



EXPERIMENT – 1.3

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Subject Name: OOP using JAVA

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Aim of the practical: In this problem, we populated an ArrayList in main() method with several instances of the classes-Student, Rockstar, and Hacker. The count() method calculates how many instances of each type is present in the ArrayList. The code prints three integers, the number of instance of Student class, the number of instance of Rockstar class, and the number of instance of Hacker class.

Objective: To study the execution of class array list in JAVA.

Program Code:

```
import java.util.*;

class Student{}

class Rockstar{ }

class Hacker{}

public class InstanceOFTutorial{

    static String count(ArrayList mylist){

        int a = 0,b = 0,c = 0;

        for(int i = 0; i < mylist.size(); i++){
```



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```
        Object element=mylist.get(i);
        if(element instanceof Student)

            a++;

        if(element instanceof Rockstar)

            b++;

        if(element instanceof Hacker)

            c++;

    }

    String ret = Integer.toString(a)+" "+ Integer.toString(b)+" "+
Integer.toString(c);

    return ret;

}

public static void main(String []args){

    ArrayList mylist = new ArrayList();
    Scanner sc = new Scanner(System.in);
    int t = sc.nextInt();

    for(int i=0; i<t; i++){

        String s=sc.next();
        if(s.equals("Student"))mylist.add(new Student());
        if(s.equals("Rockstar"))mylist.add(new Rockstar());
        if(s.equals("Hacker"))mylist.add(new Hacker());

    }

    System.out.println(count(mylist))

}

}
```



Output:

✓ Sample Test case 0

1	5
2	Student
3	Student
4	Rockstar
5	Student
6	Hacker

Your Output (stdout)

1	3 1 1
---	-------

Expected Output

1	3 1 1
---	-------

Learning outcomes (What I have learnt):

1. I learned the concept of oops in java.
2. I learned the concept of an array list and how it works.
3. I learned the concept of various classes and functions of java.