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/**
 * Manipulation de circuits électroniques.
 *
 * @author biech153 (Biersbach Chris) / gamca174 (Gamboa Carlos) / olial319 (Olinger Alex)
 * @version 17/01/2019 7:23:50
 * Classe: 3GIG
 */
public class Circuit
{
    private double r1;
    private double r2;

    public Circuit(double pR1, double pR2)
    {
        r1 = pR1;
        r2 = pR2;
    }

    public double getR1()
    {
        return r1;
    }

    public void setR1(double pR1)
    {
        r1 = pR1;
    }

    public double getR2()
    {
        return r2;
    }

    public void setR2(double pR2)
    {
        r2 = pR2;
    }

    public double computeTotalResistor(String pOperation)
    {
        double res = 0;
        if (pOperation.equals("s") || pOperation.equals("S"))
        {
            res = r1 + r2;
        }
        else
        {
            if (pOperation.equals("p") || pOperation.equals("P"))
            {
                if ((r1 == 0) || (r2 == 0))
                {
                    res = 0;
                }
                else
                {
                    res = 1 / (1/r1 + 1/r2);
                }
            }
            else
            {
                System.out.println("Illegal operation '"+pOperation+"' !");
                res = -1;
            }
        }

        return res;
    }
}
```

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/**
/**
 * Tests de la classe Circuit.
 *
 * @author biech153 (Biersbach Chris) / gamca174 (Gamboa Carlos) / olial319 (Olinger Alex)
 * @version 17/01/2019 7:23:50
 * Classe: 3GIG
 */
public class TestCircuit
{
    /**
    * Programme principal.
    */
    public static void main(String[] args)
    {
        Circuit c;

        c = new Circuit(10.5, 21);
        System.out.println("R1="+c.getR1()+" R2="+c.getR2()+" => Rs="+c.computeTotalResistor("s"));
        System.out.println("R1="+c.getR1()+" R2="+c.getR2()+" => RS="+c.computeTotalResistor("S"));
        System.out.println("R1="+c.getR1()+" R2="+c.getR2()+" => Rp="+c.computeTotalResistor("p"));
        System.out.println("R1="+c.getR1()+" R2="+c.getR2()+" => RP="+c.computeTotalResistor("P"));
        System.out.println("R1="+c.getR1()+" R2="+c.getR2()+" => Rz="+c.computeTotalResistor("z"));
        System.out.println("R1="+c.getR1()+" R2="+c.getR2()+" => RX="+c.computeTotalResistor("X"));
        System.out.println();

        c.setR1(0);
        c.setR2(21);
        System.out.println("R1="+c.getR1()+" R2="+c.getR2()+" => Rs="+c.computeTotalResistor("s"));
        System.out.println("R1="+c.getR1()+" R2="+c.getR2()+" => RS="+c.computeTotalResistor("S"));
        System.out.println("R1="+c.getR1()+" R2="+c.getR2()+" => Rp="+c.computeTotalResistor("p"));
        System.out.println("R1="+c.getR1()+" R2="+c.getR2()+" => RP="+c.computeTotalResistor("P"));
        System.out.println("R1="+c.getR1()+" R2="+c.getR2()+" => Rm="+c.computeTotalResistor("m"));
        System.out.println("R1="+c.getR1()+" R2="+c.getR2()+" => RY="+c.computeTotalResistor("Y"));
        System.out.println();

        c.setR1(10.5);
        c.setR2(0);
        System.out.println("R1="+c.getR1()+" R2="+c.getR2()+" => Rs="+c.computeTotalResistor("s"));
        System.out.println("R1="+c.getR1()+" R2="+c.getR2()+" => RS="+c.computeTotalResistor("S"));
        System.out.println("R1="+c.getR1()+" R2="+c.getR2()+" => Rp="+c.computeTotalResistor("p"));
        System.out.println("R1="+c.getR1()+" R2="+c.getR2()+" => RP="+c.computeTotalResistor("P"));
        System.out.println("R1="+c.getR1()+" R2="+c.getR2()+" => Ro="+c.computeTotalResistor("o"));
        System.out.println("R1="+c.getR1()+" R2="+c.getR2()+" => RW="+c.computeTotalResistor("W"));
        System.out.println();

        c.setR1(0);
        c.setR2(0);
        System.out.println("R1="+c.getR1()+" R2="+c.getR2()+" => Rs="+c.computeTotalResistor("s"));
        System.out.println("R1="+c.getR1()+" R2="+c.getR2()+" => RS="+c.computeTotalResistor("S"));
        System.out.println("R1="+c.getR1()+" R2="+c.getR2()+" => Rp="+c.computeTotalResistor("p"));
        System.out.println("R1="+c.getR1()+" R2="+c.getR2()+" => RP="+c.computeTotalResistor("P"));
        System.out.println("R1="+c.getR1()+" R2="+c.getR2()+" => Ra="+c.computeTotalResistor("a"));
        System.out.println("R1="+c.getR1()+" R2="+c.getR2()+" => RC="+c.computeTotalResistor("C"));
    }
}

```