1.**Bus booking System using Inheritance and Interface :**

import java.util.\*;

interface Seatmgt {

void showavail();

void updateseats();

}

class Bus {

protected String busno;

protected String route;

protected String bustype;

protected int totalseats;

public Bus(String busno, String route, String bustype, int totalseats) {

this.busno = busno;

this.route = route;

this.bustype = bustype;

this.totalseats = totalseats;

}

void showdetails() {

System.out.println("\nBus number : "+busno+"\nRoute : "+route+"\nBus Type : " +bustype+"\nAvailable Seats : "+totalseats);

}

}

class Booking extends Bus {

protected String passengername;

protected int bookedseats;

public Booking(String busno,String route, String bustype, int totalseats) {

super(busno,route,bustype,totalseats);

}

void bookticket(String passengername, int seats) {

if(seats <= totalseats) {

this.passengername = passengername;

this.bookedseats = seats;

totalseats -= seats;

System.out.println("Ticket booked");

}

else {

System.out.println("Seats unavailable");

}

}

}

class Payment extends Booking implements Seatmgt {

public Payment(String busno,String route, String bustype, int totalseats) {

super(busno,route,bustype,totalseats);

}

public void makepayment(double amount) {

System.out.println("Paid successfully "+amount+" for "+passengername);

}

public void showavail() {

System.out.println("Available Seats : "+totalseats);

}

public void updateseats() {

System.out.println("Seats updated : "+totalseats);

}

}

public class Busbooksys {

public static void main(String[] args) {

Scanner sc = new Scanner(System.in);

System.out.println("Enter bus number : ");

String busno = sc.nextLine();

System.out.println("Enter bus Route : ");

String route = sc.nextLine();

System.out.println("Enter Bus Type : ");

String bustype = sc.nextLine();

System.out.println("Enter no of seats : ");

int seats = sc.nextInt();

Payment bk = new Payment(busno,route,bustype,seats);

int number;

do{

System.out.println("====Bus Booking System====\n1.View Bus Detalis\n2.Check Seat Avail\n3.Book Ticket\n4.Make Payment\n5.Exit\nEnter Your Choice : ");

number = sc.nextInt();

switch(number){

case 1:

bk.showdetails();

break;

case 2:

bk.showavail();

break;

case 3:

sc.nextLine();

System.out.println("Enter Passenger name : ");

String name = sc.nextLine();

System.out.println("Enter No.of seats to book :");

int bookseats = sc.nextInt();

bk.bookticket(name,bookseats);

bk.updateseats();

break;

case 4:

System.out.println("Enter Payment Amount : ");

double amount = sc.nextDouble();

bk.makepayment(amount);

break;

case 5:

System.out.println("\*\*\*Thanking You\*\*\*");

break;

default :

System.out.println("Enter only valid options...");

}

}while(number != 5);

sc.close();

}

}  
  
output:

Enter bus number :

TN 59 N 6067

Enter bus Route :

Madurai -> Chennai

Enter Bus Type :

Sleeper

Enter no of seats :

32

====Bus Booking System====

1.View Bus Detalis

2.Check Seat Avail

3.Book Ticket

4.Make Payment

5.Exit

Enter Your Choice :

1

Bus number : TN 59 N 6067

Route : Madurai -> Chennai

Bus Type : Sleeper

Available Seats : 32

====Bus Booking System====

1.View Bus Detalis

2.Check Seat Avail

3.Book Ticket

4.Make Payment

5.Exit

Enter Your Choice :

2

Available Seats : 32

====Bus Booking System====

1.View Bus Detalis

2.Check Seat Avail

3.Book Ticket

4.Make Payment

5.Exit

Enter Your Choice :

3

Enter Passenger name :

Shiva

Enter No.of seats to book :

3

Ticket booked

Seats updated : 29

====Bus Booking System====

1.View Bus Detalis

2.Check Seat Avail

3.Book Ticket

4.Make Payment

5.Exit

Enter Your Choice :

4

Enter Payment Amount :

1500

Paid successfully 1500.0 for Shiva

====Bus Booking System====

1.View Bus Detalis

2.Check Seat Avail

3.Book Ticket

4.Make Payment

5.Exit

Enter Your Choice :

5

\*\*\*Thanking You\*\*\*

