S.No: 13	Exp. Name: ***Write a Java program to implement Multilevel Inheritance***	Date:2023-09-20

Aim:

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

Create a class `Student`

- contains the data members **id** of **int** data type and **name** of **string** type
- write a method **setData()** to initialize the data members
- write a method **displayData()** which will display the given **id** and **name**

Create a class `Marks` which is derived from the class `Student`

- contains the data members **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 `MultilevelInheritanceDemo` with the **main()** method which will receive five arguments as **id**, **name**, **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 **"99", "Lakshmi", "55.5", "78.5", "72"** then the program should print the output as:

```
Id : 99
Name : Lakshmi
Java marks : 55.5
C marks : 78.5
Cpp marks : 72.0
Total : 206.0
Avg : 68.666664
```

Note: Please don't change the package name.

Source Code:

q11264/MultilevelInheritanceDemo.java

```
package q11264;
class student
{
   int id;
   String name;
   void setData(String args[])
   {
      id=Integer.valueOf(args[0]);
      name=args[1];
   }
   void displayData()
   {
      System.out.println("Id : "+id);
```

```
      System.out.println("Name : "+name);
   }
}
class Marks extends student
{
   float jm,cm,cppm;
   void setMarks(String args[])
   {
      super.setData(args);
      jm=Float.valueOf(args[2]);
      cm=Float.valueOf(args[3]);
      cppm=Float.valueOf(args[4]);
   }
   void displaymarks()
   {
      super.displayData();
      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 MultilevelInheritanceDemo
{
   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 : 99
Name : Geetha
Java marks : 56.0

C marks : 75.5
Cpp marks : 66.6
Total : 198.1
Avg : 66.03333

Test Case - 2
User Output
Id : 199
Name : Lakshmi
Java marks : 55.5
C marks : 78.5
Cpp marks : 78.0
Total : 212.0
Avg : 70.666664