# Classroom



## Preparation

Download the skeleton provided in Judge. **Do not** change the **StartUp** class or its **namespace**.

## Problem description

Your task is to create a repository, which stores items by creating the classes described below.

First, write a **C#** class **Student** with the following properties:

* **FirstName: string**
* **LastName: string**
* **Subject: string**

The class **constructor** should receive **firstName, lastName** and **subject.** You need to create the appropriate **getters and setters**. The class should override the **ToString()** method in the following format:

**"Student: First Name = {firstName}, Last Name = {lastName}, Subject = {subject}"**

**Next**, write a **C#** class **Classroom** that has **students** (a collection, which stores the **students**) and a certain capacity. All entities inside the repository have the **same fields**. Also, the **Classroom** class should have the following properties:

* **Capacity: int**
* **Count: int – returns the number of students in the classroom**

The class **constructor** should receive **capacity**, also it should initialize the **students** with a new instance of the collection. Implement the following features:

* Field **students** – a **collection** that holds added students
* Method RegisterStudent(Student student) – **adds** an **entity** to the students **if** **there** **is** an **empty seat** for the student.
  + Returns **"Added student {firstName} {lastName}"** if the student is successfully added
  + Returns **"No seats in the classroom" –** if there are no more seats in the classroom
* Method DismissStudent(string firstName, string lastName) – removes the student by **the given names**
  + Returns **"Dismissed student {firstName} {lastName}"** if the student is successfully dismissed
  + Returns **"Student not found"** if the student is not in the classroom
* Method **GetSubjectInfo(string subject)** – returns all the students with the **given subject in the following format:**

**"Subject: {subjectName}  
Students:  
{firstName} {lastName}  
{firstName} {lastName}  
…"**

* + Returns **"No students enrolled for the subject"** if the student is not in the classroom
* Method GetStudentsCount() – returns the **count** of the **students in the classroom**.
* Method **GetStudent(string firstName, string lastName)** – returns the student with the given names.

## Constraints

* The **combinations** of **names** will **always be unique**.
* The **capacity** will always be **a positive** **number**.

## Examples

This is an example of how the **Classroom** class is **intended to be used**.

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| Sample code usage |
| // Initialize the repository  Classroom classroom = new Classroom(10);  // Initialize entities  Student student = new Student("Peter", "Parker", "Geometry");  Student studentTwo = new Student("Sarah", "Smith", "Algebra");  Student studentThree = new Student("Sam", "Winchester", "Algebra");  Student studentFour = new Student("Dean", "Winchester", "Music");  // Print Student  Console.WriteLine(student); // Student: First Name = Peter, Last Name = Parker, Subject = Geometry  // Register Student  string register = classroom.RegisterStudent(student);  Console.WriteLine(register); // Added student Peter Parker  string registerTwo = classroom.RegisterStudent(studentTwo);  string registerThree = classroom.RegisterStudent(studentThree);  string registerFour = classroom.RegisterStudent(studentFour);  // Dismiss Student  string dismissed = classroom.DismissStudent("Peter", "Parker");  Console.WriteLine(dismissed); // Dismissed student Peter Parker  string dismissedTwo = classroom.DismissStudent("Ellie", "Goulding");  Console.WriteLine(dismissedTwo); // Student not found  // Subject info  string subjectInfo = classroom.GetSubjectInfo("Algebra");  Console.WriteLine(subjectInfo);  // Subject: Algebra  // Students:  // Sarah Smith  // Sam Winchester  string anotherInfo = classroom.GetSubjectInfo("Art");  Console.WriteLine(anotherInfo); // No students enrolled for the subject  // Get Student  Console.WriteLine(classroom.GetStudent("Dean", "Winchester"));  // Student: First Name = Dean, Last Name = Winchester, Subject = Music |

## Submission

Zip all the files in the project folder except the **bin** and **obj** folders

Submit a **single .zip file**, containing the **Classroom package, with the classes inside (Student, Classroom and the StartUp class)**. There is no specific content required inside the **StartUp** class e. g. you can do any kind of local testing of your program there. However, there should be a **Main(string[] args)** method inside.