

Expressions

Types of expressions

An expression describes a computation and evaluates to a value

$$18 + 69$$

$$\frac{6}{23}$$

$$\sin \pi$$

$$\log_2 1024$$

$$2^{100}$$

$$f(x)$$

$$\sqrt{3493161}$$

$$7 \bmod 2$$

$$\sum_{i=1}^{100} i$$

$$\lim_{x \rightarrow \infty} \frac{1}{x}$$

$$|-1869|$$

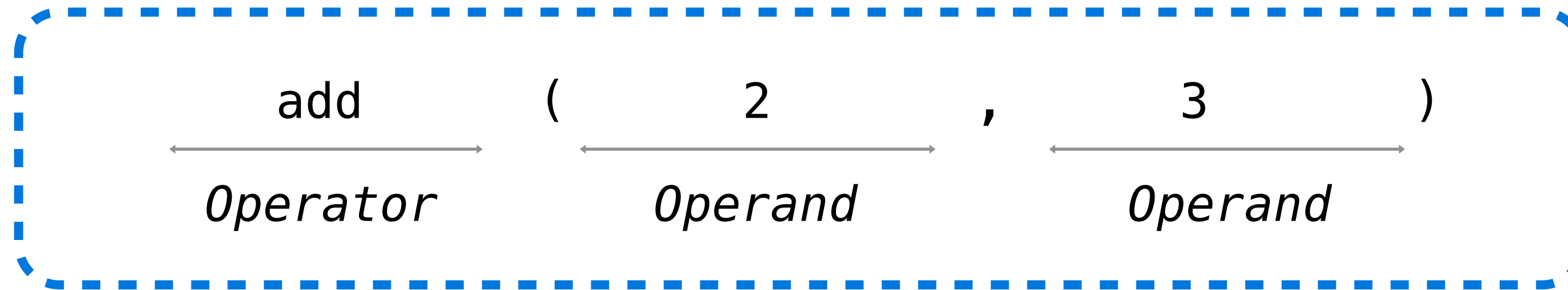
$$\binom{69}{18}$$

Call Expressions in Python

All expressions can use function call notation

(Demo)

Anatomy of a Call Expression



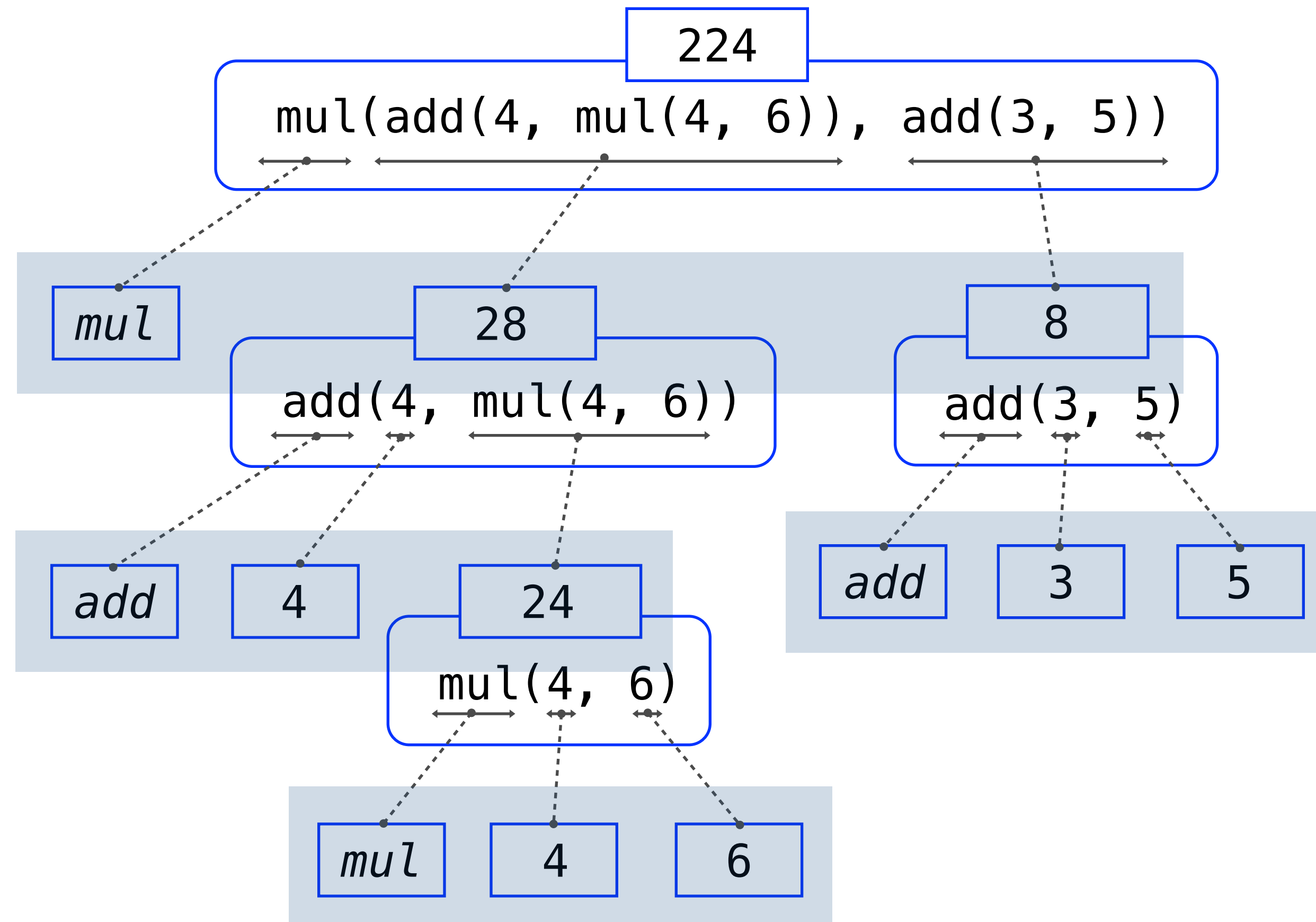
Operators and operands are also expressions

