

CSE-2005

LAB – 1

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QUESTION:

The Java class called `Holiday` is started below. An object of class `Holiday` represents a holiday during the year. This class has three instance variables:

- `name`, which is a `String` representing the name of the holiday
- `day`, which is an `int` representing the day of the month of the holiday
- `month`, which is a `String` representing the month the holiday is in

```
public class Holiday
{
    private String
    name;    private
    int day; private
    String month;

    // your code goes here
}
```

a) Write a constructor for the class `Holiday`, which takes a `String` representing the name, an `int` representing the day, and a `String` representing the month as its arguments, and sets the class variables to these values.

b) Write a method `inSameMonth`, which compares two instances of the class `Holiday`, and returns the Boolean value `true` if they have the same month, and `false` if they do not.

c) Write a method `avgDate` which takes an array of base type `Holiday` as its argument, and returns a `double` that is the average of the `day` variables in the `Holiday` instances in the array. You may assume that the array is full (i.e. does not have any `null` entries).

d) Write a piece of code that creates a `Holiday` instance with the name "Independence Day", with the day "15", and with the month "August".

CODE:

```
import java.util.*;
class Holiday {
    private String name;
    private int day;
    private String month;
    public Holiday(String name, int day, String month){
        this.name = name;
        this.day = day;
        this.month = month;
    }
    public void setName(String name) {
        this.name = name;
    }
    public void setDay(int day) {
        this.day = day;
    }
    public void setMonth(String month) {
        this.month = month;
    }
    public String getName() {
        return name;
    }
    public int getDay() {
        return day;
    }
    public String getMonth() {
        return month;
    }
    public static boolean inSameMonth(Holiday H, Holiday
H1){
        if(H.month.equals(H1.month)){
            return true;
        }
        else{
            return false;
        }
    }
    public static double avgDate(Holiday []HD){
        int sum = 0;
        for(int i=0;i< HD.length; i++){
```

```

        sum = sum + HD[i].getDay();
    }
    return (double)sum/HD.length;
}
}
public class Main{
    public static void main(String[] args) {
        Scanner scan = new Scanner(System.in);
        Holiday H = new Holiday("Independence Day", 15,
"August" );
        System.out.println("No.of Instances in the Array:");
        int n= scan.nextInt();
        Holiday []HA = new Holiday[n];
        for(int i=0;i<n;i++){
            System.out.println("Name- "+(i+1));
            String nm = scan.next();
            System.out.println("Day- "+(i+1));
            int d = scan.nextInt();
            System.out.println("Month- "+(i+1));
            String m = scan.next();
            HA[i]= new Holiday(nm,d,m);
        }
        System.out.println("Enter the indices of HA array and
compare the months");
        int a = scan.nextInt();
        int b = scan.nextInt();
        Holiday h1 = HA[a];
        Holiday h2 = HA[b];
        System.out.println(Holiday.inSameMonth(h1,h2));
        System.out.println(Holiday.inSameMonth(h1,H));
        System.out.println(Holiday.inSameMonth(h2,H));
        System.out.println("Average is:"+Holiday.avgDate(HA));

    }
}

```

OUTPUT-1:

```
❖ javac -classpath ./run_dir/junit-4.12.jar:target/dependency/* -d . Main.java
❖ java -classpath ./run_dir/junit-4.12.jar:target/dependency/* Main
No.of Instances in the Array:
3
Name-1
Dusshera
Day-1
25
Month-1
October
Name-2
Diwali
Day-2
15
Month-2
November
Name-3
Onam
Day-3
21
Month-3
August
Enter the indices of HA array and compare the months
0
2
false
false
true
Average is:20.333333333333332
❖ []
```

OUTPUT-2:

```
❏ javac -classpath ./run_dir/junit-4.12.jar:target/dependency/* -d . Main.java
❏ java -classpath ./run_dir/junit-4.12.jar:target/dependency/* Main
No.of Instances in the Array:
5
Name-1
RepublicDay
Day-1
26
Month-1
January
Name-2
Holi
Day-2
29
Month-2
March
Name-3
AmbedkarJayanti
Day-3
14
Month-3
April
Name-4
GaneshChaturthi
Day-4
10
Month-4
September
Name-5
Teacher'sDay
Day-5
5
Month-5
September
Enter the indices of HA array and compare the months
1
4
false
false
false
Average is:16.8
❏
```