#include<iostream>

#include<string.h>

using namespace std;

class student

{

char name[10],grade[10];

int credit[10],tc,nos,rno;

float gpa;

public:

student()

{

gpa=0;

tc=0;

}

student(char n[],int r)

{

strcpy(name,n);

rno=r;

}

student(student &s)

{

int i;

nos=s.nos;

for(i=0;i<nos;i++)

{

credit[i]=s.credit[i];

tc=s.tc;

}

}

void getcredits()

{

system("cls");

cout<<"\n=========Input Credits and marks==========";

int i;

cout<<"\n\n Enter no of subjects: ";

cin>>nos;

cout<<"\n Enter credits: ";

for(i=0;i<nos;i++)

{

cout<<"\nSub "<<i+1<<" : ";

cin>>credit[i];

tc+=credit[i];

}

}

void getgrades()

{

int i;

for(i=0;i<nos;i++)

{

cout<<"\n Enter grade "<<i+1<<" : ";

cin>>grade[i];

}

}

void compute()

{

gpa=0;

int i;

for(i=0;i<nos;i++)

{

switch(grade[i])

{

case 'a':

gpa+=9\*credit[i];break;

case 'b':

gpa+=8\*credit[i];break;

case 'c':

gpa+=7\*credit[i];break;

case 'd':

gpa+=6\*credit[i];break;

case 's':

gpa+=10\*credit[i];break;

}

}

gpa=gpa/(float)tc;

}

void display()

{

cout<<"\t| "<<name<<"\t"<<"| "<<rno<<"\t"<<"| "<<gpa<<" |";

cout<<"\n\t|\_\_\_\_\_\_\_|\_\_\_\_\_\_\_|\_\_\_\_\_\_\_|";

}

};

main()

{

int i,n,r;

char name[10],b;

student s[10];

cout<<"\n\n\n\n\n\n\n\t\t\t\t======WELCOME======";

cout<<"\n\n\t\t\t\t ===TO===";

cout<<"\n\n\t\t\t=========THE GPA CALCULATOR=========";

cout<<"\n\n\n\n\n\n\n\n\n\n\n\nPress Enter-->>";

cin.ignore();

system("cls");

cout<<"\n\n==========Student Details=============";

cout<<"\n\n\nEnter no.of students: ";

cin>>n;

for(i=0;i<n;i++)

{

cout<<"\n---Student "<<i+1<<"---";

cout<<"\n Enter Name:";

cin>>name;

cout<<"\n Roll: ";

cin>>r;

cout<<"--------------------------";

student st(name,r);

s[i]=st;

}

s[0].getcredits();

cout<<"---------------------------";

for(i=1;i<n;i++)

{

student st(s[0]);

s[i]=st;

}

cout<<"---------------------------";

for(i=0;i<n;i++)

{

cout<<"\n---Student "<<i+1<<"---";

s[i].getgrades();

s[i].compute();

cout<<"--------------------";

}

cout<<"---------------------------";

system("cls");

cout<<"\n=============RESULTS:================";

cout<<"\n\n\n\t \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\n";

cout<<"\t| Name\t| Roll\t| GPA\t|\n";

cout<<"\t|\_\_\_\_\_\_\_|\_\_\_\_\_\_\_|\_\_\_\_\_\_\_|\n";

for(i=0;i<n;i++)

{

s[i].display();

cout<<"\n";

}

cout<<"\n\n=====================================";

cout<<"\n\n\n\n";

}