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.

A)

```java
import java.util.*;
public class Main
{   String name;
    String usn;
    int marks[] = new int[5];
    int credits[] = new int[5];
    int tot = 0;
    int i;
    int grade = 0;
    void read_data()
    {   Scanner obj = new Scanner(System.in);
        System.out.println(" Enter name of student ");
        name = obj.next();
        System.out.println(" Enter the USN");
        usn = obj.next();
        System.out.println(" Enter the credits and marks of 5 subjects");
        for( i=0; i<5; i++)
        {   System.out.println(" Credits for subjects " +(i+1)+ ":");
            credits[i] = obj.nextInt();
            System.out.println(" Marks for subjects" +(i+1)+ ":");
            marks[i] = obj.nextInt();
        }
    }

    void calc_SGPA()
    {   for( i=0; i<5; i++)
        {   if (marks[i] >= 90 && marks[i]<=100)
            grade =10;
            else if (marks[i] >= 75 && marks[i]<90)
            grade = 9;
```

```java
elseif ( marks [i] >= 60 && marks[i]<75)
  grade=8;
else if ( marks[i] >= 50 && marks[i]<60)
  grade=7;
else if (marks[i] >= 45 && marks[i]<50)
  grade=6;
else if (marks[i] >= 40 && marks[i]<45)
  grade=5;
else if (marks[i]<40)
  grade=0;
    tot = tot + grade * credits[i];
}
tot = tot/20;
System.out.println ("SGPA:" + tot );
}
  void details()
{     System.out.println( "Name: " + name);
    System.out.println (" USN:" + usn);
    System.out.println ("Marks and credits for all 5 subjects:");
    for(i=0; i<5; i++)
    {
        System.out.println (marks[i]);
        System.out.println ( credits[i]);
    }
}
public static void main(String args[])
{
      Main ob = new Main();
      ob.read_data();
      ob.calc_SGPA();
      ob.details();
}
}
```

```java
import  java.util.*;

public class Main
{
    String name;
    String usn;
    int marks[]=new int[5];
    int credits[]=new int[5];
    int tot=0;
    int i;
    int grade=0;
    void read_data()
    {
        Scanner obj=new Scanner(System.in);
        System.out.println("Enter the name of the students");
        name=obj.next();
        System.out.println("Enter the USN");
        usn=obj.next();
        System.out.println("Enter the credits and marks for 5 subjects");

        for(i=0;i<5;i++)
        {
            System.out.println("Credits for subject"+(i+1)+":");
            credits[i]=obj.nextInt();
            System.out.println("Marks for subject"+(i+1)+": ");
            marks[i]=obj.nextInt();
        }
    }
    void calc_SGPA()
    {
```

```
void calc_SGPA()
{
   for(i=0;i<5;i++)
   {
      if(marks[i]>=90&&marks[i]<=100)
      grade=10;
      else  if(marks[i]>=75&&marks[i]<90)
      grade=9;
      else  if(marks[i]>=60&&marks[i]<75)
      grade=8;
      else  if(marks[i]>=50&&marks[i]<60)
      grade=7;
      else  if(marks[i]>=45&&marks[i]<50)
      grade=6;
      else  if(marks[i]>=40&&marks[i]<45)
      grade=5;
      else if(marks[i]<40)
      grade=0;

      tot=tot+grade*credits[i];
   }
   tot=tot/20;
   System.out.println("SGPA:"+tot);
}
   void details()
   {
    System.out.println("Name:"+name);
    System.out.println("USN:"+usn);
    System.out.println("Marks and Credits for all 5 subjects:");
    for(i=0;i<5;i++)
```

```java
            tot=tot+grade*credits[i];
        }
        tot=tot/20;
        System.out.println("SGPA:"+tot);
    }
        void details()
        {
         System.out.println("Name:"+name);
         System.out.println("USN:"+usn);
         System.out.println("Marks and Credits for all 5 subjects:");
         for(i=0;i<5;i++)
         {
            System.out.println(marks[i]);
            System.out.println(credits[i]);
         }
         calc_SGPA();
        }

public static void main(String args[])
{
   Main ob=new Main();
   ob.read_data();
   ob.calc_SGPA();
   ob.details();


}
}
```

```
Command Prompt

Microsoft Windows [Version 10.0.18363.1139]
(c) 2019 Microsoft Corporation. All rights reserved.

C:\Users\sohan>cd C:\Users\sohan\Desktop\Java Programs\SGPA

C:\Users\sohan\Desktop\Java Programs\SGPA>javac Main.java

C:\Users\sohan\Desktop\Java Programs\SGPA>java Main
Enter the name of the students
sohan
Enter the USN
159
Enter the credits and marks for 5 subjects
Credits for subject1:
4
Marks for subject1:
45
Credits for subject2:
3
Marks for subject2:
76
Credits for subject3:
5
Marks for subject3:
88
Credits for subject4:
5
Marks for subject4:
98
Credits for subject5:
2
Marks for subject5:
56
SGPA:8
Name:sohan
USN:159
Marks and Credits for all 5 subjects:
45
4
76
3
88
5
98
5
56
2
SGPA:8

C:\Users\sohan\Desktop\Java Programs\SGPA>
```