BankAccount {

**private** **int** actid;

**private** String name;

**private** String email;

**private** **double** balance;

**private** AccountType actType;

//has-a

**private** Date doc;

**private** **static** **int** *index*;

**static** {

*index*=20230;

}

**public** BankAccount(String name, String email, **double** balance, AccountType actType, Date doc) {

**super**();

**this**.actid = *index*;

**this**.name = name;

**this**.email = email;

**this**.balance = balance;

**this**.actType = actType;

**this**.doc = doc;

*index*++;

}

**public** String getName() {

**return** name;

}

**public** **void** setName(String name) {

**this**.name = name;

}

**public** String getEmail() {

**return** email;

}

**public** **void** setEmail(String email) {

**this**.email = email;

}

**public** AccountType getActType() {

**return** actType;

}

**public** **void** setActType(AccountType actType) {

**this**.actType = actType;

}

**public** Date getDoc() {

**return** doc;

}

**public** **void** setDoc(Date doc) {

**this**.doc = doc;

}

**public** **int** getActid() {

**return** actid;

}

**public** **double** getBalance() {

**return** balance;

}

**public** String withdraw(**double** amount) {

**if**(**this**.balance>amount) {

**this**.balance-=amount;

**return** "Amount deducted and balance is: "+**this**.getBalance();

}

**else**{

**return** "Balace is low";

}

}

**public** String deposite(**double** amount) {

**this**.balance+=amount;

**return** "Your balance is: "+getBalance();

}

@Override

**public** String toString() {

**return** "BankAccount [actid=" + actid + ", name=" + name + ", email=" + email + ", balance=" + balance

+ ", actType=" + actType + ", doc=" + doc + "]";

}

}

**package** com.app;

**import** java.util.Scanner;

//lab:create array store 10 accounts

// actId must be unique (static)

// chk duplicate customer with email

//display specific account type customers

**public** **class** TestBank {

**public** **static** **void** main(String[] args) {

Scanner sc=**new** Scanner(System.***in***);

System.***out***.println("Tyes of accounts are:");

**for**(AccountType c: AccountType.*values*()) {

System.***out***.print(c+" ");

}

System.***out***.println();

System.***out***.println("1.create account 2.display account "

+ "3.withdraw 4.deposit "

+ "5.Transfer Money 8.exit");

**int** choice,index=0;

BankAccount[] b=**new** BankAccount[10];

**do** {

System.***out***.println("enter your choice");

choice=sc.nextInt();

**switch**(choice) {

**case** 1:

System.***out***.println("enter email");

String s=sc.next();

**if**(s.endsWith("@gmail.com")) {

**if**()

**for**(**int** i=0; i<=index;i++) {

**if**(s!=b[i].getEmail()) {

System.***out***.println("enter the details: name,initial deposuite,Acctype");

**if**(index<b.length) {

b[index]=**new** BankAccount(sc.next(), s, sc.nextDouble(), AccountType.*valueOf*(sc.next().toUpperCase()),

**new** Date(sc.nextInt(), sc.nextInt(), sc.nextInt()));

index++;

}

}

}

**else** {

System.***out***.println("user already exists");

}

}

**break**;

**case** 2:

System.***out***.println("Number of Account in the bank is:");

**for**(BankAccount a:b) {

**if**(a!=**null**)

System.***out***.println(a);

}

**break**;

**case** 3:

System.***out***.println("enter your account number: ");

**int** acid=sc.nextInt();

**for**(**int** i=0;i<=index;i++) {

**if**(acid==b[i].getActid()) {

System.***out***.println("Amount you want to withdraw");

b[i].withdraw(sc.nextDouble());

}

}

**break**;

**case** 4:

System.***out***.println("Enter your account number: ");

**int** acid1=sc.nextInt();

**for**(**int** i=0;i<=index;i++) {

**if**(acid1==b[i].getActid()) {

System.***out***.println("Amount you want to deposite");

b[i].withdraw(sc.nextDouble());

}

}

**break**;

**case** 5:

**break**;

}

}**while**(choice!=5);

}

}