

[Interpreter Design Pattern]

The **Interpreter Pattern** is a behavioral design pattern that defines a way to evaluate or interpret sentences in a specific language. It is commonly used to parse and execute expressions or statements written in a domain-specific language (DSL). The pattern provides a way to represent grammar rules as a tree structure, where each node interprets part of the sentence.

Key Concepts:

1. AbstractExpression:

- Declares the `interpret` method that every concrete expression needs to implement.

2. TerminalExpression:

- Implements the `interpret` method for the smallest units of the language (e.g., numbers, variables).

3. NonTerminalExpression:

- Represents composite expressions (e.g., addition, subtraction). These are built using other expressions.

4. Context:

- Holds the state or information that's shared across expressions (e.g., variable mappings).

5. Client:

- Constructs the expression tree and uses the context to evaluate it.

