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

```java
package q11263;
class Marks
{
    int id;
    float jm,cm,cppm;
    void setMarks(String args[])
    {
        id=Integer.valueOf(args[0]);
        jm=Float.valueOf(args[1]);
        cm=Float.valueOf(args[2]);
        cppm=Float.valueOf(args[3]);
    }
    void displayMarks()
    {
        System.out.println("Id : "+id);
        System.out.println("Java marks : "+jm);
        System.out.println("C marks : "+cm);
        System.out.println("Cpp marks : "+cppm);
```

```
        }
    }
    class Result extends Marks
    {
        float t,a;
        void compute(String args[])
        {
            super.setMarks(args);
            t=jm+cm+cppm;
            a=t/3;
        }
        void showResult()
        {
            super.displayMarks();
            System.out.println("Total : "+t);
            System.out.println("Avg : "+a);
        }
    }
    class SingleInheritanceDemo
    {
        public static void main(String args[])
        {
            Result r=new Result();
            r.compute(args);
            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
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