```
package StudentPackage;
public interface Student
{
    void getData();
}
```

```
package StudentPackage;
import java.util.Scanner;
//import StudentPackage.Student;
class CreditException extends Exception
{
    private int credits;
    CreditException(int credits)
    {
        this.credits=credits;
    }
    public String toString()
    {
        return "Error: Credits more than 30 i.e["+credits+"]";
    }
}

public class RegisterStudent implements Student
{
    public String name,USN,branch;
    public int sub1[]=new int[4];
    public int sub2[]=new int[4];
    public int sub3[]=new int[4];
    public int sub4[]=new int[4];
    public int credit;

    public void getData()
    {
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter Student Name:");
        name = sc.nextLine();
        System.out.println("Enter USN:");
        USN = sc.nextLine();
        System.out.println("Enter Branch:");
        branch = sc.nextLine();
        System.out.println("Enter Credits:");
        try
        {
            credit = sc.nextInt();
            if(credit>30)
            {
                sc.close();
                throw new CreditException(credit);
            }
        }
        catch(Exception e)
        {
            System.out.println(e.toString());
```

```
            System.exit(0);
        }
        System.out.println("Enter subject 1 marks for all
semesters:");
        for(int i=0;i<4;i++)
            sub1[i]=sc.nextInt();
        System.out.println("Enter subject 2 marks for all
semesters:");
        for(int i=0;i<4;i++)
            sub2[i]=sc.nextInt();
        System.out.println("Enter subject 3 marks for all
semesters:");
        for(int i=0;i<4;i++)
            sub3[i]=sc.nextInt();
        System.out.println("Enter subject 4 marks for all
semesters:");
        for(int i=0;i<4;i++)
            sub4[i]=sc.nextInt();
        sc.close();
    }
}
```

```
package ResultPackage;
import StudentPackage.RegisterStudent;
class SGPAException extends Exception
{
    private int SGPA;
    SGPAException(int value)
    {
        this.SGPA = value;
    }

    public String toString()
    {
        return "SGPA Exception: SGPA Greater than 10 i.e["+SGPA+"]";
    }
}

public class StudentResult
{
    RegisterStudent stud;
    public StudentResult(RegisterStudent reg)
    {
        this.stud = reg;
    }

    public void CalculateGrade()
    {
        int cgpa[] = new int[4];
        int sgpa = 0;
        for(int i=0;i<4;i++)
        {
            int temp =
stud.sub1[i]+stud.sub2[i]+stud.sub3[i]+stud.sub4[i];
```

```
            cgpa[i]=10*temp/400;
            System.out.println("CGPA for Semester "+(i+1)+"
is:"+cgpa[i]);
        }
        for(int i=0;i<4;i++)
        {
            sgpa+=cgpa[i];
        }
        sgpa/=4;
        try
        {
            if(sgpa>10)
                throw new SGPAException(sgpa);
        }
        catch(Exception e)
        {
            System.out.println(e.toString());
        }
        System.out.println("\t Result");
        System.out.println("Name:"+stud.name+" Branch:"+stud.branch+"
USN:"+stud.USN);
        if(cgpa[0]<5||cgpa[1]<5||cgpa[2]<5||cgpa[3]<5)
            System.out.println("Sorry, you have failed");
        else
        {
            System.out.println("Congratulations! You have passed with
SGPA:"+sgpa);
            System.out.println("Credits earned:"+stud.credit);
        }
    }
}
```

```
package solution;
import ResultPackage.*;
import StudentPackage.*;
public class StudentDriver
{
    public static void main(String []args)
    {
        RegisterStudent student = new RegisterStudent();
        student.getData();
        StudentResult result = new StudentResult(student);
        result.CalculateGrade();
    }
}
```