

LAB-2

- 1) Develop a java program to create a class Student with members usn, name, an array credits and an array marks. Include methods to accept and display details and a method to calculate SGPA of a student.

Algorithm :-

- Step 1:- Start
- Step 2:- Input student details i.e, usn, name, credits and marks (of each of 5 subjects in 2 different arrays)
- Step 3:- Display the student details
- Step 4:-
 if 5 marks > 90 , $g = 10$
 else if 5 marks ≥ 80 & 5 marks < 90 , $g = 9$
 else if 5 marks ≥ 70 & 5 marks < 80 , $g = 8$
 else if 5 marks ≥ 60 & 5 marks < 70 , $g = 7$
 else if 5 marks ≥ 50 & 5 marks < 60 , $g = 6$
 else if 5 marks ≥ 40 & 5 marks < 50 , $g = 5$
 else if 5 marks < 40 , $g = 0$
- Step 5:- Get value of g and calculate sum of $(g * \text{credits})$ (sum)
 get to sum of credits (sum2)
- Step 6:- Calculate $sgpa = \text{sum} / \text{sum2}$
- Step 7:- Print sgpa of student

```
import java.util.*;
```

```
class Student {
```

```
    private String usn;
```

```
    private String name;
```

```
    private int cred[];
```

```
    private int marks[];
```

```
    private int n;
```

```
    void accept()
```

```
{
```

```
        Scanner s = new Scanner(System.in);
```

```
        System.out.println("Enter student details");
```

```
        System.out.println("USN of the student:");
```

```
        usn = s.next();
```

```
        System.out.println("Name of student:");
```

```
        name = s.next();
```

```
        System.out.println("Enter the number of subjects:");
```

```
        n = s.nextInt();
```

```
        cred = new int[n];
```

```
        marks = new int[n];
```

```
        System.out.println("Enter credits and marks attained by the  
        student on each subject (out of 100)");
```

```
        for (int i = 0; i < n; i++)
```

```
{
```

```
            cred[i] = s.nextInt();
```

```
            marks[i] = s.nextInt();
```

```
}
```

```
}
```

void display()

{

System.out.println("Student details:");

System.out.println("USN:" + usn);

System.out.println("Name: " + name);

System.out.println("Marks on each subject:");

for (int i = 0; i < n; i++)

{

System.out.println("Subject " + (i + 1) + ": " + marks[i]);

}

double calculate()

{

int tcp = 0, tc = 0;

for (int i = 0; i < n; i++)

{

tc = tc + cred[i];

if (marks[i] >= 50)

{

tcp = tcp + ((marks[i] / 10 + 1) * cred[i]);

}

else if (marks[i] >= 40 && marks[i] < 50)

{

tcp = tcp + (4 * cred[i]);

}

}

return (double) tcp / tc;

}

}

class Main.

{

public static void main (String ss[]) {

Student s1 = new Student ();

s1. accept ();

s1. display ();

System.out.println ("SGPA: " + s1. calculate ());

}

}