

# OOPS ASSIGNMENT -01

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1. Write a program wherein define a class, create instances of it and generate menu driven options to test the services of the class.

```
import java.util.Scanner;

//program 1
class Helper{
    Scanner s=new Scanner(System.in);
    int id=0;
    String name;
    Helper(int id){
        this.id=id;
    }
    void getStudentDetails() {
        try {
            System.out.println("Enter name:\n");
            name=s.next();
        } catch(Exception e) {
        }
    }
    void printData() {
        try {
            if(id!=0 && name!=null)
                System.out.println(id+" "+name);
            else System.out.println("No data found.\n");
        }
        catch(Exception e){
            System.out.println(e);
        }
    }
}
```

```

//program1 client

public class Basics1 {
    public static Scanner s=new Scanner(System.in);

    public static void main(String [] args) {
        System.out.println("Enter the integer corresponding to the required
function\n1.Add student\n2.Print student details\n3.exit");
        int n=s.nextInt();
        int i=0;
        Helper a = null;
        while(n!=3) {

            switch(n) {
                case 1: a=new Helper(++i);
                        a.getStudentDetails();
                        break;
                case 2: try {
                            a.printData();
                        }
                        catch(Exception e) {
                            System.out.println("No data found.\n");
                        }
                        break;
            }
            System.out.println("Enter the integer corresponding to the
required function\n1.Add student\n2.Print student details\n3.exit");
            n=s.nextInt();
        }
        s.close();
    }
}

```

The screenshot shows the Eclipse IDE with the Basics1.java file open. The code is as follows:

```

1 package YatinOpsLab;
2
3 import java.util.Scanner;
4 //program1 client
5
6 public class Basics1 {
7     public static Scanner s=new Scanner(System.in);
8
9
10
11     public static void main(String [] args) {
12         System.out.println("Enter the integer corresponding to the required function\n1.Add student\n2.Print student details\n3.exit");
13         int n=s.nextInt();
14         int i=0;
15         Helper a = null;
16         while(n!=3) {
17
18             switch(n) {
19                 case 1: a=new Helper(++i);
20                         a.getStudentDetails();
21                         break;
22                 case 2: try {
23                             a.printData();
24                         }
25                         catch(Exception e) {
26                             System.out.println("No data found.\n");
27                         }
28                         break;
29             }
30             System.out.println("Enter the integer corresponding to the required function\n1.Add student\n2.Print student details\n3.exit");
31             n=s.nextInt();
32         }
33         s.close();
34     }
35 }
36
37
38

```

The console output shows the following sequence of events:

```

<terminated> Basics1 [Java Application] C:\Program Files\Java\jre1.8.0_231\bin\java.exe
Enter the integer corresponding to the required function
1.Add student
2.Print student details
3.exit
1
Enter name:
yatin
Enter the integer corresponding to the required function
1.Add student
2.Print student details
3.exit
2
2
print
Enter the integer corresponding to the required function
1.Add student
2.Print student details
3.exit
3
3

