61A Lecture 1

Friday, August 29, 2014

Welcome to Berkeley Computer Science!

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BERKELEY EECS

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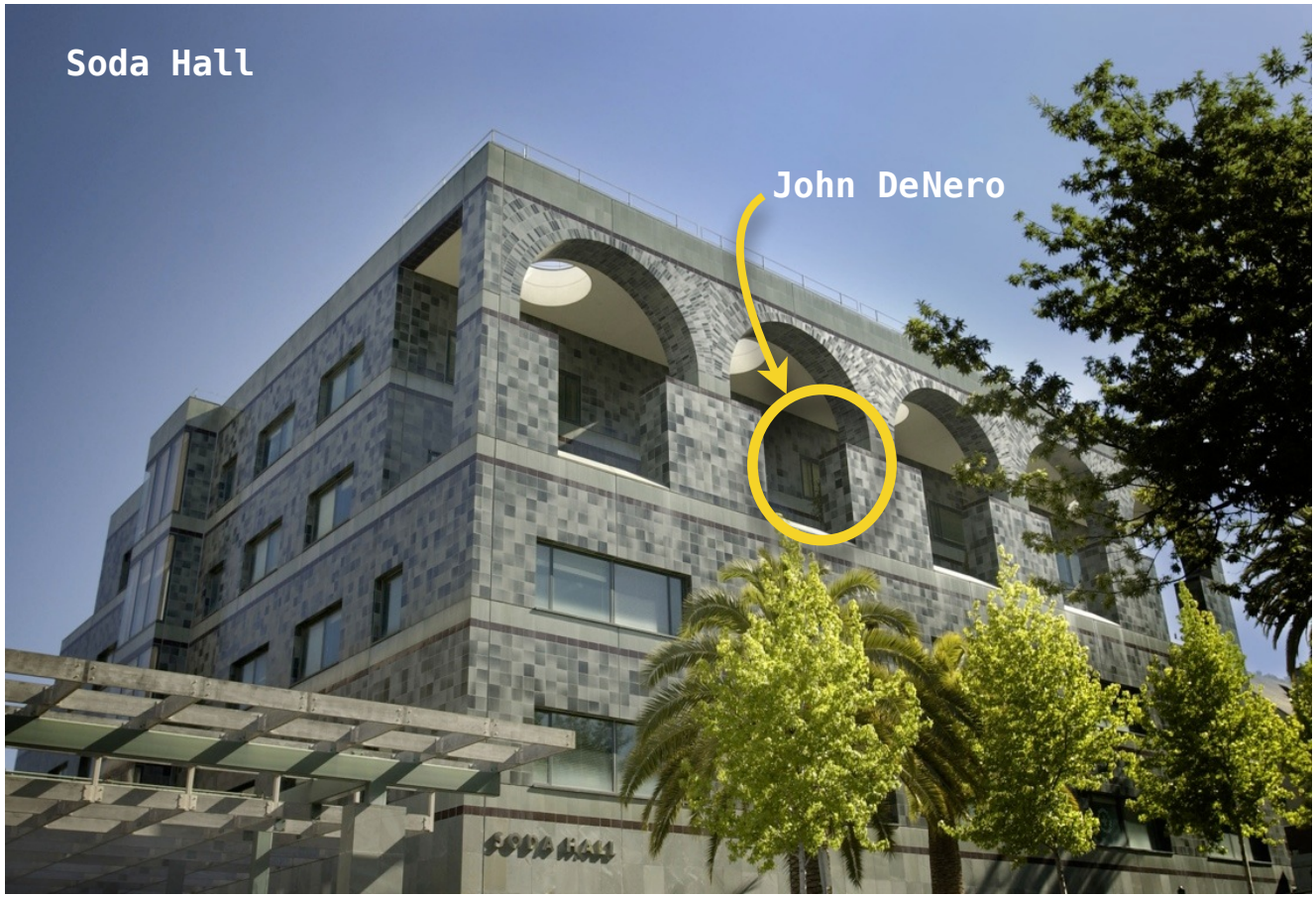

