

- Q) 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 the details, and a method to calculate SGPA of a student

$$SGPA = \frac{\sum (\text{course credits} \times \text{grade points})}{\sum (\text{course credits})}$$

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

```
class Subject
```

```
{
```

```
    int subjectMarks;
```

```
    int credits;
```

```
    int grade;
```

```
}
```

```
class Student
```

```
{
```

```
    String name;
```

```
    String usn;
```

```
    Subject subject[];
```

```
    double sgpa;
```

```
    Scanner s;
```

```
    Student()
```

```
{
```

```
    int i;
```

```
    subject = new Subject[9];
```

```
    for (i=0; i<9; i++)
```

```
        subject[i] = new Subject();
```

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

```
}
```

```

void getStudentDetails()
{
    System.out.println("Enter the USN :");
    usn = s.nextLine();
    System.out.println("Enter the name :");
    name = s.nextLine();
}

void getmarks()
{
    for(int i = 0; i < 9; i++)
    {
        System.out.println("Enter the subject marks:");
        subject[i].subjectMarks = s.nextInt();
        System.out.println("Enter the credits:");
        subject[i].credits = s.nextInt();
        subject[i].grade = (subject[i].subjectMarks/10);
        if(subject[i].grade > 10) {
            subject[i].grade = 10;
        }
        if(subject[i].grade <= 4)
            subject[i].grade = 0;
    }
}

void computeSGPA()
{
    int effectivescore = 0;
    int totalcred = 0;
    for(int i = 0; i < 9; i++)
    {
        effectivescore += (subject[i].grade * subject[i].credits);
        totalcred += subject[i].credits;
    }
    sgpa = (double) effectivescore / (double) totalcred;
}

```

```
}  
public class Main  
{  
    public static void main(String args[])  
    {  
        Student s1 = new Student();  
        s1.getStudentDetails();  
        s1.getmarks();  
        s1.computeSGPA();  
        System.out.println("Name: " + s1.name);  
        System.out.println("USN: " + s1.usn);  
        System.out.println("SGPA: " + s1.sgpa);  
    }  
}
```

Output:

Enter the USN:

260

Enter the name:

Shlok

Enter the subject marks:

90

Enter the credits:

4

Enter the subject marks:

71

Enter the credits:

4

Enter the subject marks:

84

Enter the credits:

3

Enter the subject marks:

94

Enter the credits:

3

Enter the subject marks:

88

Enter the credits:

3

Enter the subject marks:

91

Enter the credits:

1

Enter the subject marks:

90

Enter the credits:

1

Enter the subject marks:

84

Enter the credits:

1

Enter the subject marks:

88

Enter the credits:

1

Name: Shlok

USN : 260

SRPA : 9-238095238095237

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