S.No: 12	Exp. Name: ***Write a Java program to implement Single Inheritance***	Date:2023-09-21

Aim:

Write a Java program to illustrate the **single inheritance** concept.

Create a class `Marks`

- contains the data members **id** of **int** data type, **javaMarks**, **cMarks** and **cppMarks** of **float** data type
- write a method **setMarks()** to initialize the data members
- write a method **displayMarks()** which will display the given data

Create another class `Result` which is derived from the class `Marks`

- contains the data members **total** and **avg** of **float** data type
- write a method **compute()** to find total and average of the given marks
- write a method **showResult()** which will display the total and avg marks

Write a class `SingleInheritanceDemo` with **main()** method it receives four arguments as **id**, **javaMarks**, **cMarks** and **cppMarks**.

Create object only to the class `Result` to access the methods.

If the input is given as command line arguments to the **main()** as **"101", "45.50", "67.75", "72.25"** then the program should print the output as:

```
Id : 101
Java marks : 45.5
C marks : 67.75
Cpp marks : 72.25
Total : 185.5
Avg : 61.833332
```

Note: While computing the total marks, add the marks in the following order only **javaMarks**, **cMarks** and **cppMarks**

Source Code:

q11263/SingleInheritanceDemo.java

```
package q11263;
class Marks
{
   int id;
   float jm,cm,cpm;
   void setMarks(int id,float jm,float cm,float cpm)
   {
      this.id=id;
      this.jm=jm;
      this.cm=cm;
      this.cpm=cpm;
   }
   void displayMarks()
   {
      System.out.println("Id : " +this.id);
      System.out.println("Java marks : " +this.jm);
      System.out.println("C marks : " +this.cm);
      System.out.println("Cpp marks : " +this.cpm);
```

```
    }
}
class Result extends Marks
{
    float t,a;
    void computer()
    {
        this.t=t;
        this.a=a;
        t=jm+cm+cpm;
        a=t/3;
    }
    void showResult()
    {
        System.out.println("Total : " +t);
        System.out.println("Avg : " +a);
    }
}
class SingleInheritanceDemo
{
    public static void main(String[] args)
    {
        Result r=new Result();
        int id=Integer.parseInt(args[0]);
        float jm=Float.parseFloat(args[1]);
        float cm=Float.parseFloat(args[2]);
        float cpm=Float.parseFloat(args[3]);
        r.setMarks(id,jm,cm,cpm);
        r.displayMarks();
        r.computer();
        r.showResult();

    }
}
```

Execution Results - All test cases have succeeded!

Test Case - 1
User Output
Id : 102
Java marks : 35.6
C marks : 45.0
Cpp marks : 65.5
Total : 146.1
Avg : 48.7

Test Case - 2
User Output
Id : 101
Java marks : 45.5
C marks : 67.75
Cpp marks : 72.25

ID: 22K61A4230

Total : 185.5
Avg : 61.833332

Test Case - 3
User Output
Id : 103
Java marks : 50.5
C marks : 46.8
Cpp marks : 52.65
Total : 149.95001
Avg : 49.983337