

**Aim:**

Write a Java program to show multilevel inheritance to manage student information and calculate their marks. The program should include the following functionalities:

**Student Class:**

- Contains student ID and name.
- Methods to set and display student data.

**Marks Class (inherits from Student):**

- Contains marks for Java, C, and C++.
- Methods to set and display marks.

**Result Class (inherits from Marks):**

- Calculates the total and average marks.
- Method to display the total and average.

**Input Format:**

The program should prompt the user for the following inputs:

- Student ID (integer)
- Student Name (string)
- Java Marks (float)
- C Marks (float)
- C++ Marks (float)

**Output Format:**

The program should output the following:

- Student ID in the format **Id : <id>**
- Student Name in the format **Name : <name>**
- Java Marks in the format **Java marks : <java marks>**
- C Marks in the format **C marks : <c marks>**
- C++ Marks in the format **Cpp marks : <cpp marks>**
- Total Marks in the format **Total : <total>**
- Average Marks in the format **Avg : <avg>**

**Source Code:**

MultilevelInheritance.java

```
import java.util.Scanner;
public class MultilevelInheritance{
    public static void main(String args[]) {
        Scanner s=new Scanner(System.in);
        Scanner sc=new Scanner(System.in);
        Result r = new Result();
        System.out.print("Id: ");
        int id=s.nextInt();
        System.out.print("Name: ");
        String name = sc.nextLine();
        r.setData(id, name);
        System.out.print("Java marks: ");
        float jv=s.nextFloat();
        System.out.print("C marks: ");
        float c=s.nextFloat();
```

```

        System.out.print("CPP marks: ");
        float cpp=s.nextFloat();
        r.displayData();
        r.setMarks(jv,c,cpp);
        r.displayMarks();
        r.compute();
        r.showResult();
    }
}
class Student{
    int id;
    String name;
    public void setData(int id,String name){
        this.id=id;
        this.name=name;
    }
    public void displayData(){
        System.out.println("Id : "+id+"\n"+"Name : "+name);
    }
}
class Marks extends Student{
    float jv,c,cpp;
    public void setMarks(float jv,float c,float cpp){
        this.jv=jv;
        this.c=c;
        this.cpp=cpp;
    }
    public void displayMarks(){
        System.out.println("Java marks : "+jv+"\n"+"C marks : "+c+"\n"+"Cpp marks : "+c
pp);
    }
}
class Result extends Marks{
    float tot,avg;
    public void compute(){
        tot=jv+c+cpp;
        avg=(tot)/3;
    }
    public void showResult(){
        System.out.println("Total : "+tot+"\n"+"Avg : "+avg);
    }
}

```

## Execution Results - All test cases have succeeded!

Test Case - 1
User Output
Id: 1001
Name: Yamuna
Java marks: 75.5
C marks: 96.5
CPP marks: 87
Id : 1001
Name : Yamuna
Java marks : 75.5
C marks : 96.5
Cpp marks : 87.0
Total : 259.0
Avg : 86.333336

Test Case - 2
User Output
Id: 1000
Name: Ganga
Java marks: 77
C marks: 85.5
CPP marks: 96.5
Id : 1000
Name : Ganga
Java marks : 77.0
C marks : 85.5
Cpp marks : 96.5
Total : 259.0
Avg : 86.333336