

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

1.1 Source Code: file name – SuperDemo.java

```
/*Objective is to show the use of super and this keyword with a constructor,
methods, variables.*/
```

```
import java.io.IOException;

import java.util.Scanner;
class Student
{
    String Name;
    String Roll;
    int Sub1_marks;
    int Sub2_marks;
    int Sub3_marks;
    int total;
    Student()
    {
        System.out.println("****Demo of Super & this keyword with
variables, methods and Constructor****");
    }
    int MarksTotal(int m1,int m2,int m3)
    {
        m1=this.Sub1_marks;// use of this keyword with variables
        m2=this.Sub2_marks;
        m3=this.Sub3_marks;
        total = m1+m2+m3;
        System.out.println("Total marks of student "+Name+" are -
"+this.total);
        return total;
    }

    void display()
    {
        System.out.println("****Student Information****");
    }
}

class College extends Student

{
    public String ClgName;
    public String DeptName;

    College() //Constructor method for class college
    {
        super();
    }

    // We have declared a method with the same name as parent class method name.
    // But the result will be displayed is of Parent and child class here.
```

```

void display()
{
    super.display();//use of "super" with methods
    System.out.println("Name of the Student - "+super.Name);//use of super
keyword with variables
    System.out.println("Roll No of the Student - "+super.Roll);//use of
super keyword with variables
    System.out.println("Subject 1 Marks - "+super.Sub1_marks);//use of super
keyword with variables
    System.out.println("Subject 2 Marks - "+super.Sub2_marks);//use of super
keyword with variables
    System.out.println("Subject 3 Marks - "+super.Sub3_marks);//use of super
keyword with variables
    //System.out.println("Total marks of student "+super.Name+" are -
"+super.total);//use of super keyword with variables
    System.out.println("***College Information***");
    System.out.println("Name of the College - "+ClgName);
    System.out.println("Name of the Department - "+DeptName);

}
}
public class SuperDemo extends College
{
    public static void main(String[] args) throws IOException
    {
        College c=new College();// constructor of college is called
inturn this will call the constructor of Parent class

        Scanner r=new Scanner(System.in); // Using Scanner class to read
input from user.
        /* Provide the college and student info */
        System.out.println("Enter College Name");
        c.ClgName=r.nextLine();
        System.out.println("Enter Department Name");
        c.DeptName=r.nextLine();
        System.out.println("Enter Student Name");
        c.Name=r.nextLine();
        System.out.println("Enter Roll No");
        c.Roll=r.next();
        System.out.println("Enter Subject 1 Marks");
        c.Sub1_marks=r.nextInt();
        System.out.println("Enter Subject 2 Marks");
        c.Sub2_marks=r.nextInt();
        System.out.println("Enter Subject 3 Marks");
        c.Sub3_marks=r.nextInt();
        c.display(); // Calling display method "which in turn displays
first the parent class message
// and then the child class message "
        c.MarksTotal(c.Sub1_marks, c.Sub2_marks, c.Sub3_marks); //Calling
MarksTotal Method which
//inturn returns the summation result of sub1_marks, sub2_marks,
sub3_marks.
        r.close();
    }
}

```

```
}
```

1.2 Output:

```
***Demo of Super & this keyword with variables, methods and Constructor***  
Enter College Name  
Audisankara College  
Enter Department Name  
Information Technology  
Enter Student Name  
Harisha Doniparthi  
Enter Roll No  
07G21A1208  
Enter Subject 1 Marks  
86  
Enter Subject 2 Marks  
89  
Enter Subject 3 Marks  
93  
***Student Information***  
Name of the Student - Harisha Doniparthi  
Roll No of the Student - 07G21A1208  
Subject 1 Marks - 86  
Subject 2 Marks - 89  
Subject 3 Marks - 93  
***College Information***  
Name of the College - Audisankara College  
Name of the Department - Information Technology  
Total marks of student Harisha Doniparthi are - 268
```

1.3 Output Screenshots:

```
SuperDemo.java SetGet.java
1 /*Objective is to show the use of super and this keyword with a constructor, methods, variables.*/
2
3 import java.io.IOException;
4
5 import java.util.Scanner;
6 class Student
7 {
8     String Name;
9     String Roll;
10    int Sub1_marks;
11    int Sub2_marks;
12    int Sub3_marks;
13    int total;

