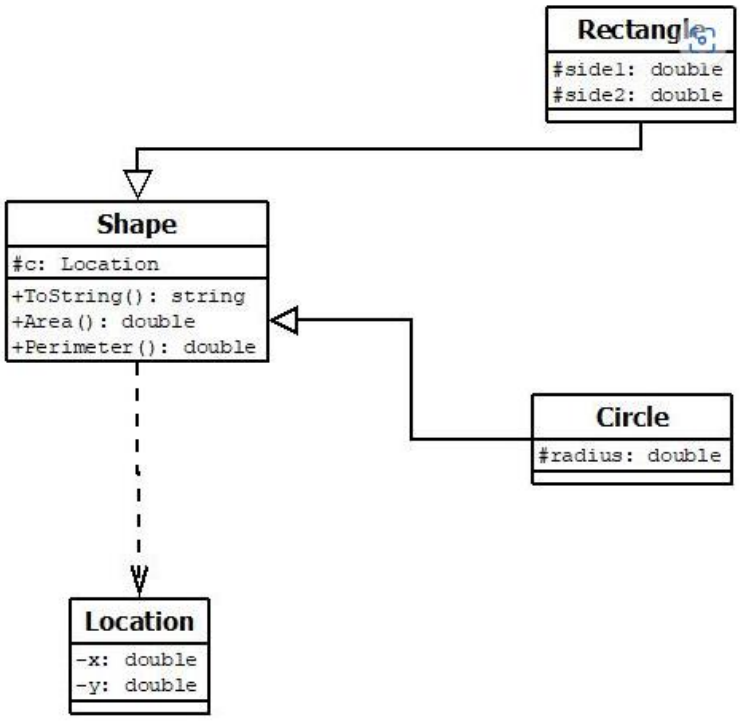
Create a C# program that prompts the user for three names of people and stores them in an array of Person-type objects. There will be two people of the Student type and one person of the Teacher type.

To do this, create a Person class that has a Name property of type `string`, a constructor that receives the name as a parameter and overrides the ToString () method.

Then create two more classes that inherit from the Person class, they will be called Student and Teacher. The Student class has a Study method that writes by console that the student is studying. The Teacher class will have an Explain method that writes to the console that the teacher is explaining. Remember to also create two constructors on the child classes that call the parent constructor of the Person class.

End the program by reading the people (the teacher and the students) and execute the Explain and Study methods.

Create a C# program that represents the following UML class diagram. The diagram represents public, private, and protected attributes as well as class dependency and inheritance.



Class diagram: Shapes

Create a C# program that implements an IVehiculo interface with two methods, one for Drive of type void and another for Refuel of type bool that has a parameter of type integer with the amount of gasoline to refuel. Then create a Car class with a builder that receives a parameter with the car's starting gasoline amount and implements the Drive and Refuel methods of the car.

The Drive method will print on the screen that the car is Driving, if the gasoline is greater than 0. The Refuel method will increase the gasoline of the car and return true.

To carry out the tests, create an object of type Car with 0 of gasoline in the Main of the program and ask the user for an amount of gasoline to refuel, finally execute the Drive method of the car.

Create a C# program that implements an abstract class Animal that has a Name property of type text and three methods SetName (string name), GetName and Eat. The Eat method will be an abstract method of type void.

You will also need to create a Dog class that implements the above Animal class and the Eat method that says the dog is Eating.

To test the program ask the user for a dog name and create a new Dog type object from the Main of the program, give the Dog object a name, and then execute the GetName and Eat methods.

Create a class to store details of student like rollno, name, course joined and fee paid so far. Assume courses are C# and ASP.NET with course fees being 2000 and 3000.

Provide the a constructor to take rollno, name and course.

Provide the following methods:

- Payment(amount)
- Print()
- DueAmount property
- TotalFee property

i. Add a static member to store Service Tax, which is set to 12.3%. Also allow a property through which we can set and get service tax.
Modify TotalFee and DueAmount properties to consider service tax.

ii. Create the classes required to store data regarding different types of Courses. All courses have name, duration and course fee. Some courses are part time where you have to store the timing for course. Some courses are onsite where you have to store the company name and the no. of candidates for the course. For onsite course we charge 10% more on the course fee. For part-time course, we offer 10% discount.

Provide constructors and the following methods.

- Print()
- GetTotalFee()