

<b>COURSE</b>	ADVANCE JAVA PROGRAMMING
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<b>PROBLEM TITLE</b>	COLLEGE SYMPOSIUM REGISTRATION

### Problem:

A Symposium is being conducted. In this regard, students are asked to register their participation from various colleges. The number of students to be participated from each college is restricted to 5. Write a java program to accomplish the above task by chose appropriate collection interface and verify that

- If register number already exists, ignore insertion.
- The allotted count of registration is maintained.

### Constraints:

- **Registration:** No two Registrations for a Same person, with same register number should be allowed.
- **College Level Registration:** The Registration Constraint for Register Number is followed at the College Level registration of Students.
- **Data Collected:** Register Number and Name of Student, Email, Qualification, phone Number and their origin Organisation should be collected and Stored for Each registered person.
- **User Interaction and Validation:** The User should be able to register in an User-friendly manner, and should be able to validate and look over their previous Registrations.
- **Information Accessibility:** The Users should be able to access the related information about the Symposium and the Events conducted, just from the Registration Portal, itself.
- **Data Structures:** The data should be structured such as that, all the Registrations, will come under a common Organisation, and all the Organisation's data are maintained under a List of Organisations.

### Program:

File : Inter\_College\_Competition.java

```
import java.util.*;
import java.io.*;

public class Inter_College_Competition
{
    String[] coms={"Register","Lookup","Info","Dates"};
    String[]
Attributes={"Organisation","Name","Age","Qualification","Email","Phone","Address","Contests"};
```

```

        String[] Contests = {"Coding Contest","Paper Presentation","Technical
Quiz","Data Analytics Workshop","Cultural Events(All)"};
        String[] Contests_Timing = {"05-08-2023 9.00 A.M","05-08-2023 12.00
A.M","05-08-2023 3.00 P.M","06-08-2023 9.00 A.M","06-08-2023 12.00 A.M"};
        Scanner sc = new Scanner(System.in);
        HashMap<String,HashMap<String,ArrayList<String>>>
Registration_Records;
        HashMap<String,ArrayList<String>> thmp;
        boolean ch1=true;
        String ts;
        public Inter_College_Competition()
        {
            System.out.println("\n"+"-
".repeat(57)+"/".repeat(7)+"\\".repeat(7)+"-".repeat(57));
            System.out.println(" ".repeat(50)+"Welcome to Amazon Hackathon"+"
".repeat(50));

System.out.println("_".repeat(50)+"\\".repeat(14)+"/".repeat(14)+"_".repea
t(50));
            this.Info();
            System.out.println("\n"+"_".repeat(30)+"Hackathon Registration
Interface:"+"_".repeat(30)+"\n");
            // Values Initialisation:
            this.Registration_Records = new
HashMap<String,HashMap<String,ArrayList<String>>>();
            System.out.println("\nCommands:");
            for(int i=0;i<coms.length;i++)
            {
                System.out.println("\t=> "+coms[i]);
            }
            this.Command();
        }
        public void Command()
        {
            String com="";
            while(true)
            {
                System.out.print("\nRegistration_Interface > ");
                try
                {
                    com = sc.nextLine();
                }
                catch(Exception e)
                {
                    System.out.println(e);
                }
                //System.out.println(com);
                if(com.toLowerCase().equals("register"))
                {
                    if(this.Register())

```

```

        {
            System.out.println("_".repeat(70)+"\n");
            System.out.println("\t\t"+"Registration Successfull");
            System.out.println("_".repeat(70));
        }
        else
        {
            System.out.println("Sorry, the Registration failed,
please check your Credentials or use `Lookup` Command to see Registration
Status and try again.");
        }
    }
    else if(com.toLowerCase().equals("lookup"))
    {
        this.Lookup();
    }
    else if(com.toLowerCase().equals("info"))
    {
        this.Info();
    }
    else if(com.toLowerCase().equals("dates"))
    {
        this.Dates();
    }
    else if(com.toLowerCase().equals("exit"))
    {
        System.out.println("\n"+"_".repeat(25)+"Thank
you"+"_".repeat(25));
        System.exit(0);
    }
}
}
public void Info()
{
    try
    {
        FileReader fr = new FileReader("Amazon_Hackathon_Info.txt");
        BufferedReader bsr = new BufferedReader(fr);
        while((ts = bsr.readLine() )!=null)
        {
            ts = ts.replace("\\n","\n").replace("\\t","\t");
            System.out.println(ts);
        }
        System.out.println("\nContests:");
        for(int i=0;i<Contests.length;i++)
        {
            System.out.println((i+1)+"."+Contests[i]);
        }
    }
    catch(Exception e)

