SEGUNDA ENTREGA

Ejercicios en Java

Sebastián Arcila Sánchez

Mario Alberto Cañas Baquero

Walter Hugo Arboleda Mazo

Universidad Nacional de Colombia Sede Medellín

Facultad de Minas

Programación Orientada a Objetos

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PARTE 1

Ejercicio 7

```
package teamwork;

import java.util.Scanner;


public class Ejercicio7 {
   private int a,b;


   Ejercicio7(){
      System.out.print("Ingresa el numero A: ");
      Scanner scanner = new Scanner(System.in);
      a = scanner.nextInt();
      System.out.print("Ingresa el numero B: ");
      b = scanner.nextInt();
      scanner.close();
   }


   public String mayor(){
      if(a>b){
         return a + " es mayor que " + b;
      }
      else if(b>a){
         return b + " es mayor que " + a;
      }else{
         return a + " es igual a " + b;
      }
   }
}
```

Ejercicio 10

```
package teamwork;
import java.util.Scanner;

public class Ejercicio10 {

   private int ni;
   private String name;
   private int pat;
   private int est;
   private double pagmat = 50000;

   Ejercicio10(){
      System.out.print("Ingresa el numero de inscripcion: ");
      Scanner scanner = new Scanner(System.in);
      ni = scanner.nextInt();
      System.out.print("Ingresa tu nombre: ");
      scanner.useDelimiter("\n");
      name = scanner.next();
      System.out.print("Ingresa tu patrimonio: ");
      pat = scanner.nextInt();
      System.out.print("Ingresa tu estrato: ");
      est = scanner.nextInt();
   }

   public String info_est(){

      if(pat>2000000 && est>3){
         pagmat = pagmat + (pat*0.003);
```

```
        }

        return "El estudiante con numero de inscripcion " + ni + " y nombre " + name + " debe pagar: $" + pagmat;
    }
}
```

Ejercicio 11

```
package teamwork;

import java.util.Scanner;

public class Ejercicio11 {

    private int a,b,c;

    Ejercicio11(){
        System.out.print("Ingresa el primer numero: ");
        Scanner scanner = new Scanner(System.in);
        a = scanner.nextInt();
        System.out.print("Ingresa el segundo numero: ");
        b = scanner.nextInt();
        System.out.print("Ingresa el tercer numero: ");
        c = scanner.nextInt();
    }

    public String mayor(){

        int mayor;
```

```
        if(a>b && a>c){
            mayor =  a;
        }
        else{
            if(b>c){
                mayor = b;
            }
            else{
                mayor = c;
            }
        }

        return "El valor mayor entre " + a + ", " + b + ", " + c + " es "
                + mayor;

    }
}
```

Ejercicio 12

```
package teamwork;
import java.util.Scanner;

public class Ejercicio12 {

    private String name;
    private int horas;
    private double vhora;
```

```
    Ejercicio12(){
        System.out.print("Ingrese su nombre: ");
        Scanner scanner = new Scanner(System.in);
        scanner.useDelimiter("\n");
        name = scanner.next();
        System.out.print("Ingrese el  numero de horas trabajadas: ");
        horas = scanner.nextInt();
        System.out.print("Ingrese el valor por hora de trabajo: ");
        vhora = scanner.nextInt();

    }

    public String salario(){
        double vsalario;
        if(horas>40){
            int hext = horas-40;
            if(hext>8){
                int hexxt = hext-8;
                vsalario = 40*vhora + 8*2*vhora + hexxt*3*vhora;
            }else{
                vsalario = 40*vhora + hext*2*vhora;
            }
        }else{
            vsalario = horas*vhora;
        }

        return "El trabajdor " + name + " devengo: $" + vsalario;
    }
}
```

Ejercicio 13

```
package teamwork;
import java.util.Scanner;

public class Ejercicio13 {

   private double vcomp;
   private String color;

   Ejercicio13(){
      System.out.print("Ingrese el valor de la compra: ");
      Scanner scanner = new Scanner(System.in);
      vcomp = scanner.nextInt();
      System.out.print("Ingrese el color: ");
      color = scanner.next();
      System.out.println(color);
   }

   public String descuento(){

      double valor;
      if(color.equals("blanca")){
         valor = vcomp;
      }
      if(color.equals("verde")){
         valor = vcomp-(vcomp*0.1);
      }
      if(color.equals("amarilla")){
         valor = vcomp-(vcomp*0.25);
```

```
        }
        if(color.equals("azul")){
            valor = vcomp-(vcomp*0.5);
        }
        else{
            valor = 0;
        }

        return "El cliente debe pagar: $" + valor;
    }

}
```