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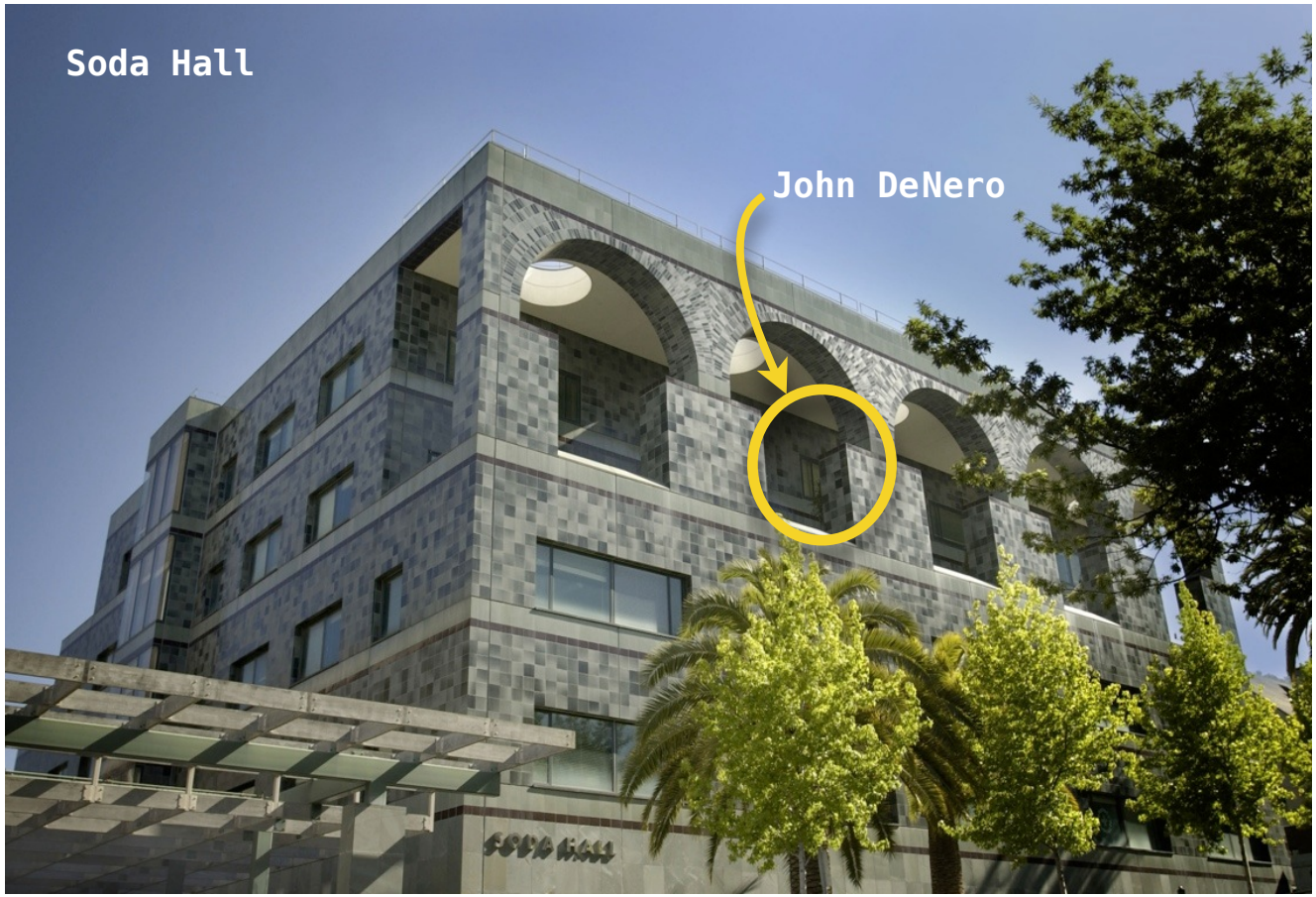
Fall 2014 office hours:

