

Answer on Question #55303, Programming / C#

Using the concept of classes, methods attributes create a class of students that accepts the number of courses taken by a student and outputs the terminal grade of the student.

Solution

Create Course class:

```
public class Course
{
    // enum that represent grades
    public enum Grades
    {
        A=5,
        B=4,
        C=3,
        D=2,
        F=1
    }

    // name of course
    public string Title { get; set; }

    // grade for this course
    public Grades Grade { get; set; }

    // constructor
    public Course(string title, Grades grade)
    {
        Grade = grade;
        Title = title;
    }
}
```

Create Student class

```
class Student
{
    public string FirstName { get; set; }

    public string LastName { get; set; }

    //return full student name
    public string FullName
    {
        get
        {
            return LastName + ", " + FirstName;
        }
    }

    //constructor
    public Student(string first, string last)
    {
        FirstName = first;
        LastName = last;
    }
}
```

```

        Courses = new List<Course>();
    }

    // list of courses, that student enroll
    public List<Course> Courses;

    // return a terminal grade. Calculating as arithmetic average of courses
grades
    // and return a Grade as enum
    public Course.Grades Grade
    {
        get
        {
            double sum = 0;
            foreach (Course course in Courses)
            {
                sum += (int)course.Grade;
            }
            int grade= (int)(sum / Courses.Count);

            return (Course.Grades) grade;
        }
    }
}

```

Example of program work

```

static void Main(string[] args)
{
    // create new courses list and add 3 courses
    List<Course> courses= new List<Course>();
    courses.Add(new Course("Math", Course.Grades.A));
    courses.Add(new Course("Programming", Course.Grades.B));
    courses.Add(new Course("Physics", Course.Grades.C));

    // create 2 students
    Student student = new Student("John", "Ts");
    Student student2 = new Student("Bill", "Gates");

    // assigned student to courses
    student.Courses = courses;

    // display information
    Console.WriteLine("{0} has terminal grade: {1}. Courses:",
student.FullName, student.Grade);
    foreach (Course course in student.Courses)
    {
        Console.WriteLine("{0} - {1}", course.Grade,
course.Title);
    }
    Console.WriteLine();
}

```