SOFTWARE TESTING

THE ROLE OF A TESTER IS TO BREAK THE SOFTWARE

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Question:

Create a program in java to implement Logic to find third angle of a triangle. After that check the triangle type with respect to the angle. Write the program on either paper or compiler but do not execute.

If it's on paper, move it to the peer for static review.

If it's on compiler, hand it over to the peer.

Answer:

Class Name: Triangle.java

```java
class Triangle {

  int angle1, angle2, angle3;


  public int getAngle1() {
    return angle1;
  }

  public int getAngle2() {
    return angle2;
  }

  public int getAngle3() {
    return angle3;
  }

  public void setAngle1(int angle1) {
    this.angle1 = angle1;
  }

  public void setAngle2(int angle2) {
    this.angle2 = angle2;
  }

  public void setAngle3(int angle3) {
    this.angle3 = angle3;
  }

  public void calculateThirdAngle(){
```

```java
        if(isValidInput()){
            setAngle3(180 - (getAngle1()+ getAngle2()));
        }

    }

    public String typeOfTriangle(){
        String type="";
        if(getAngle1()!=0 && getAngle2()!=0 && getAngle3()!=0){
            if(getAngle1() == 60 && getAngle2() ==60 && getAngle3()==60){
                type = "Equilateral Triangel";

            }
            else if(getAngle1() == getAngle2() || getAngle2()== getAngle3() || getAngle1()== getAngle3()){
                type="Isoceles Traingle";

            }
            else{
                type = "Scalene Triangle ";
            }
        }
        else{
            System.out.println("Type of triangle can not be specified with invalid inputs");
        }

        return type;
    }

    public boolean isValidInput(){
        if(getAngle1()<=0|| getAngle2()<=0){
            System.out.println("Angles Can not be less then zero");
            return false;
        }
        else if(getAngle1()>=180 || getAngle2()>=180){
            System.out.println("Angle can not be greater then 180");
            return false;
        }
        else if(getAngle1() + getAngle2() >= 180){
            System.out.println("Values of Angles are very high Triangle can not be formed");
            return false;
        }
        return true;
    }

}
```

Class Name: Main.java

```java
import java.util.Scanner;

public class Main {
  public static void main(String[] args) {
    try{
    Scanner sc = new Scanner(System.in);
      char choice = 'y';
    while(choice == 'y' || choice == 'Y'){
    System.out.print("Enter the Value for Angle 1 : ");
    int angle1 = sc.nextInt();
    System.out.print("Enter the Value for Angle 2 : ");
    int angle2 = sc.nextInt();

    Triangle triangle = new Triangle();
    triangle.setAngle1(angle1);
    triangle.setAngle2(angle2);
    triangle.calculateThirdAngle();
    int thirdAngle = triangle.getAngle3();
      System.out.print("Third Angle is : " +  thirdAngle);
      System.out.println("");
     String type = triangle.typeOfTriangle();
      System.out.print("Type of Triangle is : "+ type);
      System.out.println("");

     boolean isvalid = true;
     while(isvalid){
     System.out.print("\nWould You like to run again : (y for Yes) : ");
     choice = sc.next().charAt(0);
       if(choice !='y' && choice !='Y' && choice != 'n' && choice != 'N'){
         System.out.println("Invalid Input plz .. enter (y for yes and n for no) : ");
         isvalid = true;
       }
       else{
         isvalid=false;
       }
     }

    System.out.println("--------------------------------\n\n");

   }
   }catch(Exception e){
     System.out.println("Type of Angle Should be Number (inteager) ");
   }
  }
}
```