

Task 1. Write a program in Java to show the use of super and this keyword with a constructor, methods, variables.

Solution: Below is the Java program (also attaching Java files: Session3Prg1.java, MainPerson.java)

```
import java.util.Scanner;

class Person
{
    protected String name;
    protected int age;
    String gender;
    //Constructor
    Person()
    {
        name = "Rajendra";
        age = 40;
    }

    void input()
    {
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter the gender: ");
        gender=sc.next();
    }

    void output()
    {
        System.out.println("Name of the Person: " + name);
    }
}
```

```
        System.out.println("Age of the Person: " + age);

        System.out.println("Gender of the Person: " + gender);

    }

} // end of class

class MainPerson

{

    public static void main(String a[])

    {

        Person p1=new Person();

        p1.input();

        p1.output();

    }

}
```

The main program as below

```
import java.util.Scanner;

class Faculty extends Person

{

    protected String designation;

    protected int salary;

    void input()

    {

        super.input();

    }

}
```

```

        Scanner sc=new Scanner(System.in);

        System.out.println("Enter Designation: ");

        designation=sc.next();

        System.out.println("Enter Salary: ");

        salary=sc.nextInt();

    }

    void output()

    {

        super.output();

        System.out.println("The designation is: " + designation);

        System.out.println("The salary is: " + salary);

    }

} // end of class

class Session3Prg1

{

    public static void main(String a[])

    {

        Faculty f1=new Faculty();

        f1.input();

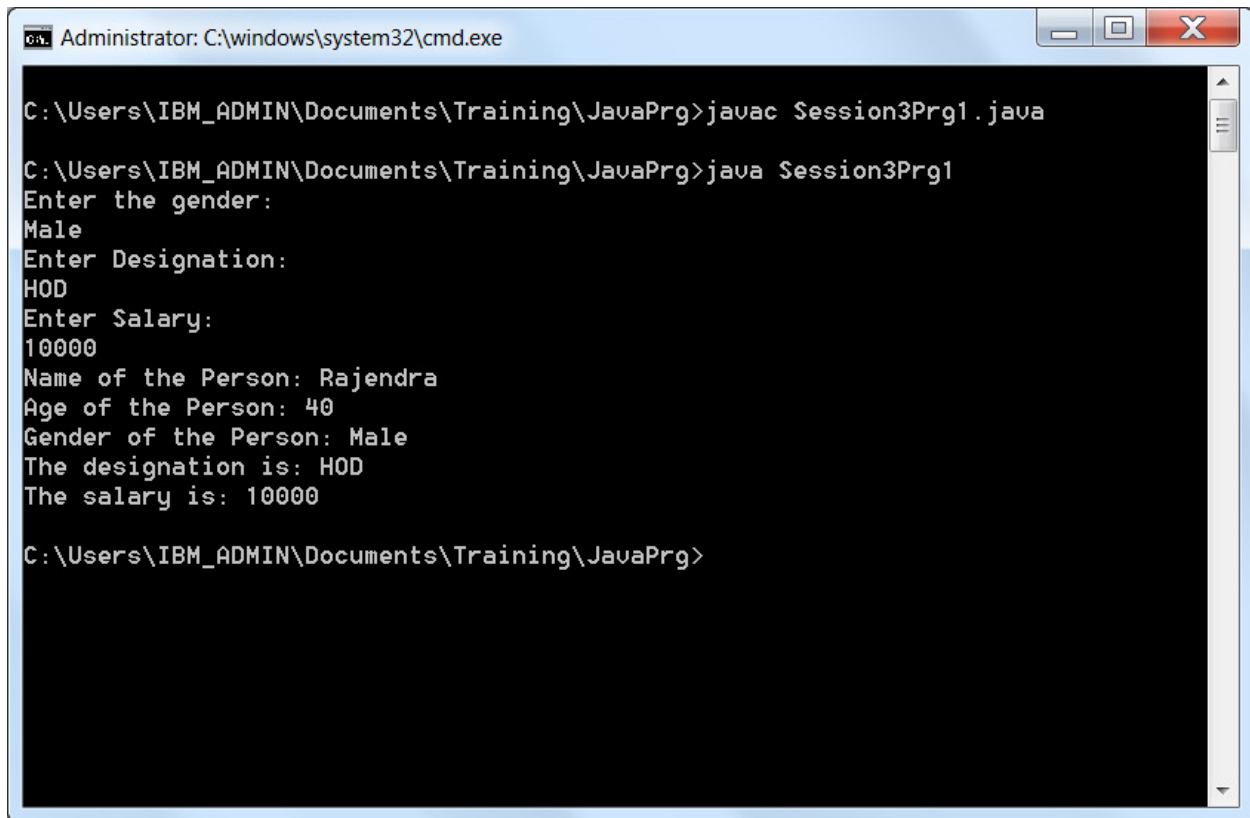
        f1.output();

    }

}

```

The Output as below:



A screenshot of a Windows command prompt window. The title bar at the top reads "Administrator: C:\windows\system32\cmd.exe". The window has standard Windows window controls (minimize, maximize, close) on the right. The command prompt shows the following sequence of commands and output:

```
C:\Users\IBM_ADMIN\Documents\Training\JavaPrg>javac Session3Prg1.java
C:\Users\IBM_ADMIN\Documents\Training\JavaPrg>java Session3Prg1
Enter the gender:
Male
Enter Designation:
HOD
Enter Salary:
10000
Name of the Person: Rajendra
Age of the Person: 40
Gender of the Person: Male
The designation is: HOD
The salary is: 10000
C:\Users\IBM_ADMIN\Documents\Training\JavaPrg>
```

Task 2. Create a class Student which has some private data like name, phone number, roll number, class, use getter and setters to access this private data.

