**CHALLENGE 1,2,3:**

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@ Application: using different methods which I will call in another class

@author: Chanpreet

@date: 9 January, 2023

@time 4.00pm

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class AirlineReservation

{

     String firstName; // insatnce variables

     String lastName;

     int flightNumber;

     int seatNumber;

     int ticketNumber;

    // a constructor with no arguments

    public AirlineReservation()

    {

        this.firstName = "";

        this.lastName = "";

        this.flightNumber = 0;

        this.seatNumber = 0;

        this.ticketNumber = 0;

    }

    // constructor with 5 arguments

    public AirlineReservation(String firstName, String lastName, int flightNumber, int seatNumber, int ticketNumber) {

        this.firstName = firstName;

        this.lastName = lastName;

        this.flightNumber = flightNumber;

        this.seatNumber = seatNumber;

        this.ticketNumber = ticketNumber;

    }

    // setter and getter method for each class

    public String getfirstName()

     {

        return this.firstName;

    }

    public void setfirstName(String firstName)

     {

        this.firstName = firstName;

    }

    public String getlastName()

     {

        return this.lastName;

    }

    public void setlastName(String lastName)

    {

        this.lastName = lastName;

    }

    public int getflightNumber()

     {

        return this.flightNumber;

    }

    public void setflightNumber(int flightNumber)

    {

        this.flightNumber = flightNumber;

    }

    public int getseatNumber()

     {

        return this.seatNumber;

    }

    public void setseatNumber(int seatNumber)

    {

        this.seatNumber = seatNumber;

    }

    public int getticketNumber()

     {

        return this.ticketNumber;

    }

    public void setticketNumber(int ticketNumber)

    {

        this.ticketNumber = ticketNumber;

    }

    // using the method called  retrieveSeatingClass

    public String getretrieveSeatingClass()

    {

        String result = "";

        switch(this.seatNumber)

        {

            case 1: result = "FirstClass" ; break;

            case 2: result = "FirstClass" ; break;

            case 3: result = "SecondClass" ; break;

            case 4: result = "SecondClass" ; break;

            case 5: result = "ThirdClass" ; break;

            case 6: result = "ThirdClass" ; break;

            case 7: result = "FourthClass" ; break;

            case 8: result = "FourthClass" ; break;

            default : result = "";

        }

        return result;

    }

    // creating a method called  checkNoFlyList

    public String checkNoFlyList()

    {

        if((this.firstName.equals("Jack") && ((this.lastName.equals("Blue") || this.lastName.equals("Green"))) || (this.firstName.equals("Jill") && this.lastName.equals("White"))))

        {

            return "9999";

        }

          return "4444";

    }

    // create a segmentState method

    public String segmentState()

    {

        int index2 = this.getticketNumber()%10;

        int totalDigits = (int) Math.log10(this.getticketNumber());

        int index1 = (int) (this.getticketNumber()/ (int) Math.pow(10,totalDigits));

        StringBuffer sb = new StringBuffer();

        sb.append(this.getfirstName());

        sb.append(this.getlastName());

        sb.append(this.getflightNumber());

        sb.append(this.getseatNumber());

        sb.append(this.getticketNumber());

        return sb.toString().substring(index1, index2);

    }

}

**CHALLENGE 4:**

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@ Application:  calling methods  from another class

@author: Chanpreet

@date: 9 January, 2023

@time 4.00pm

\*/

import java.util.Scanner;

public class AirlineReservationTestHarness

 {

    public static void main(String[] args)

    {

        Scanner obj = new Scanner(System.in);

        // instantiate an  AirlineReservation object

        AirlineReservation r1 = new AirlineReservation("Jack", "Blue",567, 6, 45678994);

        // printing all the data

         System.out.println(r1.getfirstName());

         System.out.println(r1.getlastName());

         System.out.println(r1.getflightNumber());

         System.out.println(r1.getseatNumber());

         System.out.println(r1.getticketNumber());

        System.out.println(r1.getretrieveSeatingClass());

        System.out.println("Portion of String : "+r1.segmentState());

        // check if the passenger is in noFlyList

        if(r1.checkNoFlyList().equals("9999"))

        {

            System.out.println("Passenger is in noFlyList");

            for(int i=0;i<7;i++)

            {

                System.out.println("ALERT");

            }

        }

        // instantiate the second  AirlineReservation object

        AirlineReservation r2 = new AirlineReservation();

        // ask the user for data

        System.out.println("Enter the First Name : ");

        String firstName = obj.nextLine();

        System.out.println("First Name is " + firstName);

        System.out.println("Enter the Last Name : ");

        String lastName = obj.nextLine();

        System.out.println("Last Name is " + lastName);

        System.out.println("Enter the Flight number   : ");

        int flightNumber =  obj.nextInt();

        System.out.println("Flight Number is " + flightNumber);

        System.out.println("Enter the Seat number  : ");

        int seatNumber = obj.nextInt();

        System.out.println("Seat Number is " + seatNumber);

        System.out.println("Enter the ticket number: ");

        int ticketNumber = obj.nextInt();

        System.out.println("Ticket Number is " + ticketNumber);

        r2.setfirstName(firstName);

        r2.setlastName(lastName);

        r2.setflightNumber(flightNumber);

        r2.setseatNumber(seatNumber);

        r2.setticketNumber(ticketNumber);

        //print all the data

          System.out.println(r2.getfirstName());

         System.out.println(r2.getlastName());

         System.out.println(r2.getflightNumber());

         System.out.println(r2.getseatNumber());

         System.out.println(r2.getticketNumber());

        System.out.println(r2.getretrieveSeatingClass());

        System.out.println("Portion of String : "+r2.segmentState());

        // check if the passenger is in noFlyList

        if(r2.checkNoFlyList().equals("9999"))

        {

            // the passenger is in noFlyList , so print the alert

            System.out.println("Passenger is in noFlyList");

            for(int i=0;i<7;i++)

            {

                System.out.println("ALERT");

            }

        }

    }

}

**A screenshot of a computer

Description automatically generated with medium confidenceOUTPUT:**