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.

Program:

import java.util.Scanner;

class Student {

    String usn;

    String name;

    int[] credits;

    int[] marks;

    Student(int n) {

        credits = new int[n];

        marks = new int[n];

    }

    void take(Scanner s) {

        System.out.println("ENTER NAME: ");

        name = s.nextLine();

        System.out.println();

        System.out.println("ENTER USN: ");

        usn = s.nextLine();

        for (int i = 0; i < credits.length; i++) {

            System.out.print("Subject " + (i + 1) + " Credits: ");

            credits[i] = s.nextInt();

            System.out.print("Subject " + (i + 1) + " Marks: ");

            marks[i] = s.nextInt();

        }

    }

    void display() {

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

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

        for (int i = 0; i < credits.length; i++) {

            System.out.println("Subject " + (i + 1) + ": Credits=" + credits[i] + ", Marks=" + marks[i]);

        }

    }

    double SGPA() {

        double totcre = 0;

        double totpt = 0;

        for (int i = 0; i < credits.length; i++) {

            totcre += credits[i];

            int gp = getgp(marks[i]);

            totpt+= credits[i] \* gp;

        }

        return totpt / totcre;

    }

    // Helper method to convert marks to grade

    int getgp(int marks) {

        if (marks >= 90) return 10;

        else if (marks >= 80) return 9;

        else if (marks >= 70) return 8;

        else if (marks >= 60) return 7;

        else if (marks >= 50) return 6;

        else if (marks >= 40) return 5;

        else return 0;

    }

    public static void main(String[] args) {

        Scanner s = new Scanner(System.in);

        System.out.print("Enter no. of subjects: ");

        int n = s.nextInt();

        s.nextLine();

    Student student = new Student(n);

        student.take(s);

        student.display();

        System.out.println("SGPA: " + student.SGPA());

    }

}

Output:

