Assignment 1

Inheritance

Design a class named Triangle that extends GeometricObject.

The class contains:

■ Three double data fields named side1, side2, and side3 with default values 1.0 to denote three sides of the triangle.

■ A no-arg constructor that creates a default triangle.

■ A constructor that creates a triangle with the specified side1, side2, and side3.

■ The accessor methods for all three data fields.

■ A method named getArea() that returns the area of this triangle.

■ A method named getPerimeter() that returns the perimeter of this triangle.

■ A method named toString() that returns a string description for the triangle.

For the formula to compute the area of a triangle,

Area: (side1 + side2 + side3) / 2;

Perimeter: side1 + side2 + side3;

The toString() method is implemented as follows:

return "Triangle: side1 = " + side1 + " side2 = " + side2 + " side3 = " + side3;

Write a test program that prompts the user to enter three

sides of the triangle, a color, and a Boolean value to indicate whether the triangle

is filled.

The program should create a Triangle object with these sides and set

the color and filled properties using the input.

The program should display the area, perimeter, color, and true or false to indicate whether it is filled or not.

Here is the UML for GeometricObject