Solution: Below is the Java program (also attaching file: Session3Prg2.java)

```
import java.util.Scanner;

class Student
{
    private String name;

    private long pno, rno;

    private int grade;

    //function setters

    void input()
    {
        Scanner sc=new Scanner(System.in);

        System.out.println("Enter the name of the Student: ");

        name=sc.next();

        System.out.println("Enter the phone number of the Student: ");

        pno=sc.nextLong();

        System.out.println("Enter the Roll number of the Student: ");

        rno=sc.nextLong();

        System.out.println("Enter the class of the Student: ");

        grade=sc.nextInt();

    }

    // function getter

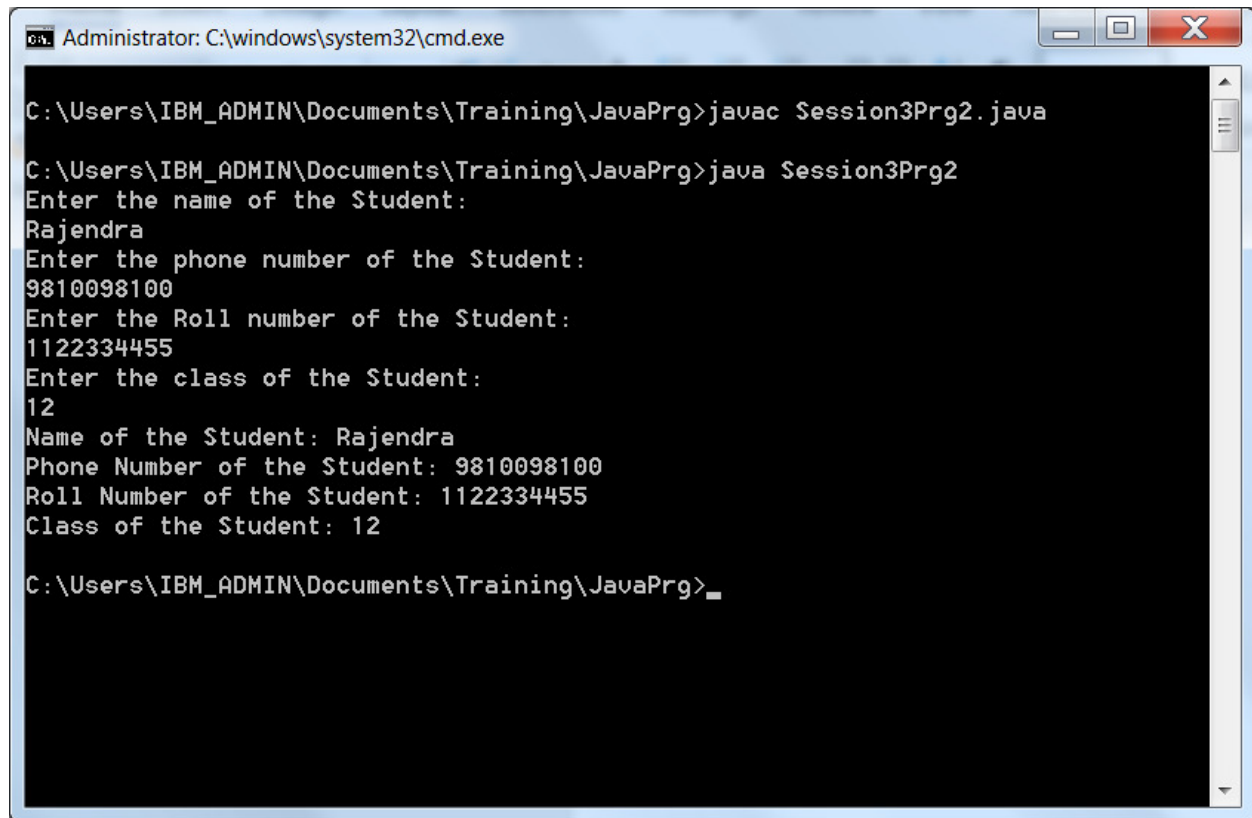
    void output()
```

```
    {  
        System.out.println("Name of the Student: " + name);  
        System.out.println("Phone Number of the Student: " + pno);  
        System.out.println("Roll Number of the Student: " + rno);  
        System.out.println("Class of the Student: " + grade);  
    }  
} // end of class
```

```
class Session3Prg2
```

```
    {  
        public static void main(String a[])  
        {  
            Student p1=new Student();  
            p1.input();  
            p1.output();  
        }  
    }  
}
```

The Output of the program as below:



A screenshot of a Windows command prompt window. The title bar at the top reads "Administrator: C:\windows\system32\cmd.exe". The window has standard Windows window controls (minimize, maximize, close) on the right. The command prompt shows the following sequence of commands and output:

```
C:\Users\IBM_ADMIN\Documents\Training\JavaPrg>javac Session3Prg2.java
C:\Users\IBM_ADMIN\Documents\Training\JavaPrg>java Session3Prg2
Enter the name of the Student:
Rajendra
Enter the phone number of the Student:
9810098100
Enter the Roll number of the Student:
1122334455
Enter the class of the Student:
12
Name of the Student: Rajendra
Phone Number of the Student: 9810098100
Roll Number of the Student: 1122334455
Class of the Student: 12
C:\Users\IBM_ADMIN\Documents\Training\JavaPrg>_
```