

LAB 6-7 OOP

Notice: you will use the class point of the previous assignment.

Exercise 1: Class Triangle

1. Write a class called Triangle that contains 3 attributes:
A, B, C : are objects of the class **Point**.
2. Write 3 constructors :
 - One that takes 3 parameters which are points.
 - One that takes 6 parameters which are the coordinates of each point.
 - One that takes an object triangle as parameter.
3. Write the following methods :
 - Input: allows entering six values which are coordinates of the three points.
 - Display: prints the coordinates of each point of the current triangle.
 - Translate: takes 2 values and translate each point of the triangle.
 - TriangleType: returns an integer according to the type of the current triangle.
1 : equilateral , 2 : isosceles , 3 : right , 4 : isosceles right or 5 : any triangle
4. Modify the method ToString() for the class **Triangle**.

public override string ToString(){// you should return a set of characters}
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5. Overload the **operators ==, !=, < et >** of the class **Triangle** knowing that a triangle is bigger than another one if its perimeter is bigger.

Exercise 2: Classe ColorPoint

- 1) Write the class ColorPoint that inherits from the class **Point**. It contains an additional attribute:
color : **string** corresponding to the color of the current point.
- 2) Write two constructors.
- 3) Write the following methods:
 1. **Display()** : prints the color and the coordinates of the current object from the class ColorPoint. (Remark: it exists in the class Point)
 2. **SetColor** (string c), that allows to redefine the color of the current object from the class ColorPoint.
 3. Modify the method ToString() for the class **ColorPoint**.
- 4) TEST:
Create 3 points P1, P2, P3 then create a triangle T1 formed by P1, P2 and P3.
Display the type of T1. Create an object of the class colorpoint CP ((1,1), red) and display it.