Ejercicio 14

```
package teamwork;
import java.util.Scanner;

public class Ejercicio14 {

    private int vd1, vd2, vd3;
    private double sven, sven1, sven2, sven3;

    Ejercicio14(){
        System.out.print("Ingrese las ventas del departamento 1: ");
        Scanner scanner = new Scanner(System.in);
        vd1 = scanner.nextInt();
        System.out.print("Ingrese las ventas del departamento 2: ");
        vd2 = scanner.nextInt();
        System.out.print("Ingrese las ventas del departamento 3: ");
        vd3 = scanner.nextInt();
```

```
    System.out.print("Ingrese el salario de los vendedores: ");
    sven = scanner.nextInt();
}

public String incentivo(){
    double per = (vd1+vd2+vd3)*0.33;
    if(vd1>per){
        sven1 = sven1+sven1*0.2;
    }
    else{
        sven1 = sven;
    }
    if(vd2>per){
        sven2 = sven2+sven2*0.2;
    }
    else{
        sven2 = sven;
    }

    if(vd3>per){
        sven3 = sven3+sven3*0.2;
    }
    else{
        sven3 = sven;
    }

    return "Salario vendedores depto.1 " + sven1 +
           " Salario vendedores depto.2 " + sven2 +
           " Salario vendedores dept.3 " + sven3;
```

```
    }
}
```

Ejercicio 15

```
package teamwork;
import java.util.Scanner;

public class Ejercicio15 {

    private int a,b,c,d;


    Ejercicio15(){
        System.out.print("Ingrese el peso de la esfera A: ");
        Scanner scanner = new Scanner(System.in);
        a = scanner.nextInt();
        System.out.print("Ingrese el peso de la esfera B: ");
        b = scanner.nextInt();
        System.out.print("Ingrese el peso de la esfera C: ");
        c = scanner.nextInt();
        System.out.print("Ingrese el peso de la esfera D: ");
        d = scanner.nextInt();
    }

    public String peso(){

        char dif;
        String type;
```

```
if(a == b && a == c){
   dif = 'D';
   if(d>a){
      type = "mayor";
   }else{
      type = "menor";
   }
}
else{
   if(a == b && a == d){
      dif = 'C';
      if(c>a){
         type = "mayor";
      }else{
         type = "menor";
      }
   }
   else{
      if(a == c && a == d){
         dif = 'B';
         if(b>d){
            type = "mayor";
         }else{
            type = "menor";
         }
      }
      else{
         dif = 'A';
         if(a>b){
```

```
                type = "mayor";
            }else{
                type = "menor";
            }
        }
    }
    return "La esfera " + dif + " es la diferente y es de " +
        type + " peso";
  }

}
```

Ejercicio 18

```
package teamwork;

public class Ejercicio18 {

   public int workerC = 17582;
   public String name = "Mario Canas";
   private int time = 192;
   private double valorh = 10096.63;
   private double pretencion = 2.3;
   private double sNeto, sBruto, retencion;

   public double sBruto(){
      sBruto = time*valorh;
      return time*valorh;
```

```
    }

    public double sNeto(){
        retencion = sBruto*(pretencion/100);
        return sBruto-retencion;
    }

}
```

Ejercicio 19

```
package teamwork;
public class Ejercicio19 {

    private double l = 5;
    private double p,h, a;

    public double perimetro(){
        return l*3;
    }

    public double altura(){
        return (l/2) * Math.sqrt(3);
    }

    public double area(){
        return Math.sqrt(3)* Math.pow(l,2) / 4;
    }
}
```