411 Soda
Tuesday 12pm–1pm
Wednesday 12pm–1pm

781 Soda by appointment
http://denero.org/meet



The Course Staff

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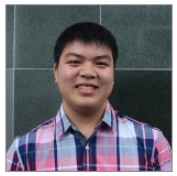
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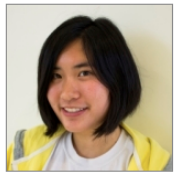
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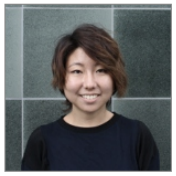
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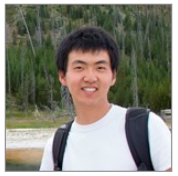
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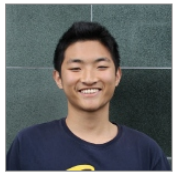
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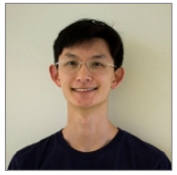
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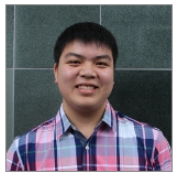
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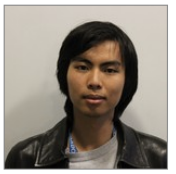
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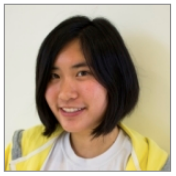
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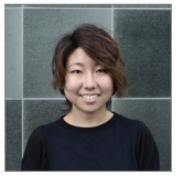
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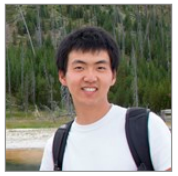
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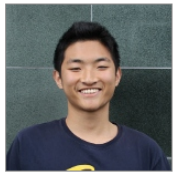
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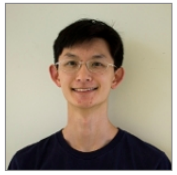
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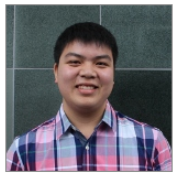
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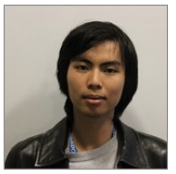
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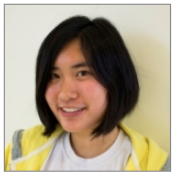
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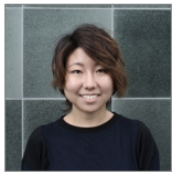
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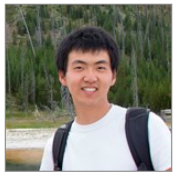
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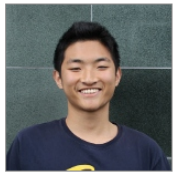
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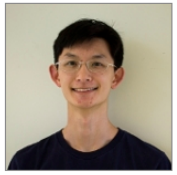
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Over 150 Lab Assistants ensure that you don’t get stuck for too long.

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Lecture: Videos posted to http://cs61a.org before each live lecture

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An Introduction to Computer Science

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Networking

Programming Languages

Theory

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- A challenging course that will demand a lot of you

Course Policies

Alternatives to This Course

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CS 61AS: Self-Paced 61A

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CS 61AS: Self-Paced 61A

CS 10: The Beauty and Joy of Computing

Course Policies

Learning

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Community

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Details...

http://cs61a.org/about.html

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Build good habits now

Expressions

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Call Expressions in Python

All expressions can use function call notation

(Demo)

Anatomy of a Call Expression

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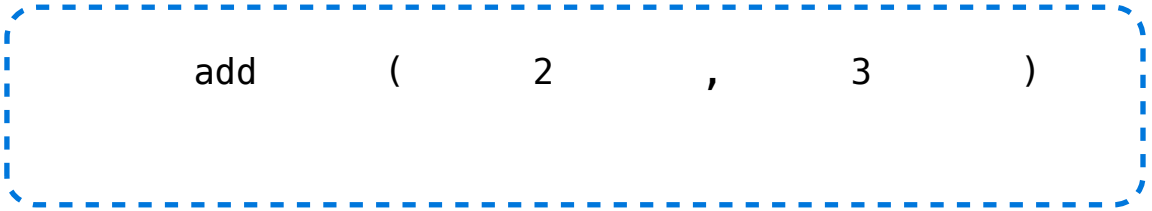

