package Account;

public class Account

{

private String accId;

private String accName;

private int accBalance;

public Account(){}

public Account(String accName, String accId,int accBalance){

this.accName=accName;

this.accId=accId;

this.accBalance=accBalance;

}

public void setAccName(String accName){this.accName=accName;}

public void setAcId(String accId){this.accId=accId;}

public void setBalance(int accBalance){this.accBalance = accBalance;}

public String getAccName(){return accName;}

public String getAccId(){return accId;}

public int getBalance(){return accBalance;}

public int deposite(int amount){

accBalance +=amount;

System.out.println("Your deposite amount : "+amount);

System.out.println("Balance : "+accBalance);

return accBalance;

}

public int withdraw(int amount){

accBalance -=amount;

System.out.println("Your withdraw amount : "+amount);

System.out.println("Balance : "+accBalance);

return accBalance;

}

public void showInfo()

{

System.out.println("Account Name :" + accName);

System.out.println("Account id :" + accId);

System.out.println("Balance :" + accBalance);

}

static Transaction transaction[] = new Transaction[100] ;

static int totalNumberOfTransaction = 0;

public void addTransaction(Account sender, Account receiver, int amount)

{

transaction[totalNumberOfTransaction] = new Transaction(sender , receiver, amount);

totalNumberOfTransaction++;

}

public void transfer(int amount, Account receiver){

addTransaction(this, receiver, amount);

int y = receiver.deposite(amount);

System.out.println("Transfer Completed");

System.out.println("Balance of "+this.accName+" is: "+this.accBalance);

System.out.println("Balance of "+receiver.accName+" is: "+receiver.accBalance);

}

public void showAlltransaction()

{

for(int i = 0; i<totalNumberOfTransaction; i++)

{

transaction[i].showTransactionInfo();

}

}

}

package Account;

public class Transaction

{

Account sender;

Account receiver;

int amount;

Transaction(){};

Transaction(Account sender, Account receiver, int amount){

this.amount=amount;

this.receiver=receiver;

this.sender=sender;

}

public void setSender(Account sender){this.sender = sender;}

public void setReceiver(Account receiver){this.receiver = receiver;}

public void showTransactionInfo(){

System.out.println("Transacted amount :" +amount);

System.out.println("Sender Account name :" +sender.getAccName());

System.out.println("Sender Account id :" +sender.getAccId());

System.out.println("Receiver Account name :" +receiver.getAccName());

System.out.println("Receiver Account id :" +receiver.getAccId()+"\n");

}

}

package Account;

public class Transaction

{

Account sender;

Account receiver;

int amount;

Transaction(){};

Transaction(Account sender, Account receiver, int amount){

this.amount=amount;

this.receiver=receiver;

this.sender=sender;

}

public void setSender(Account sender){this.sender = sender;}

public void setReceiver(Account receiver){this.receiver = receiver;}

public void showTransactionInfo(){

System.out.println("Transacted amount :" +amount);

System.out.println("Sender Account name :" +sender.getAccName());

System.out.println("Sender Account id :" +sender.getAccId());

System.out.println("Receiver Account name :" +receiver.getAccName());

System.out.println("Receiver Account id :" +receiver.getAccId()+"\n");

}

}

package Book;

public class Book{

public static int bookCounter=0;

public String bookName;

public String bookAuthor;

public String bookId;

public String bookType;

public int bookCopy;

public Book(){}

public Book(String bookName, String bookAuthor, String bookId, String bookType, int bookCopy){

this.bookName=bookName;

this.bookAuthor=bookAuthor;

this.bookId=bookId;

this.bookType=bookType;

this.bookCopy=bookCopy;

bookCounter++;

}

public void showInfo(){

System.out.println("Book name : "+bookName+"\nBook Aurthor : "+bookAuthor+"\nBook Id : "+bookId+"\nBook Type : "+bookType+"\nBook Copy : "+bookCopy);

}

public void addBookCopy(int x){bookCopy+=x;}

public static void showTotalBookInfo(){

System.out.println("Total number of books = "+bookCounter);

}

}

package Contact;

public class Contact{

public String personName;

public String personId;

public int age;

public String mobileNumber;

public char gender;

public Contact(){}

public Contact(String personName, String personId, int age, String mobileNumber, char gender){

this.personName=personName;

this.personId=personId;

this.age=age;

this.mobileNumber=mobileNumber;

this.gender=gender;