Ejercicio 21

```
package teamwork;


public class Ejercicio21 {


   private double l1 = 3;
   private double l2 = 2;
   private double l3 = 3;
   private double p, sp, a;


   public double perimetro(){
      return l1+l2+l3;
   }


   public double semiperimetro(){
      return (l1+l2+l3)/2;
   }


   public double area(){


      if(l1 == l2 && l1 == l3)
      {
         a = Math.sqrt(3)* Math.pow(l1,2) / 4;
      }
      else if(l1 != l2 && l1 != l3)
      {
         //formula de heron
         double s;
         s = (l1+l2+l3)/2;
```

```
            a = Math.sqrt(s*(s-l1)*(s-l2)*(s-l3));
        }
        else
        {
            a = (l2*Math.sqrt(Math.pow(l1, 2)-(Math.pow(l2, 2)/4)))/2;
        }
        return a;
    }



}
```

Ejercicio 22

```
package teamwork;


public class Ejercicio22 {

    private String name = "Mario Canas";
    private double shora = 10096.63;
    private int horaef = 192;
    private double salario;

    public String filtro(){
        salario = shora*horaef;
        if(salario>450000){
            return name + " devenga un salario de " + salario;
```

```
        }else{
            return name;
        }
    }
}
```

Ejercicio 23

```
package teamwork;



public class Ejercicio23 {
    //dado a b c
    private double a = 3,b = 2,c = -1;

    public String solver(){
        double sol[];
        double disc = (Math.pow(b, 2) - (4 * a * c));
        if (disc >= 0) {

            // Una solucion
            if(disc == 0){
                double s = ((-b) - (4 * a * c)) / (2 * a);
                return "La solucion es: " + s;

            // Dos soluciones
            }else{
                double s1 = ((-b) + Math.sqrt(Math.pow(b, 2) - (4 * a * c))) / (2 * a);
                double s2 = ((-b) - Math.sqrt(Math.pow(b, 2) - (4 * a * c))) / (2 * a);
```

```
            return "Las soluciones son: " + s1 + " y " + s2;
        }


    } else {
        // Sin solucion
        return "No tiene solucion";
    }
  }
}
```

Ejercicio 24

```
package teamwork;


public class Ejercicio24 {

  private int a = 54, b = 224, c = 81;

  public String mayor(){

    char mayor;
    if(a>b && a>c){
        mayor = 'A';
    }
    else{
        if(b>c){
            mayor = 'B';
```

```
            }
            else{
                mayor = 'C';
            }
        }

        return "La esfera de mayor peso entre " + a + ", " + b + ", " +
                c + " es " + mayor;

    }
}
```

PARTE 2

Círculo

```
package Part2;


public class Circle {
    int radio;

    Circle(int radio){
        this.radio = radio;
    }

    public double calcularArea() {
        return Math.PI*Math.pow(radio,2);
    }
```

```
    public double calcularPerimetro() {
        return 2*Math.PI*radio;
    }

}
```

Rectángulo

```
package Part2;


public class Rectangle {
    int base;
    int altura;

    Rectangle(int base, int altura) {
    this.base = base;
    this.altura = altura;
    }

    public double calcularArea() {
        return base * altura;
    }

    public double calcularPerimetro() {
        return (2 * base) + (2 * altura);
    }

}
```

Cuadrado

```
package Part2;



public class Square {
   int lado;

   public Square(int lado) {
      this.lado = lado;
   }

   public double calcularArea() {
      return lado*lado;
   }

   public double calcularPerimetro() {
      return (4*lado);
   }

}
```

Triángulo Rectángulo

```
package Part2;



public class RightTriangle {
   int base;
```

```
    int altura;

    public RightTriangle(int base, int altura) {
        this.base = base;
        this.altura = altura;
    }

    public double calcularArea() {
        return (base * altura / 2);
    }

    public double calcularPerimetro() {
        return (base + altura + calcularHipotenusa());
    }

    public double calcularHipotenusa() {
        return Math.pow(base*base + altura*altura, 0.5);
    }

    void determinarTipoTriangulo() {
        if ((base == altura) && (base == calcularHipotenusa()) && (altura == calcularHipotenusa()))
            System.out.println("Es un triángulo equilátero");
    else if ((base != altura) && (base != calcularHipotenusa()) && (altura != calcularHipotenusa()))
        System.out.println("Es un triángulo escaleno");
    else
        System.out.println("Es un triángulo isósceles");
    }

}
```

