

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,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+cpcm;
        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 |