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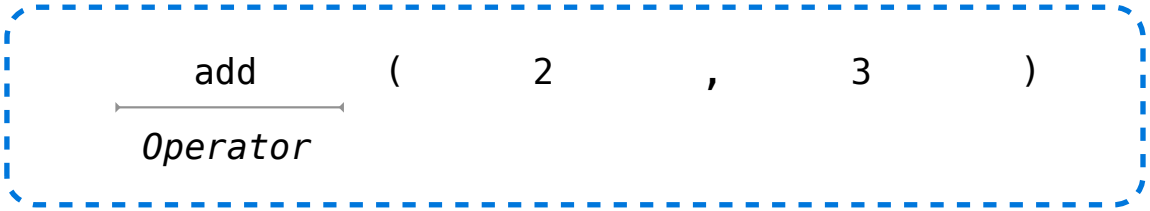

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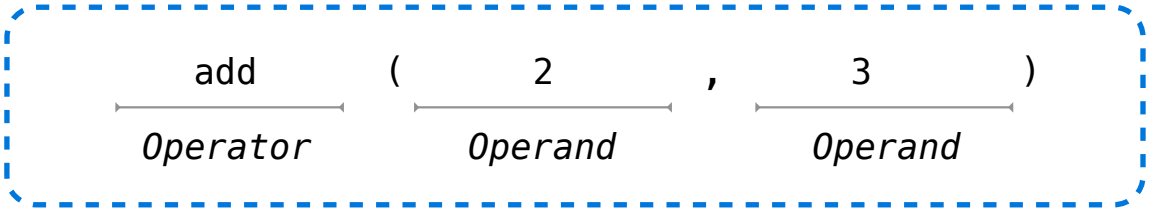

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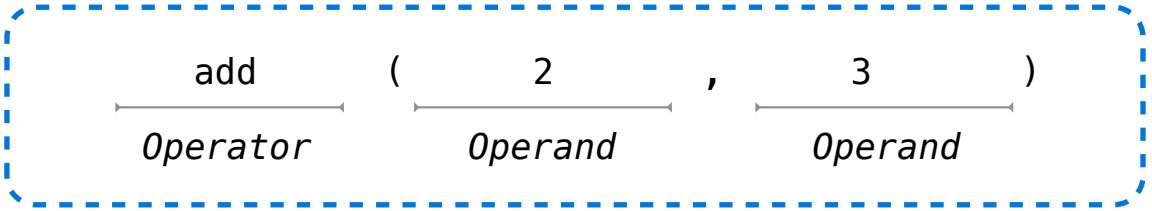

Operators and operands are also expressions

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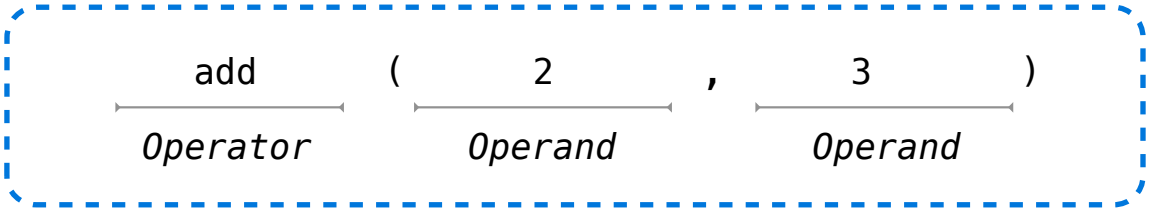