Pruebas

```
package Part2;

/**
 *
 * @author Mario Cañas and Sebastian Arcila
 */
public class part2 {

    public static void main(String[] args) {
        Circle figura1 = new Circle(2);
        Rectangle figura2 = new Rectangle(1,2);
        Square figura3 = new Square(3);
        RightTriangle figura4 = new RightTriangle(3,5);

        System.out.println("El area del circulo es: " + figura1.calcularArea());

        System.out.println("El perimetro del circulo es: " + figura1.calcularPerimetro());

        System.out.println("El area del rectangulo es: " + figura2.calcularArea());

        System.out.println("El perimetro del rectangulo es: " + figura2.calcularPerimetro());

        System.out.println("El area del cuadrado es: " + figura3.calcularArea());

        System.out.println("El perimetro del cuadrado es: " + figura3.calcularPerimetro());

        System.out.println("El area del triangulo es: " + figura4.calcularArea());
```

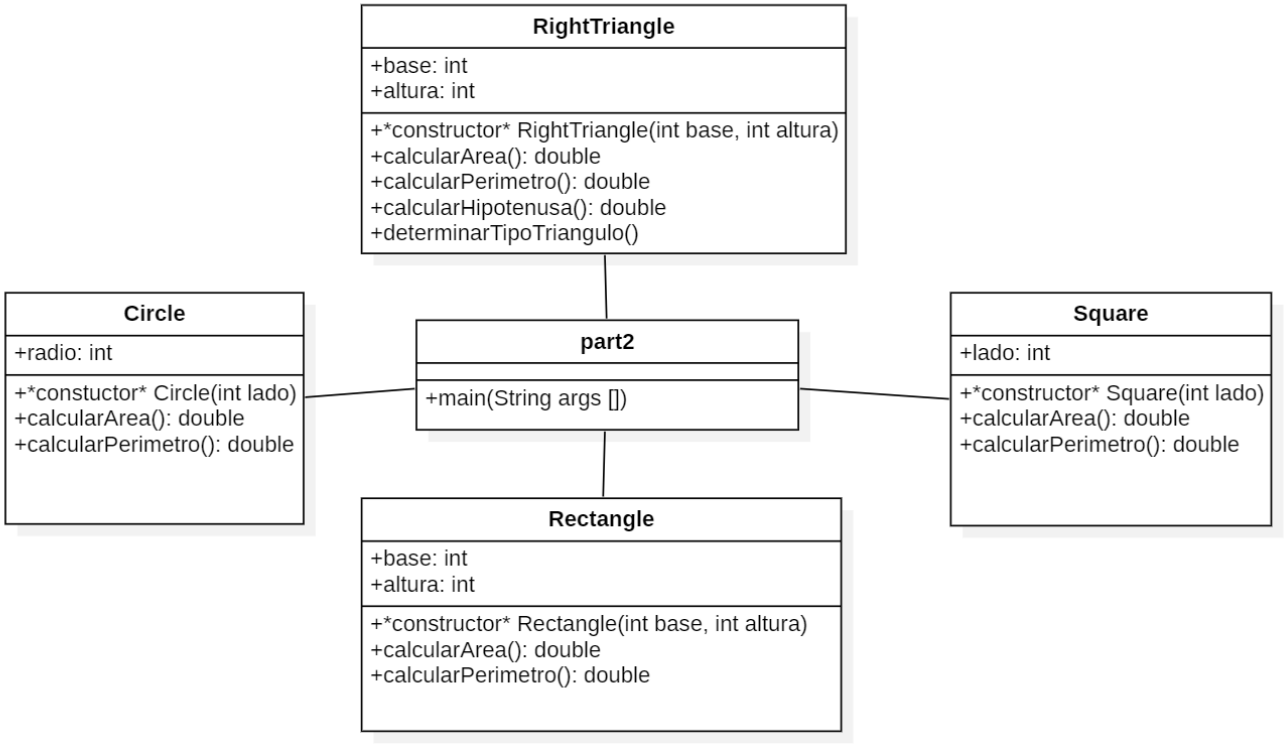
```
        System.out.println("El perimetro del triangulo es: " + figura4.calcularPerimetro());
        System.out.println("La hipotenusa del triangulo es: " + figura4.calcularHipotenusa());

        figura4.determinarTipoTriangulo();

    }

}
```

Diagrama de clases hecho en StarUML



Link GitHub: https://github.com/MarioCa20/TeamWork1