```

Problems @ Javadoc Declaration Console

<terminated> SuperDemo [Java Application] C:\Program Files\Java\jdk-11.0.1\bin\javaw.exe (Nov 24, 2018, 1:02:04 PM)

Demo of Super & this keyword with variables, methods and Constructor

Enter College Name
Audisankara College

Enter Department Name
Information Technology

Enter Student Name
Harisha Doniparthi

Enter Roll No
07G21A1208

Enter Subject 1 Marks
86

Enter Subject 2 Marks
89

Enter Subject 3 Marks
93

Student Information

Name of the Student - Harisha Doniparthi
Roll No of the Student - 07G21A1208
Subject 1 Marks - 86
Subject 2 Marks - 89
Subject 3 Marks - 93

College Information

Name of the College - Audisankara College
Name of the Department - Information Technology
Total marks of student Harisha Doniparthi are - 268

2. Problem Statement: 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.

2.1 Source Code: File Name – SetGet.Java

```
import java.io.BufferedReader;
import java.io.IOException;
import java.io.InputStreamReader;
import java.util.Scanner;
```

```

class Student
{
    //Student Information as provided in the statement
    private String sName;
    private String sRoll;
    private long sPh_no;
    private String sClass;

    public void setStudentInfo() throws IOException //using SET method to
    give the values for the Student
    {
        /* Use of BufferedReader and Scanner classes to SET the values
        for the private data members from console*/
        InputStreamReader r=new InputStreamReader(System.in);
        BufferedReader br=new BufferedReader(r);
        System.out.println("*** Provide the Student Information ***");
        System.out.println("Enter Student Name - ");
        sName=br.readLine();
        Scanner sc=new Scanner(System.in);
        System.out.println("Enter Student Roll No - ");
        sRoll=sc.next();
        System.out.println("Enter Student Phone Number - ");
        sPh_no=sc.nextLong();
        System.out.println("Enter Student Class - ");
        sClass=br.readLine();
        sc.close();
    }

    public void getStudentInfo() //using GET method to display the Student
    information
    {
        System.out.println("****STUDENT INFORMATION****");
        System.out.println("Student Name - "+sName);
        System.out.println("Student Roll No - "+sRoll);
        System.out.println("Student Phone Number - "+sPh_no);
        System.out.println("Student Class - "+sClass);
    }
}

public class SetGet
{
    public static void main(String[] args) throws IOException
    {
        Student s=new Student();
        s.setStudentInfo();// calling SET method using Student object
        s.getStudentInfo();//calling GET method using Student object
    }
}

```

2.2 Output:

```

*** Provide the Student Information ***
Enter Student Name -
Harisha Doniparthi
Enter Student Roll No -
07G21A1208
Enter Student Phone Number -

