

Interpreter DP

5-Jul-22 8:30 PM

17

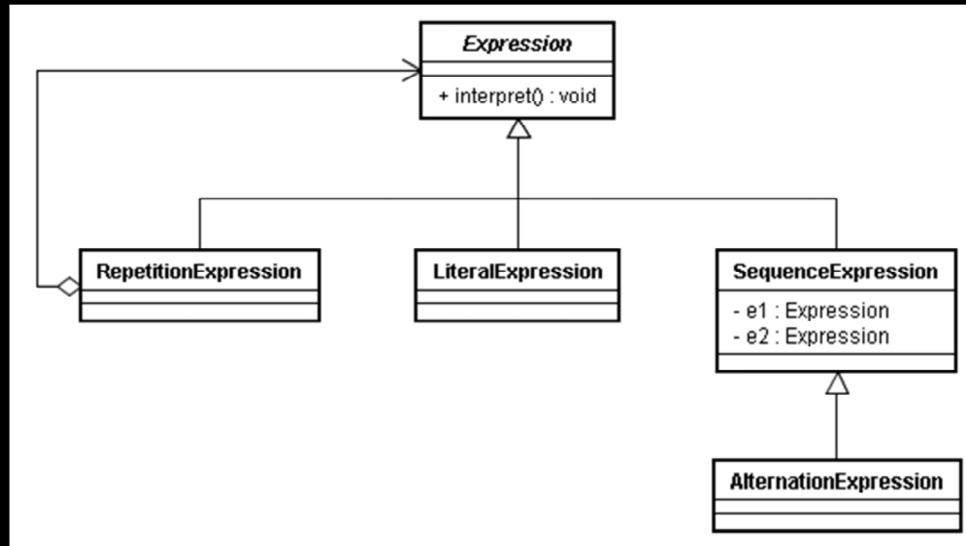
Problem

- Represent and interpret expressions of the form
 - raining & (dogs | cats)

Solution

- Grammar rules
 - expression = literal | alternation | sequence | repetition | '(' expression' '
 - alternation = expression '|' expression
 - sequence = expression '&' expression
 - repetition = expression '*'
 - literal = variable | constant

Generalized Diagram



5-Jul-22 8:30 PM

20

The interpreter DP allows us to create a scripting language.

Sometimes the end users of our application need to do some kind of simple programming.

Here, we create and embed a language interpreter into our program.

Programs must parse an algebraic string.

It is widely used in compilers and like.

A Program must produce varying kinds of output. e.g.

Report generators: A simple report language is entered by the user (not programmer) at runtime. This language statements are interpreted and translated into SQL statements.

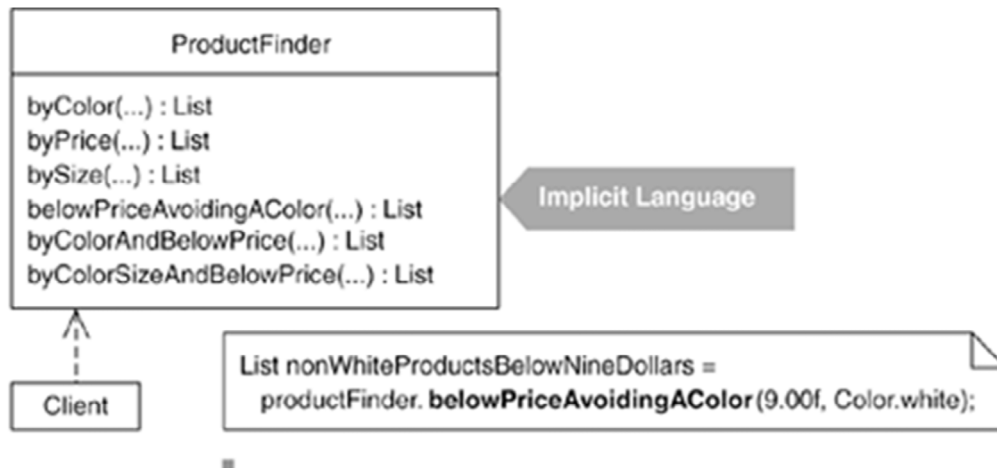
Subclasses of `java.text.Format` use this pattern.

The constructors of these classes are passed, explicitly or implicitly, a string that contains a pattern.

Each subclass has its own little language for such things as substituting text in messages (`MessageFormat`), formatting date and time information (`DateFormat`), and formatting decimal numbers (`DecimalFormat`).

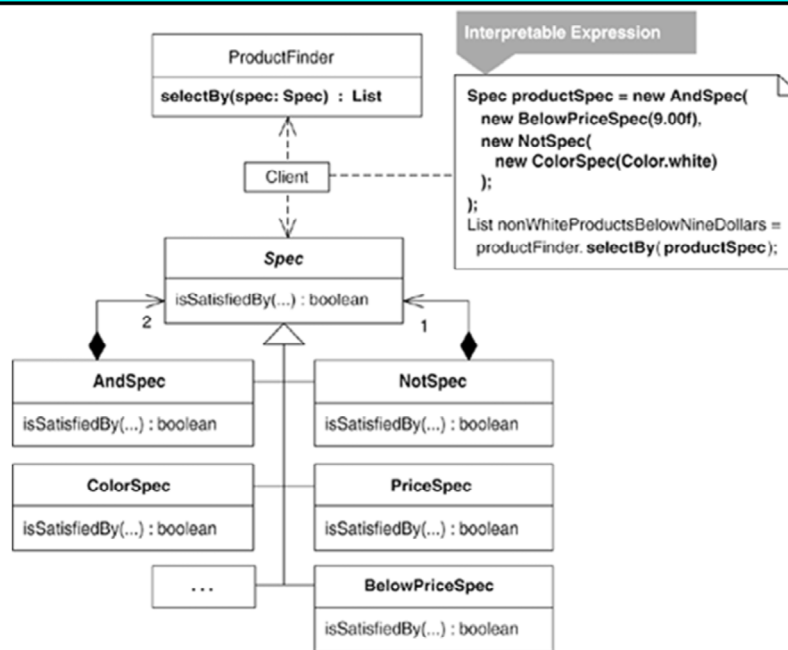
Because of the flat structure of these little languages, their parsers do not generate a parse tree but rather an array of objects.

Improve the design



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Solution by Interpreter DP



5-Jul-22 8:30 PM

22

Composite DP is also used