```

```

        {
            System.out.println(e);
        }
        System.out.println("");
    }
    public void Dates()
    {
        System.out.println("\nContests and Timing:\n");
        System.out.println("\t    Contests "+" ".repeat(22)+" Timing\n");
        for(int i=0;i<Contests.length;i++)
        {
            System.out.println("\t "+(i+1)+". "+Contests[i]+" ".repeat(30-
Contests[i].length()+Contests_Timing[i]));
        }
    }
    public void Lookup()
    {
        String nm,em;
        System.out.print("Enter Name: ");
        nm = sc.nextLine();
        System.out.print("Enter Email: ");
        em = sc.nextLine();
        //System.out.println(nm);
        //System.out.println(em);
        ch1=true;
        for( String s : this.Registration_Records.keySet())
        {

//System.out.println(this.Registration_Records.get(s).get(Attributes[1]));

if(this.Registration_Records.get(s).get(Attributes[1]).contains(nm))
        {

//System.out.println(this.Registration_Records.get(s).get(Attributes[4]));

if(this.Registration_Records.get(s).get(Attributes[4]).contains(em))
        {
            System.out.println("Name and Email provided are
already registered");
            System.out.print("Do you want to see the Registration
Data[Y/N]: ");
            ts = sc.nextLine();
            if(ts.equals("Y"))
            {
                thmp = this.Registration_Records.get(s);
                System.out.println("\nRegistration Data:\n");
                int ind = thmp.get(Attributes[4]).indexOf(em);
                for(int i=1;i<Attributes.length-1;i++)
                {

```

```

        System.out.println("\t"+Attributes[i]+"
".repeat(25-this.Attributes[i].length())+":
"+thmp.get(Attributes[i]).get(ind));
    }
    System.out.println("\n\tContests Registered:");
    ts = thmp.get(Attributes[Attributes.length-
1]).get(ind);

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

System.out.println("\t\t"+(i+1)+". "+this.Contests[ts.charAt(i)-49]);
    }
    System.out.print("\n");
    }
    ch1=false;
    }
    }
    }
    if(ch1)
    {
        System.out.println("No Records of Registration are found");
        System.out.print("Do you want to register[Y/N]: ");
        ts = sc.nextLine();
        if(ts.equals("Y"))
            this.Register();
    }
}
public boolean Register()
{
    String t="",t1;
    System.out.println("_".repeat(30)+"Registration
Form:"+"_".repeat(30)+"\n");
    System.out.print("Enter "+Attributes[0]+" \t: ");
    t1=sc.nextLine();
    if(!this.Registration_Records.keySet().contains(t1))
    {
        HashMap<String,ArrayList<String>> temp = new
HashMap<String,ArrayList<String>>();
        for(int i=1;i<Attributes.length;i++)
        {
            temp.put(this.Attributes[i],new ArrayList<String>());
        }
        this.Registration_Records.put(t1,temp);
    }
    //System.out.println(this.Registration_Records);
    String[] ar = new String[this.Attributes.length];
    for(int i=1;i<this.Attributes.length-1;i++)
    {
        System.out.print("Enter "+this.Attributes[i]+" ".repeat(25-
this.Attributes[i].length())+": ");
    }
}

```

```

        ar[i-1] = sc.nextLine();
    }
    System.out.println("Choose Contests :");
    this.Dates();
    for(int o=0;o<3;o++)
    {
        System.out.print("\nSelect Contests in Number Pattern:");
        t = sc.nextLine();
        ch1=false;
        for(int i=0;i<t.length();i++)
        {
            if(!(t.charAt(i)>=49 && t.charAt(i)<=53))
            {
                System.out.println("Invalid Number Pattern, please
choose again");
                ch1=true;
                break;
            }
        }
        if(ch1)
        {
            continue;
        }
        break;
    }
    if(ch1)
    {
        return false;
    }
    ar[this.Attributes.length-2] = t;
    HashMap<String,ArrayList<String>> st =
Registration_Records.get(t);
    for( String s : this.Registration_Records.keySet())
    {
        if(this.Registration_Records.get(s).get(Attributes[4]).contains(ar[3]))
        {
            System.out.println("Name and Email provided are already
registered");
            return false;
        }
        else
        if(this.Registration_Records.get(s).get(Attributes[5]).contains(ar[4]))
        {
            System.out.println("Name and phone number provided are
already registered");
            return false;
        }
    }
    System.out.println("\nRegistration accepted");
    for(int i=1;i<Attributes.length;i++)