}

public void showPersonInfo(){

System.out.println("Name : "+personName+"\nID : "+personId+"\nAge : "+age+"\nMobile Number : "+mobileNumber+"\nGender : "+gender);

}

public void detectMobileOperator(){

char ch;

if((ch=mobileNumber.charAt(2))=='7'){System.out.println("Grameenphone operator");}

if((ch=mobileNumber.charAt(2))=='4' || (ch=mobileNumber.charAt(2))=='3' || (ch=mobileNumber.charAt(2))=='9'){System.out.println("Banglalink operator");}

if((ch=mobileNumber.charAt(2))=='8'){System.out.println("Robi operator");}

}

}

package Library;

import java.util.Random;

import Book.\*;

import Student.\*;

public class Library{

private String libAddress;

Random ran = new Random();

private String libName;

private int delay=50;

static Book [] books = new Book[1000];

static Student s = new Student();

public static int totalBook=0;

public Library(){totalBook=0;}

public Library(String libName, String libAddress){

this.libName=libName;

this.libAddress=libAddress;

totalBook=0;

}

public void showLibInfo(){

System.out.println("Library Name: "+libName+"\nLibrary Address : "+libAddress);

for(int i=0;i<totalBook;i++){

books[i].showInfo();

}

if(totalBook==0){System.out.println("No Books found");}

System.out.println("Total Books in Library = "+totalBook);

}

public void addNewBook(Book book){

books[totalBook]=book;

System.out.println("Book id "+books[totalBook].bookId+" is added");

totalBook++;

}

public void deleteBook(Book book){

int flag=0;

for(int i=0;i<books.length;i++)

{

if (books[i]==book)

{

books[i]=null;

flag=1;

break;

}

}

if(flag==1)

{

System.out.println("Book Deleted.");

}

else

{

System.out.println("Book can not be Deleted.");

}

}

public void addNewBookCopy(Book book, int copy){

book.bookCopy+=copy;

System.out.println("Copy added of "+book.bookName);

}

public void delay(){

int librarianWish = ran.nextInt(delay);

s.balance = s.balance-delay;

System.out.println("Deposite delayed = "+s.balance);

System.out.println("Delayed amouunt = "+librarianWish);

}

}

package Mobile;

import AddressBook.\*;

public class Mobile

{

private String mobileOwnerName ;

private String mobileNumber;

private double mobileBalance ;

private String mobileOSName ;

private boolean lock =false;

public Mobile(){}

public Mobile(String mobileOwnerName, String mobileNumber,double mobileBalance ,String mobileOSName, boolean lock)

{

this.mobileOwnerName=mobileOwnerName;

this.mobileNumber=mobileNumber;

this.mobileBalance=mobileBalance;

this.mobileOSName=mobileOSName;

this.lock=lock;

}

public void showInfo()

{

if(lock==false){System.out.println("Phone is locked");}

else{System.out.println("Name : "+mobileOwnerName+"\nMobile number : "+mobileNumber+"\nMobile Balance : "+mobileBalance);}

}

public void recharge(int amount )

{

if(lock==false){System.out.println("Phone is locked");}

else{

mobileBalance+=amount;

System.out.println("Recharge Amount = "+amount);

System.out.println("Balance = "+mobileBalance);}

}

public void callSomeone(int timeDuration)

{

if(lock==false){System.out.println("Phone is locked");}

else{

int cost=1;

cost=cost\*timeDuration;

System.out.println("Total cost="+cost);

System.out.println("Minute talk="+timeDuration);}

}

public void showAddressBook(){

AddressBook a = new AddressBook();

a.showAllContactInfo();

}

}

package Student;

import Account.\*;

import Book.\*;

import Library.\*;

public class Student{

Account a = new Account();

public int balance;

//int day;

String studentName;

String studnetId;

static Book [] b = new Book[10];

static Library l=new Library();

public static int borrowCount;

public Student(){borrowCount=0;}

public Student( String studentName,String studnetId,int balance){

//book.showInfo();

this.studentName=studentName;

this.studnetId=studnetId;

a = new Account(studentName,studnetId,balance);

borrowCount=0;

}

public void depositeBook(Book book,int day){

Account a = new Account();

day=day\*10;

a.deposite(day);

}

public void borrowBook(Book book){

borrowCount++;

System.out.println(book.bookName+" borrowed ");

