LEXER → PARSER → INTERPRETER

GRAMMAR

RESULT = EVAL("2 + 3 * 4")

RESULT = EVAL("2 + 3 * 4")

RESULT =

PUNCTUATION

IDENTIFIER

LITERAL

IDENTIFIER

PUNCTUATION

OPERATOR

VISITOR PATTERN

AST

CST

TOKEN

RESULT
=
EVAL("2 + 3 * 4")

14

ASSIGNMENT

IDENTIFIER

CALL

IDENTIFIER

ARGUMENTS

LITERAL

BINARYEXPRESSION (+)

LITERAL
(2)

BINARYEXPRESSION (*)

LITERAL
(3)
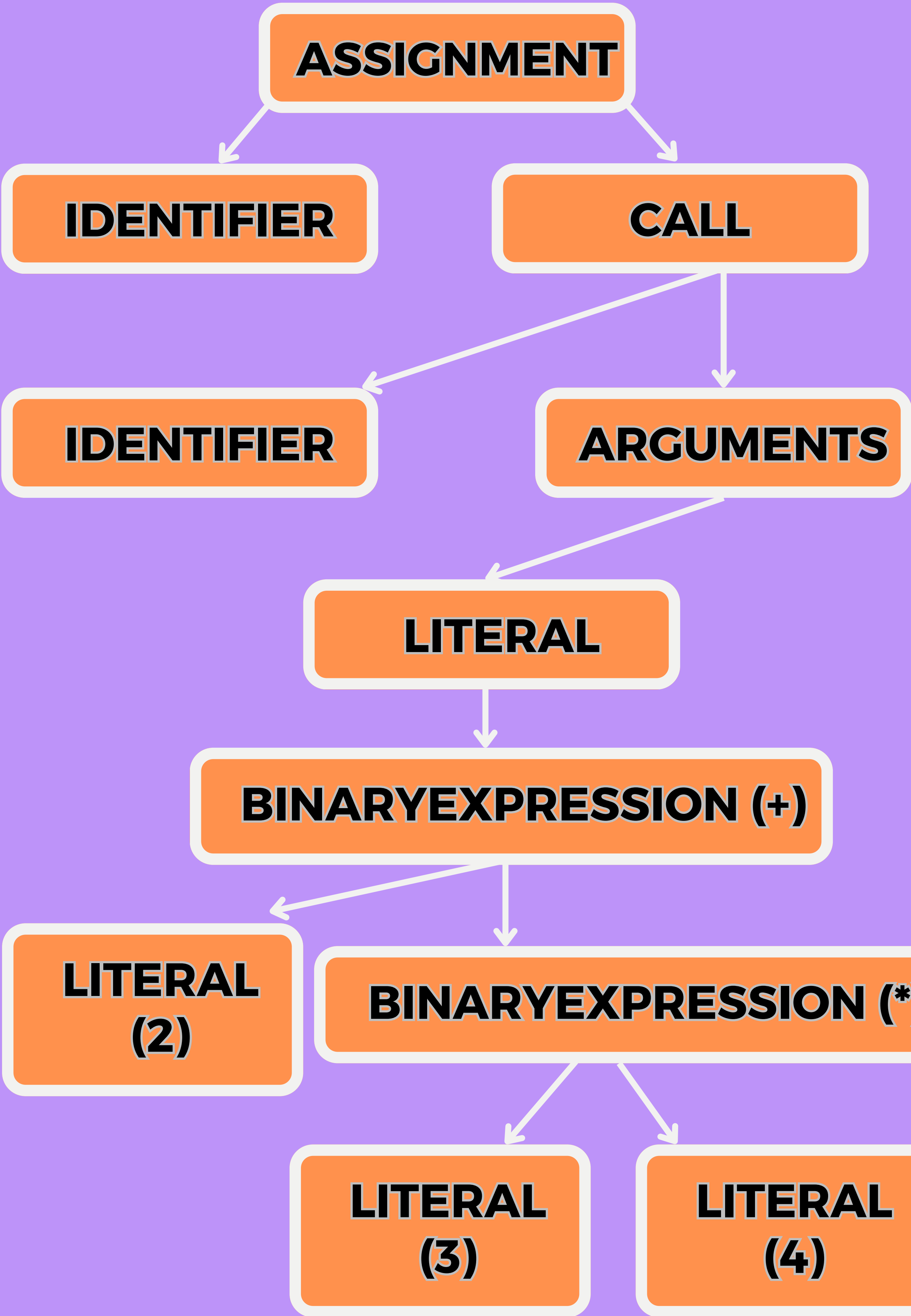
LITERAL
(4)

RESULT

```json
"tokens": [
  {
    "token": "result",
    "type": "IDENTIFIER",
    "image": "result"
  },
  {
    "token": "=",
    "type": "ASSIGNMENT_OPERATOR",
    "image": "="
  },
  {
    "token": "eval",
    "type": "IDENTIFIER",
    "image": "eval"
  },
  {
    "token": "(",
    "type": "PARENTHESIS_OPEN",
    "image": "("
  },
  {
    "token": "\"",
    "type": "STRING_LITERAL",
    "image": "\""
  },
  {
    "token": "2",
    "type": "NUMBER",
    "image": "2"
  },
  {
    "token": "+",
    "type": "OPERATOR",
    "image": "+"
  },
  {
    "token": "3",
    "type": "NUMBER",
    "image": "3"
  },
  {
    "token": "*",
    "type": "OPERATOR",
    "image": "*"
  },
  {
    "token": "4",
    "type": "NUMBER",
    "image": "4"
  },
  {
    "token": "\"",
    "type": "STRING_LITERAL",
    "image": "\""
  },
  {
    "token": ")",
    "type": "PARENTHESIS_CLOSE",
    "image": ")"
  }
]
}
```