Project : Railway Ticket Booking System

Various Classes involved in this project are:

**Class Verification: for storing credentials of users**

import java.util.Scanner;

import java.util.HashMap;

import java.util.Map;

import java.util.Iterator;

import java.util.Set;

//Class for storing credentials of users

class Verification extends PasswordField

{

protected String [] name = new String [3];

protected String [] password = new String [3];

Scanner sc = new Scanner(System.in);

int flag;

HashMap<String, String> hmap = new HashMap<String, String>();

public Verification()

{

hmap.put("Shivam","Shivam@123");

hmap.put("Mradul","Mradul@1122");

hmap.put("Shanu","Shanu@1919");

System.out.println("\t\t\t\t LOGIN ");

}

//Method to check whethere the user has entered the right credentials or not.

void check(String user\_name , String user\_password)

{

Set set = hmap . entrySet();

Iterator iterator = set.iterator();

while(iterator.hasNext()) {

Map.Entry mentry = (Map.Entry)iterator.next();

if(mentry.getKey().equals(user\_name) && mentry.getValue().equals(user\_password))

{

flag=1;

break;

}

else

flag=0;

}

if(flag==1)

{

System.out.println();

System.out.println("\t\t\t\t Welcome "+user\_name+" ");

System.out.println();

}

else

{

System.out.println("Invalid login!!! Please try again");

loginDetails();

}

}

// Inputting login details from user.

void loginDetails()

{

System.out.println();

System.out.print("Username: ");

String username = sc.nextLine();

String Password = PasswordField.readPassword("Password: ");

check(username, Password);

}

}

**Class PasswordField : Showing \* on the place of password**

import java.io.\*;

class PasswordField {

public static String readPassword (String prompt) {

EraserThread et = new EraserThread(prompt);

Thread mask = new Thread(et);

mask.start();

BufferedReader in = new BufferedReader(new InputStreamReader(System.in));

String password = "";

try {

password = in.readLine();

} catch (IOException ioe) {

ioe.printStackTrace();

}

et.stopMasking();

return password;

}

}

class EraserThread implements Runnable {

private boolean stop;

public EraserThread(String prompt) {

System.out.print(prompt);

}

public void run () {

while (!stop){

System.out.print("\010\*");

try {

Thread.currentThread().sleep(1);

} catch(InterruptedException ie) {

ie.printStackTrace();

}

}

}

public void stopMasking() {

this.stop = true;

}

}

**Class Train: for storing details of the trains**

import java.util.Scanner;

//Class for storing train details like source station, destination station and fare.

class Train extends Passenger

{

Scanner sc = new Scanner(System.in);

protected int choice;

protected static int fare;

protected static String user\_source;

protected static String user\_destination;

protected static String date;

protected String from,to;

protected static String coach;

protected String[][] train= { {"INDORE" , "BHOPAL","160"} ,{ "INDORE", "MUMBAI" ,"440"},{"NEW DELHI","KOLKATA" ,"200"},{"NEW DELHI","DEHRADUN","250" }};

//Getting details from user about source statin and destination station.

void getDetails()

{

System.out.print("From: ");

from = sc.nextLine();

System.out.print("To: ");

to = sc.nextLine();

System.out.print("Date: ");

date = sc.nextLine();

c(from,to);

}

void checkTrain(String source, String to)

{

for(int i=0;i<4;i++)

{

if(train[i][0].equals(source) && train[i][1].equals(to))

{

choice =1;

fare=Integer.parseInt(train[i][2]);

user\_source=train[i][0];

user\_destination=train[i][1];

break;

}

else

{

choice=0;

}

}

if(choice==0)

{

System.out.println("No train available for this route");

System.exit(0);

}

else

{

book();

}

}

void book()

{

System.out.println("Select the class in which you want to travel :\n");

System.out.println("1 for AC");

System.out.println("2 for SLEEPER");

System.out.println("3 for SECOND SITTING");

System.out.println();

int ch;

ch= sc.nextInt();

System.out.println();

switch(ch)

{

case 1:

coach= "AC";

System.out.println("Seats Available: 50\n ");

break;

case 2:

coach = "SLEEPER";

System.out.println("Seats Available: 50\n ");

break;

case 3:

coach = "SECOND SITTING";

System.out.println("Seats Available: 50\n ");

break;

default: System.out.println("Please select valid option\n");

book();

}

}

//Method to return total fare of journey

protected int calculateFare()

{

return numberOfPassengers\*fare;

}

}

**Class Passenger : to store details of passenger**

import java.util.Scanner;

// Class to store Passengers Details

class Passenger{

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

static protected int numberOfPassengers;

protected String nameOfPassenger;

protected int age;

protected String gender;

protected String nationality;

static protected String contactNumber;

//Method to get Passengers Details

protected void getPassengerDetails(int psg, int n){

numberOfPassengers=n;

System.out.println();

System.out.println("Passenger-"+psg);

System.out.print("Name: ");

nameOfPassenger=sc.nextLine();

System.out.print("Age: ");

age=sc.nextInt();

sc.nextLine();

System.out.print("Gender: ");

gender=sc.nextLine();

System.out.print("Nationality: ");

nationality=sc.nextLine();

System.out.println();

if(n==psg)

{

System.out.print("Contact Number: ");

contactNumber=sc.next();

System.out.println("\nYour tickets have been booked successfully!!!!!!!");

}

}

}

**Class Ticket: for allotting seats and showing ticket details**

import java.util.Scanner;

// Class to allot seat and show ticket details

class Tickets extends Train{

protected int totalFare;

//Method to show Ticket

protected void displayTicketDetails(){

System.out.println(Train.user\_source+"->"+Train.user\_destination );

System.out.println("Date: "+Train.date);

System.out.println("Class: "+Train.coach );

System.out.print("Seats: ");

getSeatsNumber();

Train t=new Train();

System.out.println("\nTotal Fare: Rs."+t.calculateFare());

System.out.println("\nHappy Journey!!!!!!!!");

}

//Method to allot seats to passengers

protected void getSeatsNumber(){

int temp=(int)(Math.random() \* 50) + 1;

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

{

if( (temp+numberOfPassengers)>50 && i==0)

temp=temp-numberOfPassengers;

System.out.print( user\_source.substring(0,2)+"/"+coach.substring(0,2)+"/"+temp+" ");

temp++;

}

}

}

**Main class**

import java.util.Scanner;

class Main{

public static void main(String args[])

{

//For Login

System.out.println(" \t\t\t Welcome to HUMSAFAR EXPRESS ");

Verification credentials=new Verification();

credentials.loginDetails();

//Train Details

Train trn=new Train();

trn.getDetails();

int numberOfPassengers=-1;

Scanner sc=new Scanner(System.in);

try{

System.out.print("Enter Number of Passengers: ");

numberOfPassengers = sc.nextInt();

if(numberOfPassengers==0)

System.exit(0);

}

catch(Exception e)

{

System.out.println("Wrong Information");

System.exit(0);

}

//Passengers Details

Passenger psg[]=new Passenger[numberOfPassengers];

System.out.println("\n\t\t\t\t Passengers Details ");

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

{

psg[i]=new Passenger();

psg[i].getPassengerDetails(i+1,numberOfPassengers);

}

//Showing Ticket

Tickets tkt=new Tickets();

tkt.displayTicketDetails();

} }