}

public void showBorrowedInfo(){

if(borrowCount>5){System.out.println("You can not borrow more than 5 books at a time");}

else{

a.showInfo();

for(int i=0;i>borrowCount;i++){b[i].showInfo();}

System.out.println("Borrow Info");

l.showLibInfo();

}

}

public void delayDeposite(){

l.delay();

}

}

import Account.\*;

import AddressBook.\*;

import Book.\*;

import Contact.\*;

import Mobile.\*;

import Library.\*;

import Student.\*;

import java.util.Scanner;

public class Main{

public static void main(String[]args){

START:

while(true){

Scanner sc = new Scanner(System.in);

System.out.println("\n\t WELCOME");

System.out.println("\t\*\*\*\*\*\*\*\*\*\*\*\*\n");

System.out.println("\tChoose an option");

System.out.println("\t1. Mobile");

System.out.println("\t2. Student");

System.out.println("\t3. Account");

System.out.println("\t4. Librarian");

System.out.println("\t0. Exit");

System.out.println("\t\*\*\*\*\*\*\*\*\*\*\*\*\n");

Book b1 = new Book("Paraiste","Asif","01","Nobel",3);

Book b2 = new Book("Oceans","Hossian","02","Drama",5);

Book b3 = new Book("Moon","Neloy","03","Comedy",9);

Book b4 = new Book("Cprogramming","Java","04","Educational",7);

Book b5 = new Book("Adjoint Matrix","Shohidul Islam","05","Educational",5);

Contact c1 = new Contact("Asif","001",21,"01776670525",'M');

Contact c2 = new Contact("Saida","002",20,"01432170525",'F');

Contact c3 = new Contact("Rishad","003",21,"01776673215",'M');

System.out.print("Enter Choice = ");

int firstInput = sc.nextInt();

switch(firstInput){

case 1:

System.out.println("\t\n\*\*\*\*\*\*\*\*\*\*\*\*\n");

Mobile mb=new Mobile("Asif","01776670525",150.0,"Android",true);

mb.showInfo();

AddressBook ad = new AddressBook("Asif","GP");

ad.addContact(c1);

ad.addContact(c2);

ad.addContact(c3);

MOBILE:

while(true){

System.out.println("\t1. Recharge ");

System.out.println("\t2. Call Someone ");

System.out.println("\t3. AddressBook ");

System.out.println("\t0. Exit");

System.out.print("Enter your choice = ");

int inputMobile = sc.nextInt();

switch(inputMobile){

case 1:

System.out.print("Enter recharge amount = ");

int rechar = sc.nextInt();

mb.recharge(rechar);

break;

case 0:

break MOBILE;

case 2:

ad.showAllContactInfo();

System.out.print("Enter call amount(minutes) = ");

int callAmount = sc.nextInt();

mb.callSomeone(callAmount);

break;

case 3:

ad.showAllContactInfo();

break;

}

}

break;

case 2:

System.out.println("\t\n\*\*\*\*\*\*\*\*\*\*\*\*\n");

STUDENT:

while(true){

Student s1 = new Student("Asif","42996",3000);

System.out.println("\t1. Borrow Book");

System.out.println("\t2. Show Borrowed Info");

System.out.println("\t3. Deposite Book");

System.out.println("\t4. Delay Deposite");

System.out.println("\t0. Exit");

System.out.print("Enter choice = ");

int studChoice = sc.nextInt();

switch(studChoice){

case 0:

break STUDENT;

case 1:

System.out.print("Enter Book Serial Number = ");

int bookSName = sc.nextInt();

if(bookSName==1){s1.borrowBook(b1);}

else if(bookSName==2){s1.borrowBook(b2);}

else if(bookSName==3){s1.borrowBook(b3);}

else if(bookSName==4){s1.borrowBook(b4);}

else if(bookSName==5){s1.borrowBook(b5);}

else{System.out.println("There is only 5 books. Choose between 1-5");

break;

}

break;

case 2:

s1.showBorrowedInfo();

break;

case 3:

System.out.print("Enter book serial number = ");

int depBookNum = sc.nextInt();

if(depBookNum==1){

System.out.print("Enter borrowed days = ");

int borrowDay1 = sc.nextInt();

s1.depositeBook(b1,borrowDay1);

}

else if(depBookNum==2){

System.out.print("Enter borrowed days = ");

int borrowDay2 = sc.nextInt();

s1.depositeBook(b2,borrowDay2);