```

9884993298

Enter Student Class -

B Tech

*** STUDENT INFORMATION ***

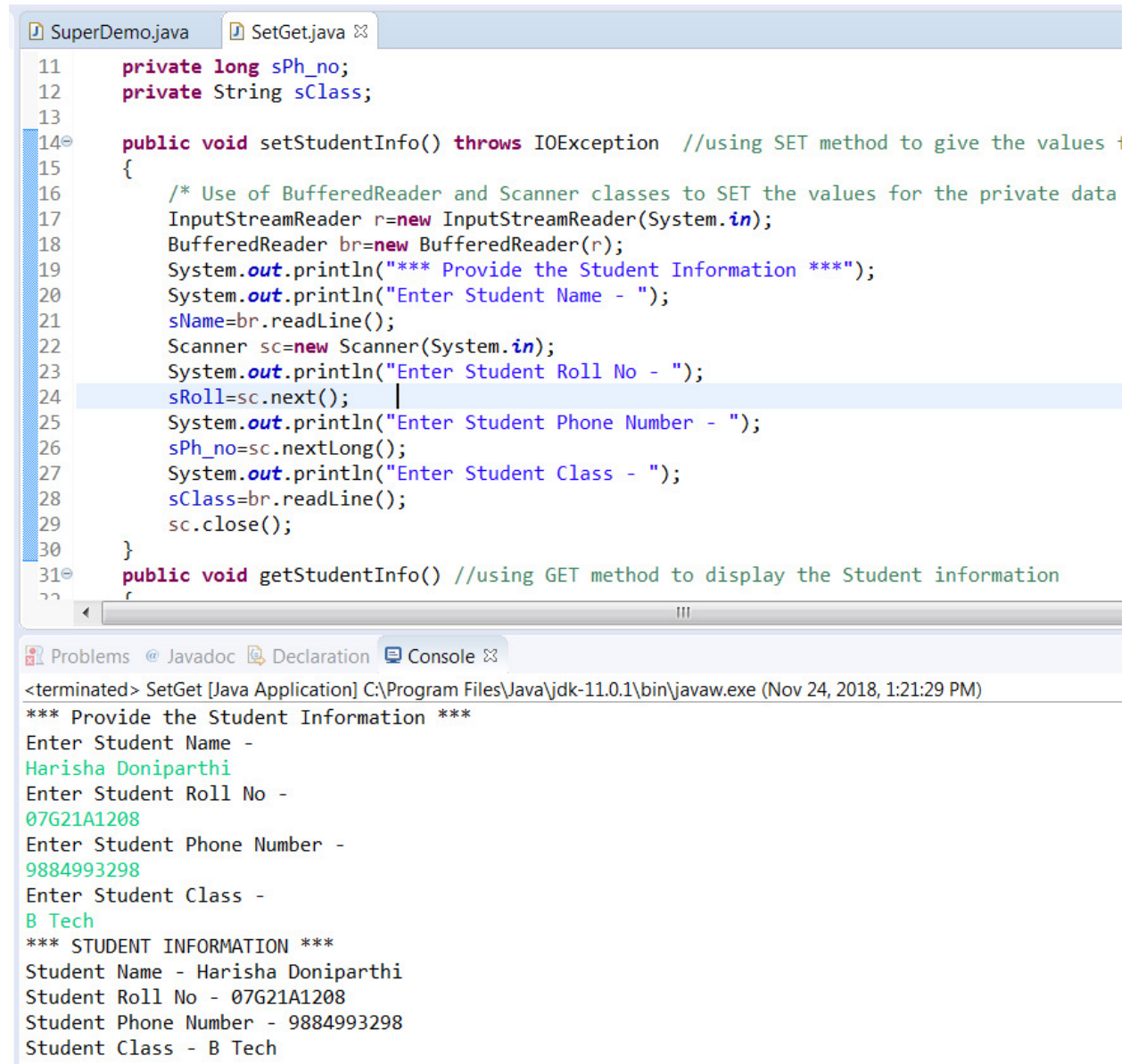
Student Name - Harisha Doniparthi

Student Roll No - 07G21A1208

Student Phone Number - 9884993298

Student Class - B Tech

2.3 Output Screenshots:



The screenshot displays an IDE with two tabs: SuperDemo.java and SetGet.java. The SetGet.java tab is active, showing the following code:

```
11 private long sPh_no;
12 private String sClass;
13
14 public void setStudentInfo() throws IOException //using SET method to give the values +
15 {
16     /* Use of BufferedReader and Scanner classes to SET the values for the private data
17     InputStreamReader r=new InputStreamReader(System.in);
18     BufferedReader br=new BufferedReader(r);
19     System.out.println("*** Provide the Student Information ***");
20     System.out.println("Enter Student Name - ");
21     sName=br.readLine();
22     Scanner sc=new Scanner(System.in);
23     System.out.println("Enter Student Roll No - ");
24     sRoll=sc.next();
25     System.out.println("Enter Student Phone Number - ");
26     sPh_no=sc.nextLong();
27     System.out.println("Enter Student Class - ");
28     sClass=br.readLine();
29     sc.close();
30 }
31 public void getStudentInfo() //using GET method to display the Student information
32 {
```

The console output at the bottom shows the execution of the program:

```
<terminated> SetGet [Java Application] C:\Program Files\Java\jdk-11.0.1\bin\javaw.exe (Nov 24, 2018, 1:21:29 PM)
*** Provide the Student Information ***
Enter Student Name -
Harisha Doniparthi
Enter Student Roll No -
07G21A1208
Enter Student Phone Number -
9884993298
Enter Student Class -
B Tech
*** STUDENT INFORMATION ***
Student Name - Harisha Doniparthi
Student Roll No - 07G21A1208
Student Phone Number - 9884993298
Student Class - B Tech
```

****END OF DOCUMENT****