PRINCIPIOS SOLID

COHESIÓN Y ACOPLAMIENTO

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COHESIÓN

- Grado en que los elementos de un módulo están relacionados.
- Nos interesa que un módulo tenga una cohesión muy alta.

```java
public class Game {
    private int currentLevel;
    private DifficultyLevel difficultyLevel;
    private String playerName;
    private int playerHealth;
    private int playerStamina;

    public int levelsLeft() {
        return difficultyLevel.numberOfLevels()
                - currentLevel;
    }

    public boolean isPlayerDead() {
        return playerHealth <= 0;
    }

    public void printPlayer() {
        System.out.println("Name: " + playerName);
        System.out.println("Health: " + playerHealth + "/100");
        System.out.println("Stamina: " + playerStamina + "/100");
    }
}
```

COHESIÓN

```java
public class Game {
    private int currentLevel;
    private DifficultyLevel difficultyLevel;
    private Player player;

    public int levelsLeft() {
        return difficultyLevel.numberOfLevels()
                - currentLevel;
    }
}
```

```java
public class Player {
    private String playerName;
    private int playerHealth;
    private int playerStamina;

    public boolean isDead() {
        return playerHealth <= 0;
    }

    public void printInfo() {
        System.out.println("Name: " + playerName);
        System.out.println("Health: " + playerHealth + "/100");
        System.out.println("Stamina: " + playerStamina + "/100");
    }
}
```

ACOPLAMIENTO

- Grado en el que dos módulos software están relacionados.
- Con un buen diseño de software, se crean módulos poco acoplados.
- Si se modifica un módulo, **debe afectar lo menos posible a los demás.**

ACOPLAMIENTO

```java
public class Player {
    private String playerName;
    private int playerHealth;
    private int playerStamina;
    private Game game;

    public void isDead() {
        if(playerHealth <= 0) game.end();
    }

    public void printInfo() {
        System.out.println("Name: " + playerName);
        System.out.println("Health: " + playerHealth + "/100");
        System.out.println("Stamina: " + playerStamina + "/100");
    }
}
```

ACOPLAMIENTO

```java
public class Game {
    private int currentLevel;
    private DifficultyLevel difficultyLevel;
    private Player player;

    private void checkGameLost() {
        if(player.isDead()) {
            end();
        }
    }

    private void end() {
        System.out.println("YOU LOST");
    }
```