```

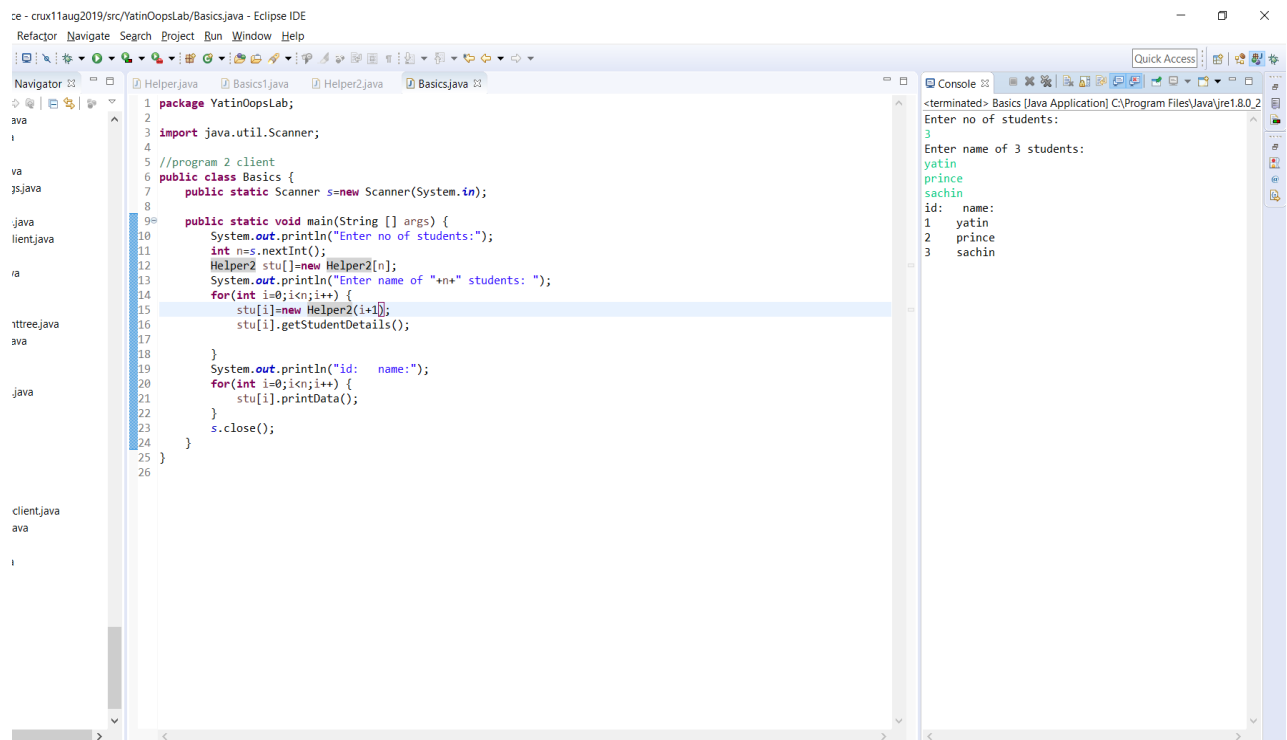
2. Write a program which reads records of N number of objects created in program 1 in an array of objects and prints the list of required attributes in the tabular format.

```
import java.util.Scanner;

//program2
class Helper2{
    Scanner s=new Scanner(System.in);
    int id;
    String name;
    Helper2(int id){
        this.id=id;
        name="";
    }
    void getStudentDetails() {

        try {
            name=s.next();
            //s.close();
        } catch(Exception e) {

        }
    }
    void printData() {
        System.out.println(id+" "+name);
    }
}
```



The screenshot shows the Eclipse IDE with the following components:

- Navigator:** Shows the project structure with files like `ava`, `jsjava`, `java`, `lient.java`, `nttree.java`, `ava`, `client.java`, and `ava`.
- Editor:** Displays the `Basics.java` file with the following code:

```
1 package YatinOopsLab;
2
3 import java.util.Scanner;
4
5 //program 2 client
6 public class Basics {
7     public static Scanner s=new Scanner(System.in);
8
9     public static void main(String [] args) {
10         System.out.println("Enter no of students:");
11         int n=s.nextInt();
12         Helper2 stu[]=new Helper2[n];
13         System.out.println("Enter name of "+n+" students: ");
14         for(int i=0;i<n;i++) {
15             stu[i]=new Helper2(i+1);
16             stu[i].getStudentDetails();
17         }
18         System.out.println("id: name:");
19         for(int i=0;i<n;i++) {
20             stu[i].printData();
21         }
22         s.close();
23     }
24 }
25
26
```
- Console:** Shows the output of the program:

```
<terminated> Basics [Java Application] C:\Program Files\Java\jre1.8.0_2
Enter no of students:
3
Enter name of 3 students:
yatin
prince
sachin
id: name:
1 yatin
2 prince
3 sachin
```

```

//program 2 client
public class Basics {
    public static Scanner s=new Scanner(System.in);

    public static void main(String [] args) {

        System.out.println("Enter no of students:");

        int n=s.nextInt();
        Helper2 stu[]=new Helper2[n];

        System.out.println("Enter name of "+n+" students: ");
        for(int i=0;i<n;i++) {

            stu[i]=new Helper2(i+1);
            stu[i].getStudentDetails();

        }

        System.out.println("id:    name:");
        for(int i=0;i<n;i++) {
            stu[i].printData();
        }

        s.close();
    }
}

```