}

else if(depBookNum==3){

System.out.print("Enter borrowed days = ");

int borrowDay3 = sc.nextInt();

s1.depositeBook(b3,borrowDay3);

}

else if(depBookNum==4){

System.out.print("Enter borrowed days = ");

int borrowDay4 = sc.nextInt();

s1.depositeBook(b4,borrowDay4);

}

else if(depBookNum==5){

System.out.print("Enter borrowed days = ");

int borrowDay5 = sc.nextInt();

s1.depositeBook(b5,borrowDay5);

}

else{System.out.println("There is only 5 books. Choose between 1-5");

break;

}

break;

case 4:

s1.delayDeposite();

break;

}

}

break;

case 3:

System.out.println("\t\n\*\*\*\*\*\*\*\*\*\*\*\*\n");

ACCOUNT:

while(true){

Account a = new Account("Asif","42996",3000);

System.out.println("\t\n\*\*\*\*\*\*\*\*\*\*\*\*\*\*\n");

System.out.println("\t1. Deposite");

System.out.println("\t2. Withdraw");

System.out.println("\t3. Transfer");

System.out.println("\t4. Show All Transaction");

System.out.println("\t0. Exit");

System.out.print("Enter your choice = ");

int accountChoice = sc.nextInt();

switch(accountChoice){

case 0:

break ACCOUNT;

case 1:

System.out.print("Enter deposite amount = ");

int depAmount = sc.nextInt();

a.deposite(depAmount);

break;

case 2:

System.out.print("Enter withdraw amount = ");

int widAmount = sc.nextInt();

a.withdraw(widAmount);

break;

case 3:

System.out.print("\nEnter Transfer Amount = ");

int traAmount = sc.nextInt();

Account b = new Account("Rishad","431",3000);

a.transfer(traAmount,b);

a.showInfo();

b.showInfo();

break;

case 4:

a.showAlltransaction();

break;

}

}

break;

case 4:

System.out.println("\t\n\*\*\*\*\*\*\*\*\*\*\*\*\n");

LIBRARY:

while(true){

Library l = new Library("Shahitto Kendro","42/c, Mogbazar");

l.addNewBook(b1);

l.addNewBook(b2);

l.addNewBook(b3);

l.addNewBook(b4);

l.addNewBook(b5);

System.out.println("\t1. Show Info");

System.out.println("\t2. Delete Book");

System.out.println("\t3. Add New Book Copy");

System.out.println("\t0. Exit");

System.out.print("Enter choice = ");

int libInput = sc.nextInt();

switch(libInput){

case 0:

break LIBRARY;

case 1:

l.showLibInfo();

break;

case 2:

System.out.print("Enter book number to delete = ");

int bookNum = sc.nextInt();

if(bookNum==1){l.deleteBook(b1);}

else if(bookNum==2){l.deleteBook(b2);}

else if(bookNum==3){l.deleteBook(b3);}

else if(bookNum==4){l.deleteBook(b4);}

else if(bookNum==5){l.deleteBook(b5);}

else{System.out.println("There is only 5 books. Choose between 1-5");

break;

}

break;

case 3:

System.out.print("Enter book serial number = ");

int bookSerialName = sc.nextInt();

if(bookSerialName==1){

System.out.print("Enter copy amount = ");

int bookCopyNum1 = sc.nextInt();

l.addNewBookCopy(b1,bookCopyNum1);

}

else if(bookSerialName==2){

System.out.print("Enter copy amount = ");

int bookCopyNum2 = sc.nextInt();

l.addNewBookCopy(b2,bookCopyNum2);

}

else if(bookSerialName==3){

System.out.print("Enter copy amount = ");

int bookCopyNum3 = sc.nextInt();

l.addNewBookCopy(b3,bookCopyNum3);

}

else if(bookSerialName==4){

System.out.print("Enter copy amount = ");

int bookCopyNum4 = sc.nextInt();

l.addNewBookCopy(b4,bookCopyNum4);

}

else if(bookSerialName==5){

System.out.print("Enter copy amount = ");

int bookCopyNum5 = sc.nextInt();

l.addNewBookCopy(b5,bookCopyNum5);

}

else{System.out.println("There is only 5 books. Choose between 1-5");

break;

}

break;

}

}

break;

case 0:

break START;

}

}

}

}