19/12/23

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[Lab Program - 2]

Main Program

2) 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.

$$SGPA = \frac{\sum[(\text{Course credits})(\text{Grade Points})]}{\sum[(\text{Course credits})]}$$

considering all courses registered in that semester (including those with F grade).

Cumulative Grade point Average → CGPA

Code

```
import java.util.Scanner;
class Subject
{
    int subjectMarks;
    int credits;
    int grade;
}

class Student
{
    Subject subject[];
    String name;
    String usn;
    double SGPA;
    Scanner s;
    Student()
    {
        int i;
        subject = new Subject[9];
```

Date:

Program

```
for(i=0; i<9; i++)
        subject[i] = new Subject();
    s=new Scanner(System.in);
}

void getStudentDetails()
    {
      System.out.print("Enter your Name:");
      name = s.next();
      System.out.print("Enter your USN:");
      usn =s.next();
    }

void getMarks(){
        for(int i=0; i<9; i++)
      {
        System.out.print("Enter marks for subject" + (i+1)+":");
        subject[i].subjectMarks = s.nextInt();
        System.out.print("Enter credits for subject "+ (i+1)+":");
        subject[i].credits = s.nextInt();
        subject[i].grade = (subject[i].subjectMarks/10)+1;
        if(subject[i].grade == 11)
                subject[i].grade = 10;
        if(subject[i].grade <= 4)
                subject[i].grade = 0;
      }
}
```

```
void computeSGPA()
    {
      int effectiveScore=0;
      int totalCredits=0;
      for(int i=0;i<9;i++)
      {
        effectiveScore+=(subject[i].grade*subject[i].marks);
        totalCredits+=subject[i].credits;
      }
     SGPA=(double)effectiveScore/(double)totalCredits;
    }
  }
  class main
  {
   public static void main(String args[])
   {
    Student S1=new Student;
    S1.getStudentDetail();
    S1.getMarks();
    S1.computeSGPA();
   System.out.println("Name:"+S1.name);
  System.out.println("USN:"+S1.usn);
 System.out.println("SGPA"+S1.SGPA);
    }
   }
```

Output

Enter your name Sneha
Enter your USN:
1BM22CS289
Enter marks for subject1:
8

Enter marks for subject2: 47
enter your credits for subject2: 6
Enter marks for subject3: 67
enter your credits for subject3: 8
enter marks for subject4: 78
enter your credits for subject4: 5
enter marks for subject5: 56
Enter your credits for subject5: 77
Enter marks for subject6: 77
enter your credits for subject6: 9
Enter marks for subject 7: 89
enter your credits for subject7: 99
Enter marks for subject8: 78
enter your credits for subject8: 78
Name: Sneha
USN: 1BM22CS284
SGPA: 7.631578947368421