```

```

        {

this.Registration_Records.get(t1).get(this.Attributes[i]).add(ar[i-1]);

//System.out.println(this.Registration_Records.get(t1).get(this.Attributes
[i]));
        }
        return true;
    }
    public static void main(String[] args)
    {
        if (System.console() == null) {
            // No console available, so we create a new console to display
the output
            try {
                ProcessBuilder builder;
                if
(System.getProperty("os.name").toLowerCase().contains("win")) {
                    // For Windows systems
                    builder = new ProcessBuilder("cmd", "/c", "java", "-
jar", "YourProgram.jar");
                } else {
                    // For non-Windows systems
                    builder = new ProcessBuilder("java", "-jar",
"YourProgram.jar");
                }
                builder.redirectErrorStream(true);
                Process process = builder.start();
                InputStream inputStream = process.getInputStream();
                InputStreamReader inputStreamReader = new
InputStreamReader(inputStream);
                BufferedReader bufferedReader = new
BufferedReader(inputStreamReader);
                String line;
                while ((line = bufferedReader.readLine()) != null) {
                    System.out.println(line);
                }
                process.waitFor();
            } catch (Exception e) {
                e.printStackTrace();
            }
        } else {
            // Console is available, so print output directly to it
            Inter_College_Competition icc = new
Inter_College_Competition();
            // Rest of your program logic
        }
    }
}

```

**OUTPUT:**

### User Registration Interface:

```
-----//\\//\\//\\//\\//\\//\n                          Welcome to Amazon Hackathon\n                         //\\//\\//\\//\\//\\//\\//\\//\\//\\\n-----\n\nHackathon organised by Amazon, having Interesting Contests, Events and Entertaining Cultural's and lots and lots of prizes, rewards and Certifications.\n\nFeel free to participate in awesome events and gain rewards, and Certifications.\nExplore the Hackathon, and Register with Enthusiasm\nto contest in hackathon from you Organisation(college or Company).\n\nContests:\n1.Coding Contest\n2.Paper Presentation\n3.Technical Quiz\n4.Data Analytics Workshop\n5.Cultural Events(All)\n\n-----Hackathon Registration Interface:-----\n\nCommands:\n=> Register\n=> Lookup\n=> Info\n=> Dates
```

### User Registration:

```

Registration_Interface > Register
-----Registration Form:-----
Enter Organisation      : NEC
Enter Name              : aaa
Enter Age               : 34
Enter Qualification     : BE
Enter Email             : udaya@gmail
Enter Phone             : 98222
Enter Address           : aaa
Choose Contests :

Contests and Timing:

Contests                Timing
1.Coding Contest        05-08-2023 9.00 A.M
2.Paper Presentation    05-08-2023 12.00 A.M
3.Technical Quiz        05-08-2023 3.00 P.M
4.Data Analytics Workshop 06-08-2023 9.00 A.M
5.Cultural Events(All)  06-08-2023 12.00 A.M

Select Contests in Number Pattern:145

Registration accepted

-----
Registration Successfull
-----

```



## User Registration Lookup:

```
Registration_Interface > lookup
Enter Name: aaa
Enter Email: udaya@gmail
Name and Email provided are already registered
Do you want to see the Registration Data[Y/N]: Y
```

Registration Data:

```
Name           : aaa
Age            : 34
Qualification   : BE
Email          : udaya@gmail
Phone          : 98222
Address        : aaa
```

Contests Registered:

- 1.Coding Contest
- 2.Data Analytics Workshop
- 3.Cultural Events(All)

## Symposium and Events Information:

```
Registration_Interface > info
```

Hackathon organised by Amazon, having Interesting Contests, Events and Entertaining Cultural and lots and lots of prizes, rewards and Certifications.

Feel free to participate in awesome events and gain rewards, and Certifications.  
Explore the Hackathon, and Register with Enthusiasm  
to contest in hackathon from your Organisation(college or Company).

Contests:

- 1.Coding Contest
- 2.Paper Presentation
- 3.Technical Quiz
- 4.Data Analytics Workshop
- 5.Cultural Events(All)

```
Registration_Interface > dates
```

Contests and Timing:

Contests	Timing
1.Coding Contest	05-08-2023 9.00 A.M
2.Paper Presentation	05-08-2023 12.00 A.M
3.Technical Quiz	05-08-2023 3.00 P.M
4.Data Analytics Workshop	06-08-2023 9.00 A.M
5.Cultural Events(All)	06-08-2023 12.00 A.M