

```
#include <iostream>
```

```
#include <string>
```

```
using namespace std;
```

```
class Student {
```

```
Private:
```

```
string name;
```

```
int age;
```

```
int rollNo;
```

```
float gpa;
```

```
Public:
```

```
Student();
```

```
Student(string n, int a, int r, float g=0.0);
```

```
~Student();
```

```
void setName(string n);
```

```
void setAge(int a);
```

```
void setRollNo(int r);
```

```
void setGPA(float g);
```

```
string getName();
```

```
int getAge();
```

```
int getRollNo();
```

```
float getGPA();
```

```
void calculateGrade();
```

```
void display();
```

```
};
```

```
Student :: Student () {
```

```
    name = "unknown";
```

```
    age = 0;
```

```
    rollNo = 0;
```

```
    gpa = 0.0;
```

```
}
```

```
Student :: Student (string n, int a, int r, float g) {
```

```
    name = n;
```

```
    age = a;
```

```
    rollNo = r;
```

```
    gpa = 0.0;
```

```
}
```

```
Student :: ~Student () {
```

```
    cout << "Destructor called for Student:" << name  
    << endl;
```

```
}
```

```
void Student :: setName (string n) {
```

```
    name = n;
```

```
}
```

```
void Student :: setAge (int a) {
```

```
    age = a;
```

```
}
```

```
void Student :: setRollNo (int r) {
```

```
    rollNo = r;
```

```
}
```



```
void Student :: setGPA(float g){
```

```
    gpa = g;  
}
```

```
string Student :: getName(){  
    return name;  
}
```

```
int Student :: getAge(){  
    return age;  
}
```

```
int Student :: getRollNo(){  
    return rollNo;  
}
```

```
float Student :: getGPA(){  
    return gpa;  
}
```

```
void Student :: calculateGrade(){
```

```
    if (gpa >= 3.5){  
        cout << " | Grade : A " << endl;  
    }
```

```
    else if (gpa >= 2.5){  
        cout << " | Grade : B " << endl;  
    }
```

```
    else if (gpa >= 1.5){  
        cout << " | Grade : C " << endl;  
    }
```

```

else {
    cout << " | Grade : F" << endl;
}
}

```

```

void Student::displayInfo() {
    cout << " | Name : " << name;
    cout << " | Age : " << age;
    cout << " | Roll No : " << rollNo;
    cout << " | GPA : " << gpa;
}

```

```

int main() {
    Student s1;
    s1.setName("Ali");
    s1.setAge(19);
    s1.setRollNo(1);
    s1.setGPA(3.2);
    s1.displayInfo();
    s1.calculateGrade();
}

```

```

Student s2("Fahad", 20, 3, 3.8);
s2.displayInfo();
s2.calculateGrade();

```

```
Student s3;
```

```
s3.display Info();
```

```
s3.CalculateGrade();
```

```
system("Pause");
```

```
return 0;
```

```
}
```