S.No: 12	Exp. Name: ***Write a Java program to implement Single Inheritance***	Date:2023-10-06

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 javaMarks,cMarks,cppMarks;
   void setMarks(int i,float java,float c,float cpp)
   {
      id=i;
      javaMarks=java;
      cMarks=c;
      cppMarks=cpp;
   }
   void displayMarks()
   {
      System.out.println("Id : "+id);
      System.out.println("Java marks : "+javaMarks);
      System.out.println("C marks : "+cMarks);
      System.out.println("Cpp marks : "+cppMarks);
```

```
    }
}
class Result extends Marks
{
    float total,avg;
    void compute()
    {
        total=javaMarks+cMarks+cppMarks;
        avg=total/3;
    }
    void showResult()
    {
        System.out.println("Total : "+total);
        System.out.println("Avg : "+avg);
    }
}
class SingleInheritanceDemo
{
    public static void main(String args[])
    {
        int i;
        float java,c,cpp;
        i=Integer.valueOf(args[0]);
        java=Float.valueOf(args[1]);
        c=Float.valueOf(args[2]);
        cpp=Float.valueOf(args[3]);
        Result ob=new Result();
        ob.setMarks(i,java,c,cpp);
        ob.displayMarks();
        ob.compute();
        ob.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
Total : 185.5

ID: 22K61A0587

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

ID: 22K61A0587