So they evaluate to values

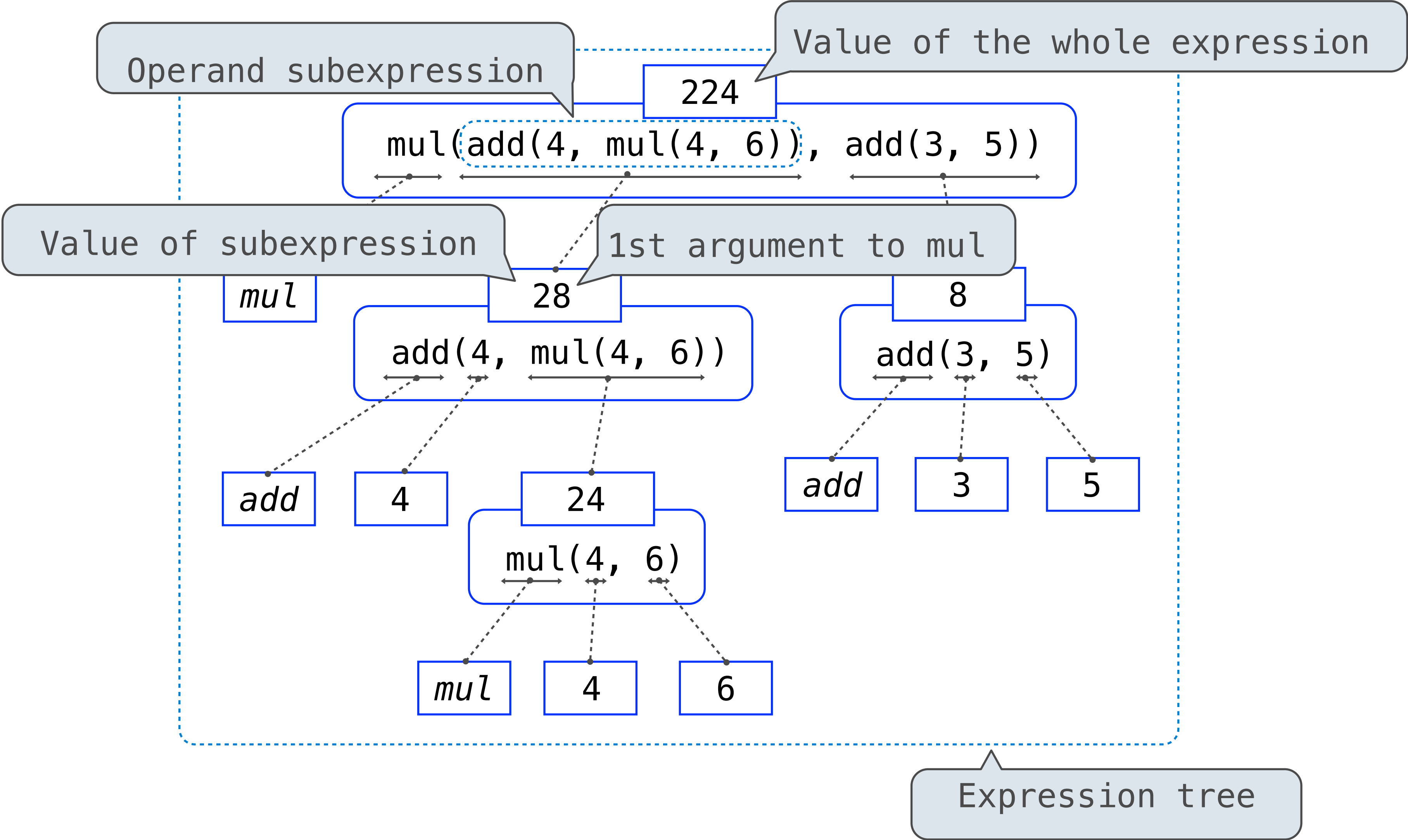
Evaluation procedure for call expressions:

1. Evaluate the operator and then the operand subexpressions
2. Apply the **function** that is the value of the operator to the **arguments** that are the values of the operands

Evaluating Nested Expressions



Evaluating Nested Expressions



Functions, Values, Objects, Interpreters, and Data

(Demo)