```java
import java.util.*;
abstract class Player
{
    String name;
    int matches_played;
    double avg;

    abstract void cal_average(String s, int nm, int nr);
}

class Batsman extends Player
{
    int runs_scored;

    void cal_average(String s, int nm, int nr)
    {
        name= s;
        matches_played=nm;
        runs_scored=nr;

        avg = runs_scored/matches_played;
        System.out.println("Average runs scored is "+avg);
    }
}
class Bowler extends Player
{
    int runs_given;

    void cal_average(String s, int nm, int nr)
    {
        name=s;
        matches_played= nm;
        runs_given= nr;

        avg= runs_given/matches_played;
        System.out.println("Average runs given is "+avg);
    }
}

class eg2
{
    public static void main(String ss[])
    {
        Scanner sc= new Scanner(System.in);
        System.out.println("Enter the number of bowlers");
        int bo = sc.nextInt();
        System.out.println("Enter the number of batsmen");
        int ba = sc.nextInt();
        Bowler bl[] = new Bowler[bo];
        Batsman bt[] = new Batsman[ba];
        int i;
        System.out.println("BOWLERS:");
```

```
        System.out.println("BOWLERS:");
        for(i=0;i<bo;i++)
        {
            bl[i]= new Bowler();
            System.out.println("Enter the name of the bowler "+(i+1));
            String boname= sc.next();
            System.out.println("Enter the number of matches played");
            int bomatch= sc.nextInt();
            System.out.println("Enter the number of runs given");
            int boruns= sc.nextInt();
            bl[i].cal_average(boname,bomatch,boruns);
        }
        System.out.println("BATSMEN:");
        for(i=0;i<ba;i++)
        {
            bt[i]= new Batsman();
            System.out.println("Enter the name of the batsman "+(i+1));
            String baname= sc.next();
            System.out.println("Enter the number of matches played");
            int bamatch= sc.nextInt();
            System.out.println("Enter the number of runs given");
            int baruns= sc.nextInt();
            bt[i].cal_average(baname,bamatch,baruns);
        }
    }
}
```

```
Enter the number of bowlers
2
Enter the number of batsmen
2
BOWLERS:
Enter the name of the bowler 1
Siraj
Enter the number of matches played
6
Enter the number of runs given
190
Average runs given is 31.0
Enter the name of the bowler 2
Yadav
Enter the number of matches played
4
Enter the number of runs given
120
Average runs given is 30.0
BATSMEN:
Enter the name of the batsman 1
Padakkal
Enter the number of matches played
5
Enter the number of runs given
176
Average runs scored is 35.0
Enter the name of the batsman 2
Phillipe
Enter the number of matches played
2
Enter the number of runs given
50
Average runs scored is 25.0


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```

```java
import java.util.*;
class Student
{
    String usn;
    String name;
    int sem;

    void getdata1(String u1, String n1, int s1)
    {
        usn=u1;
        name=n1;
        sem=s1;
    }
}

class Test extends Student
{
    double cie[];
    int cred[];
    int n;
    int creds;

    void getdata2()
    {
        creds=0;
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter the number of subjects");
        n= sc.nextInt();
        int i;
        cie = new double[n];
        cred= new int[n];
        System.out.println("Enter the marks and credits");
        for(i=0;i<n;i++)
        {
            System.out.println("CIE Mark for Subject "+(i+1)+": ");
            cie[i]= sc.nextDouble();
            System.out.println("Credit for Subject "+(i+1)+": ");
            cred[i]= sc.nextInt();
            creds= creds+ cred[i];
        }
    }
}
class Exam extends Test
{
    double see[];

    void getdata3()
    {

        Scanner ss = new Scanner(System.in);
        see= new double[n];
        int i;
        for(i=0;i<n;i++)
        {
            System.out.println("SEE Mark for Subject "+(i+1)+": ");
            see[i]= ss.nextDouble();
        }
    }
}
```

```
class Result extends Exam
{
    char grade[];
    int gp[];
    double sgpa;
     void calc()
     {
         Scanner sx = new Scanner(System.in);
         grade= new char[n];
         gp = new int[n];
         int i; double sum=0.0;
         for(i=0;i<n;i++)
         {
             double t;
             t= cie[i] + ((see[i])/2);
             if(t>=90)
             {grade[i]='S';
             gp[i]=10;}
             else if (t>=80)
             {grade[i]='A';
             gp[i]=9;}
             else if (t>=70)
             {grade[i]='B';
             gp[i]=8;}
             else if (t>=60)
             {grade[i]='C';
             gp[i]=7;}
             else if (t>=45)
             {grade[i]='D';
             gp[i]=6;}
             else
             {grade[i]='F';
             gp[i]=0;}

             sum = sum+(gp[i]* cred[i]);
            }
            sgpa = sum/creds;

        }
        void put()
        {
            System.out.println("Student details:");
            System.out.println("Name: "+name+"\tUSN: "+usn+"\tSem: "+sem);
            int i;
            System.out.println("Credits\tCIE\tSEE\tGrade");
            for(i=0;i<n;i++)
            {
                System.out.println(cred[i]+"\t"+cie[i]+"\t"+see[i]+"\t"+grade[i]);
            }
            System.out.println("SGPA is "+sgpa);
        }
}
```

```
class eg1
{
    public static void main(String sss[])
    {

        String n,u;
        int s,x;
        Scanner xx = new Scanner(System.in);
        System.out.println("Enter number of objects");
        x= xx.nextInt();
        Result r[]= new Result[x];
        int i;
        for(i=0;i<x;i++)
        {
            r[i]= new Result();

            System.out.println("Enter the sem for Student "+(i+1));
            s= xx.nextInt();
            System.out.println("Enter the usn for Student "+(i+1));
            u=xx.next();
            System.out.println("Enter the name for Student "+(i+1));
            n= xx.next();


            r[i].getdata1(u,n,s);
            r[i].getdata2();
            r[i].getdata3();
            r[i].calc();
            r[i].put();
        }
    }
}
```

```
Enter number of objects
2
Enter the sem for Student 1
3
Enter the usn for Student 1
1BM19CS012
Enter the name for Student 1
Anisha
Enter the number of subjects
3
Enter the marks and credits
CIE Mark for Subject 1:
43
Credit for Subject 1:
5
CIE Mark for Subject 2:
49
Credit for Subject 2:
5
CIE Mark for Subject 3:
50
Credit for Subject 3:
5
SEE Mark for Subject 1:
89
SEE Mark for Subject 2:
88
SEE Mark for Subject 3:
93
Student details:
Name: Anisha    USN: 1BM19CS012 Sem: 3
Credits CIE     SEE     Grade
5       43.0    89.0    A
5       49.0    88.0    S
5       50.0    93.0    S
SGPA is 9.666666666666666
Enter the sem for Student 2
2
Enter the usn for Student 2
1BM19CS022
Enter the name for Student 2
Anju
Enter the number of subjects
2
Enter the marks and credits
CIE Mark for Subject 1:
39
Credit for Subject 1:
5
```

```
CIE Mark for Subject 2:
50
Credit for Subject 2:
3
SEE Mark for Subject 1:
78
SEE Mark for Subject 2:
90
Student details:
Name: Anju      USN: 1BM19CS022 Sem: 2
Credits CIE     SEE     Grade
5       39.0    78.0    B
3       50.0    90.0    S
SGPA is 8.75


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(program exited with code: 0)
```