

Comprobar si el código aplica reglas de SOLID o no. En caso de no aplicar, corregirlo

1*

```
class Invoice {
    private double amount;

    public Invoice(double amount) {
        this.amount = amount;
    }

    public double getAmount() {
        return amount;
    }

    public void printInvoice() {
        System.out.println("Factura por: " + amount);
    }
}
```

2*

```
class Circle {
    double radius;
    public Circle(double radius) { this.radius = radius; }
}

class Square {
    double side;
    public Square(double side) { this.side = side; }
}

class AreaCalculator {
    public double calculate(Object shape) {
        if (shape instanceof Circle) {
            return Math.PI * ((Circle) shape).radius * ((Circle) shape).radius;
        } else if (shape instanceof Square) {
            return ((Square) shape).side * ((Square) shape).side;
        }
        return 0;
    }
}
```

3*

```
class Bird {
    public void fly() {
```

```

        System.out.println("Volando...");
    }
}

class Sparrow extends Bird { }

class Penguin extends Bird { } // ❌ No debería heredar de Bird

public class Main {
    public static void main(String[] args) {
        Bird penguin = new Penguin();
        penguin.fly(); // ⚠ Esto rompe el principio LSP
    }
}

```

4*

```

interface Worker {
    void work();
    void eat();
}

class Engineer implements Worker {
    public void work() {
        System.out.println("Ingeniero trabajando...");
    }

    public void eat() {
        System.out.println("Ingeniero comiendo...");
    }
}

class Robot implements Worker {
    public void work() {
        System.out.println("Robot trabajando...");
    }

    public void eat() {
        // ⚠ Los robots no comen, este método es innecesario
    }
}

```

5*

```
class MySQLDatabase {  
    public void connect() {  
        System.out.println("Conectando a MySQL...");  
    }  
}
```

```
class App {  
    private MySQLDatabase database;  
  
    public App() {  
        this.database = new MySQLDatabase();  
    }  
  
    public void start() {  
        database.connect();  
    }  
}
```
