

Java Programming Prashanth.S (19MID0020)

Activity - 4

Write a program to demonstrate the knowledge of students in File handling. Eg., Define a class 'Donor' to store the below-mentioned details of a blood donor.

Name, Age, Address, Contact number, blood group, date of the last donation

Create 'n' objects of this class for all the regular donors at Vellore. Write these objects to a file. Read these objects from the file and display only

those donors' details whose blood group is 'A+ve' and had not donated for the recent six months.

Code

```
1 package assignment_question;
2
3 import java.io.FileInputStream;
4 import java.io.FileNotFoundException;
5 import java.io.FileOutputStream;
6 import java.io.IOException;
7 import java.io.ObjectInputStream;
8 import java.io.ObjectOutputStream;
9 import java.io.Serializable;
10 import java.text.ParseException;
11 import java.util.Date;
12 import java.text.SimpleDateFormat;
13 import java.util.Calendar;
14 import java.util.Scanner;
15
16 class Donor implements Serializable
17 {
18     String name;
19     int age;
20     String address;
```

```

21     long contact_no;
22     String blood_group;
23     Calendar last_donated_date=Calendar.getInstance();
24     SimpleDateFormat formatter= new SimpleDateFormat("dd/MM/yyyy");
25     Donor(String name,int age,String address,long contact_no,String blood_group,String date1)
26     {
27         this.name=name;
28         this.age=age;
29         this.address=address;
30         this.contact_no=contact_no;
31         this.blood_group=blood_group;
32         try{
33             Date date=formatter.parse(date1);// parsing(separeting) the date string
34             last_donated_date.setTime(date);// date to calender object
35         }
36         catch(ParseException e)
37         {
38             System.out.println("Not a valid date ");
39         }
40     }
41     @Override
42     public String toString()
43     {
44         return "Name: "+name+
45             "\nAge: "+age+
46             "\nAddress: "+address+
47             "\nContact_no: "+contact_no+
48             "\nBlood Group: "+blood_group+
49             "\nDate: "+formatter.format(last_donated_date.getTime())+//Calendar to String
50             "\n-----";
51     }
52 }
53
54 public class assignment_4 {
55     public static void main(String args[]){
56         Scanner in =new Scanner(System.in);
57         String name;
58         int age;
59         String address;
60         long number;

```

```

61 String blood_group;
62 String date;
63 System.out.println("Constrints : blood group should be 'A+ve' & shouldn't be donated for last six mo
64 System.out.print("Enter the number of Donors: ");
65 int Donors_no=in.nextInt();
66 Donor[] d; // array of donor reference
67 d = new Donor[Donors_no];
68 try
69 {
70 FileOutputStream fos=new FileOutputStream("Donor_Details_01");
71 ObjectOutputStream oos = new ObjectOutputStream(fos);
72 for (int i=0;i<Donors_no;i++)
73 {
74 System.out.println("Please enter the details for Donor-"+(i+1));
75 System.out.print("Enter name : ");
76 name=in.next();
77 System.out.print("Enter age : ");
78 age=in.nextInt();
79 in.nextLine();
80 System.out.print("Enter address : ");
81 address=in.nextLine();
82 System.out.print("Enter mobile number : ");
83 number=in.nextLong();
84 System.out.print("Enter blood group : ");
85 blood_group=in.next();
86 System.out.print("Enter date of last donation : ");
87 date=in.next();
88 d[i]=new Donor(name,age,address,number,blood_group,date);
89 oos.writeObject(d[i]);
90 oos.flush();
91 }
92 oos.close();
93 }
94 catch(FileNotFoundException fnfe)
95 {
96 System.out.println("During Serialization, error occured due to "+fnfe);
97 }
98 catch(IOException ioe)
99 {
100 System.out.println("During Serialization, error occured due to "+ioe);
101 }
System.out.println("\n=====")

```

```

103     System.out.println("\n=====
104         + "\nDeserializing.....\n");
105     try{
106         FileInputStream fis=new FileInputStream("Donor_Details_01");
107         ObjectInputStream ois = new ObjectInputStream(fis);
108         Calendar six_month = Calendar.getInstance();
109         six_month.add(Calendar.MONTH,-6);//getting the instance of six month ago calendar
110         Donor []d2;
111         d2 = new Donor[Donors_no];
112         int count=0;//flag to check presence of data
113         System.out.println("Details of Donors with 'A+ve' & didn't donate on past six months ..... \n");
114         for (int i=0;i<Donors_no;i++)
115         {
116             d2[i] = (Donor) ois.readObject();
117             //constraint
118             if((d2[i].blood_group).equals("A+ve") && (d2[i].last_donated_date).compareTo(six_month)<=0)
119             {
120                 System.out.println(d2[i]);
121                 count++;
122             }
123         }
124         ois.close();
125         if(count==0)// executed when no data is found for the constraint
126         {
127             System.out.println("No Data Found");
128         }
129         catch(FileNotFoundException fnfe)
130         {
131             System.out.println("During Deserialization, error occured due to "+fnfe);
132         }
133         catch(IOException | ClassNotFoundException e)
134         {
135             System.out.println("During Deserialization, error occured due to "+e);
136         }
137         System.out.println("\n=====");
138     }
139 }

```

Output

Constrints : blood group should be 'A+ve' & shouldn't be donated for last six months

Enter the number of Donors: 3

Please enter the details for Donor-1

Enter name : Prashanth.S

Enter age : 22

Enter address : washington DC

Enter mobile number : 9003212344

Enter blood group : B+ve

Enter date of last donation : 13/10/2020

Please enter the details for Donor-2

Enter name : SamCurran

Enter age : 29

Enter address : brooklyn

Enter mobile number : 9231892122

Enter blood group : A+ve

Enter date of last donation : 23/08/2020

Please enter the details for Donor-3

Enter name : Silverly

Enter age : 22

Enter address : Berkley

Enter mobile number : 32289102

Enter blood group : A+ve

Enter date of last donation : 24/12/2020

=====

Deserializing.....

Details of Donors with 'A+ve' & didn't donate on past six months

Name: SamCurran

Age: 29

Address: brooklyn

Contact_no: 9231892122

Blood Group: A+ve

Date: 23/08/2020

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BUILD SUCCESSFUL (total time: 2 minutes 7 seconds)