Create two programs: Triangle.java and the TriangleDemo.java. Work independently. Use comments throughout to identify what variables are, what methods are doing etc. Make good use of whitespace - indent to improve readability. Don’t forget to include your sample output in a comment at the end of TriangleDemo.java program.

**Description**-
Create a class called Triangle. Thoroughly comment the program identifying what the various parts are (i.e instance variables, constructor, method definition). The Triangle class needs to have 3 instance variables representing the length for each of the 3 sides.

```java
private int side1;
private int side2;
private int side3;
```

You need to have a constructor that sets all the instance variables initially to 0.

You need accessor and mutator methods to work on the instance variables. Each instance variable has its own accessor and its own mutator methods.

You should also code the methods defined below:

- **public String getType()**

  The getType method should return a String identifying the triangle type. The possible types are:

  - equilateral triangle - 3 equal sides
  - isosceles triangle - 2 equal sides
  - scalene triangle - no equal sides

- **public int getPerim()**

  -just sums up the lengths of 3 sides and returns that
Step by step Part 1

1. Create a new program called public class Triangle
2. Define instance variables side1, side2, side3
3. Create a constructor(s) to create objects of the Triangle class and set the 3 instance variables to 0

4. Create accessor methods - you need three of them
   Example:
   ```java
   public void setSide1( int s1){
       side1=s1;
   }
   ```

5. Create mutator methods to return the length of a side
   Example:
   ```java
   public int getSide1(){
       return side1;
   }
   ```

7. Create a method to determine what type of triangle the object is (isosceles(2 sides equal), equilateral(3 sides equal) or scalene (no sides equal))
   a. What should the method be called: `getType`
   b. What does the method return: `String`
   c. What parameters does it require: `none();`
   d. code the method
   ```java
   //if 3 sides are equal isosceles
   if (side1==side2)&&(side1==side3)&&(side2==side3)
   return “equilateral”; 
   ```

8. Create a method to determine the perimeter of the triangle (side1+side2+side3)
   a. What should the method be called - `getPerim`
   b. What does the method return - `int`
   c. What parameters does it require - `none ()`
   d. return (side1+ side2+side3)
After you are done establishing the Class Triangle, make a new separate java program called TriangleDemo including a “main” that creates(hint: “new” command) 2 objects of class Triangle. The point of this program is to thoroughly test each part of the Triangle class.

1. Create Triangles
   Triangle tr1 = new Triangle();
   Triangle tr2 = new Triangle();

2. Use the mutator methods to set tri1 side 1 = 1, side2 = 4, side3 = 9;
   Example: tr1.setSide1(1);

3. Use your accessor methods to print out the info
   System.out.println("Triangle 1 : side 1 : " + tr1.getSide1() + " side 2: " +tr1.getSide2() + " side3 : " + tr1.getSide3());

Do the same for tr2
4. set tr2 to side1 = 3, side2 = 3, side3 = 3 using the mutator methods for each variable
5. Use your accessor methods to print out the info

6. Test the getType method
   String tr1Type = tr1.getType();
   if (tr1Type.equals("equilateral")
      System.out.println("Triangle 1 is equilateral")
   else if ....

7. Test the getPerim
   System.out.println("The perimeter of tri1 is " + tr1.getPerim());