Write a java code that takes thress numbers and decide if the numbers represent sides of a triangle and type of triangle represented.

All sides equal: Equilateral

Two sides equal: Isoceles

None of the sides are equal: Scalene

Write a unit test by using all possible inputs to check if your method is working as intended.

**public** **class** triangleType {

**public** **int** sideOne,sideTwo,sideThree;

String type;

**public** **int** condition=0;

**public** String type(**int** sideOne,**int** sideTwo,**int** sideThree)

{

**if**(sideOne==0||sideTwo==0||sideThree==0)

{

type="not a triangle";

//condition=1;

}

**else** **if** (sideOne>=sideThree+sideTwo||sideTwo>=sideOne+sideThree||sideThree>sideOne+sideTwo)

{

type="not a triangle";

//condition=1;

}

**else** **if**( (sideOne==sideTwo&&sideTwo==sideThree))

{

type="Equilateral";

}

**else** **if**((sideTwo==sideOne ||sideOne==sideThree||sideTwo==sideThree))

{

type="Isoceles";

}

**else**

{

type="Scalene";

}

**return** type;

}

**public** **static** **void** main (String args[])

{

triangleType tt=**new** triangleType();

String type=tt.type(3, 5,5);

System.***out***.println(type);

}

}}

The Unit test for the above code…..

import static org.junit.jupiter.api.Assertions.\*;

import org.junit.jupiter.api.Test;

import static org.junit.jupiter.api.Assertions.assertAll;

class triangleTypeTest {

triangleType tt=new triangleType();

@Test

void testType() {

String type1=tt.type(0, 0, 0);

String type2=tt.type(0, 0,10);

String type3=tt.type(0, 10, 0);

String type4=tt.type(0, 10, 10);

String type5=tt.type(10, 0, 0);

String type6=tt.type(10, 0, 10);

String type7=tt.type(10, 10, 0);

String type8=tt.type(10, 10, 10);

assertAll("Checking one of the sides being zero",()->assertEquals("not a triangle",type1),()->assertEquals("not a triangle",type2),()->assertEquals("not a triangle",type3),()->assertEquals("not a triangle",type4),()->assertEquals("not a triangle",type5),()->assertEquals("not a triangle",type6),()->assertEquals("not a triangle",type7),()->assertEquals("Equilateral",type8));

String type9=tt.type(10, 10, 9);

String type10=tt.type(10, 9, 10);

String type11=tt.type(10, 9, 9);

assertAll("Checking for the sides being equal",()->assertEquals("Isoceles",type9),()->assertEquals("Isoceles",type10),()->assertEquals("Isoceles",type11));

String type12=tt.type(10, 11, 9);

assertEquals("Scalene",type12);

String type13=tt.type(10, 5, 4);

String type14=tt.type(5, 10, 4);

String type15=tt.type(4, 5, 10);

assertAll("Checking for one of the sides being greater than the sum of the other two sides",()->assertEquals("not a triangle",type13),()->assertEquals("not a triangle",type14),()->assertEquals("not a triangle",type15));

}

}