Operators and operands are also expressions

So they evaluate to values

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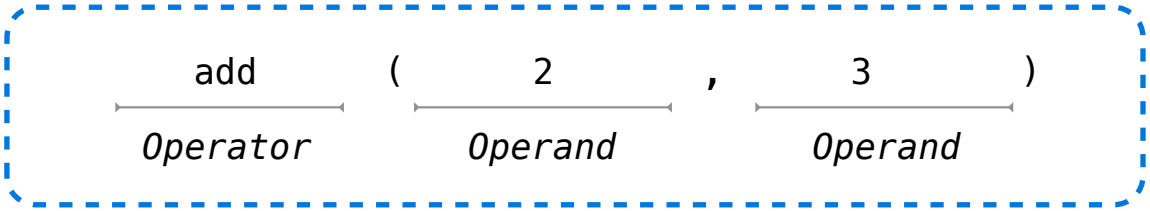
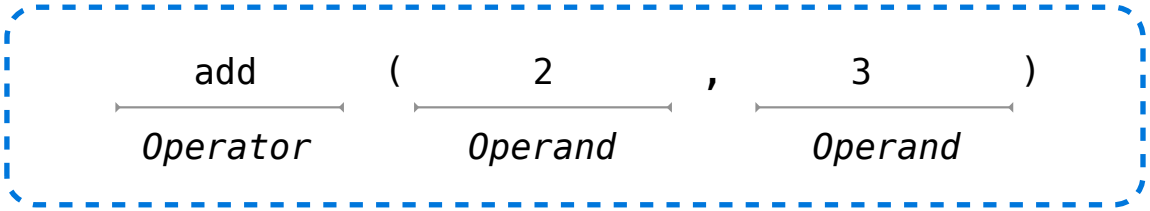


Operators and operands are also expressions

So they evaluate to values

Evaluation procedure for call expressions:

Anatomy of a Call Expression



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Evaluation procedure for call expressions:

1. Evaluate the operator and then the operand subexpressions

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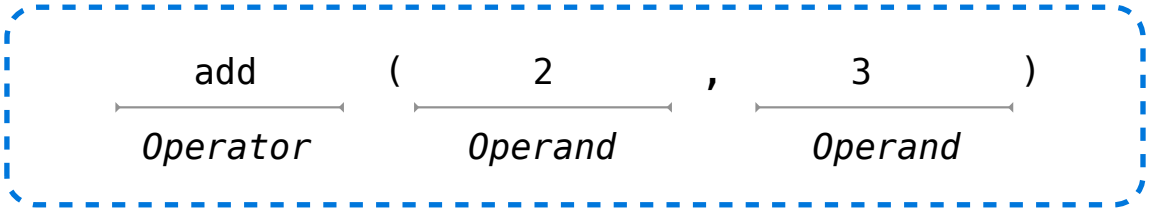


Operators and operands are also expressions

So they evaluate to values

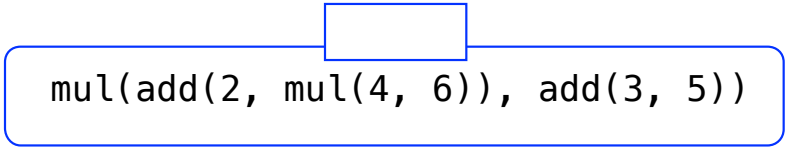
Evaluation procedure for call expressions:

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

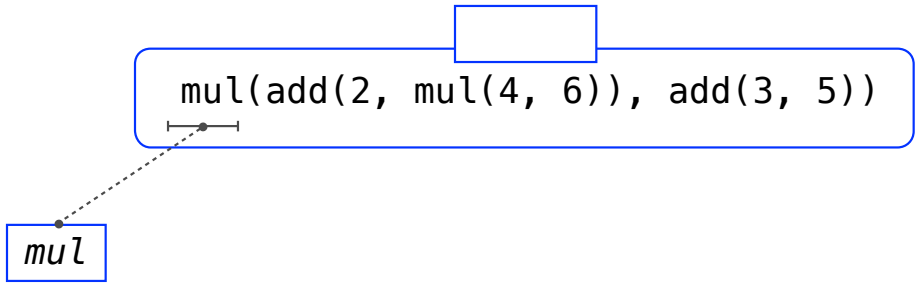
Evaluating Nested Expressions

```
mul(add(2, mul(4, 6)), add(3, 5))
```

