CS 171 Assignment 2, Due on Sep. 13th 1pm *
20 points

1. Design a class named Triangle that extends GeometricObject and implement the Comparable interface. 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 the triangle.
   - A method named getPerimeter() that returns the perimeter of this triangle.
   - Override the equals method in the Object class. Two Triangle objects are equal if all of the sides are in the same length.
   - A method named toString() that returns a string description for the triangle. The description is as follows:
     return "Triangle: side1 = " + side1 + "side2 = " + side2 + " side3 = " + side3;

   Draw the UML diagrams for class Triangle and GeometricObject, which is given as follows:

   public class GeometricObject
   {
   public String color;
   public boolean isFilled;
   public GeometricObject()
   {color = "BLANK";
   isFilled = false; }
   public GeometricObject(String c, boolean f) {
   color = c;
   isFilled = f;}
   public void setColor(String color)
   {this.color = color;}
   public String getColor()
   {return color;}
   public boolean getFilled()

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{return isFilled;}

public double area()

{return -1; }

}

2. Sum the ares of geometric objects. Write a method that sums the areas of all the geometric objects (including circles and triangles) in an array. the method signature is

   Public static double sumArea(GeometricObject[] a)

3.