Evaluating Nested Expressions



Evaluating Nested Expressions



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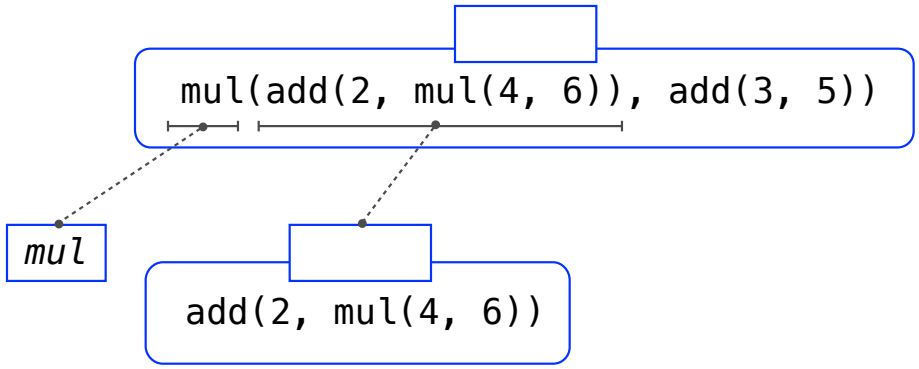

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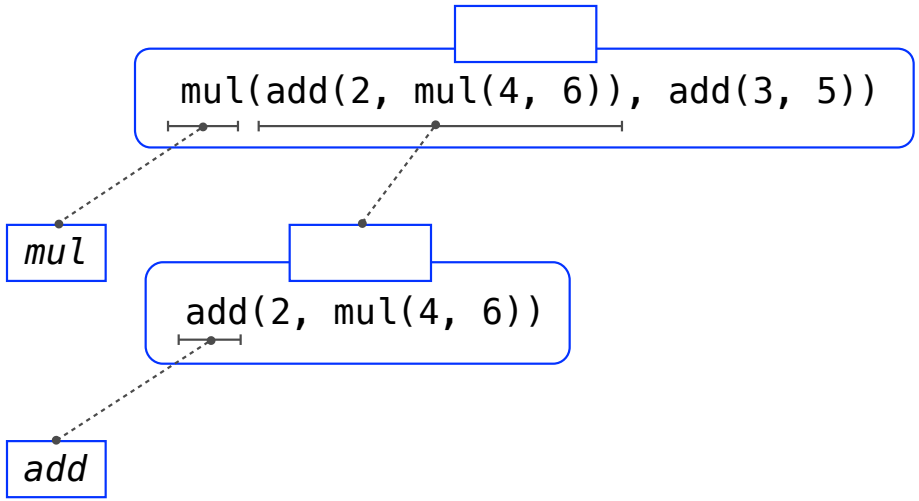

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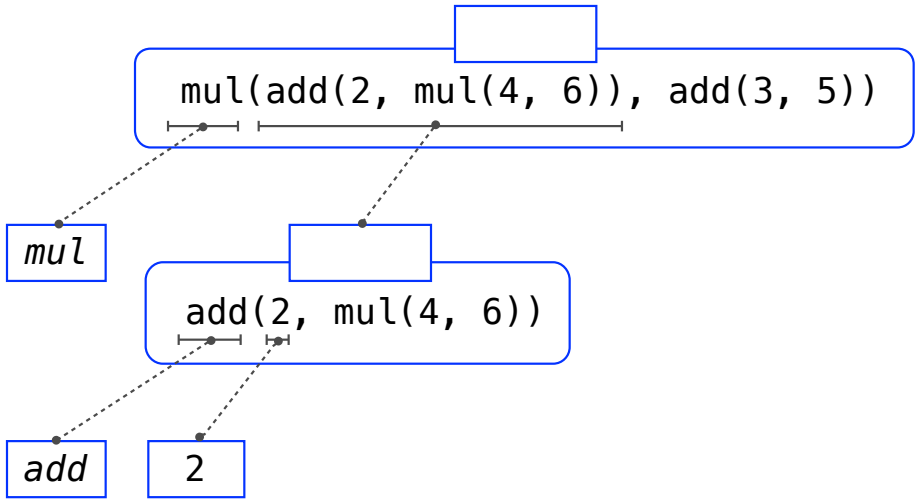

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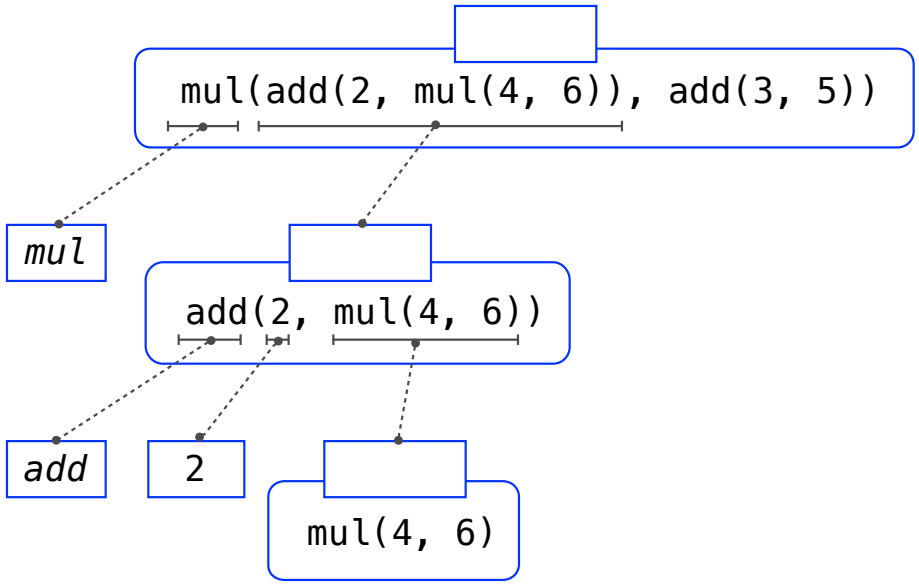

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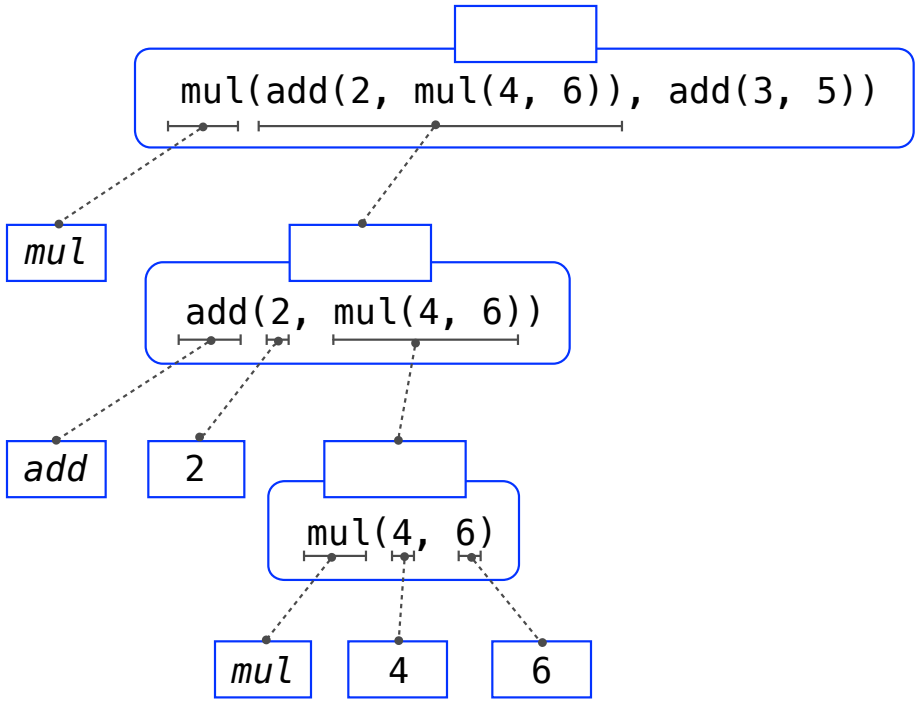

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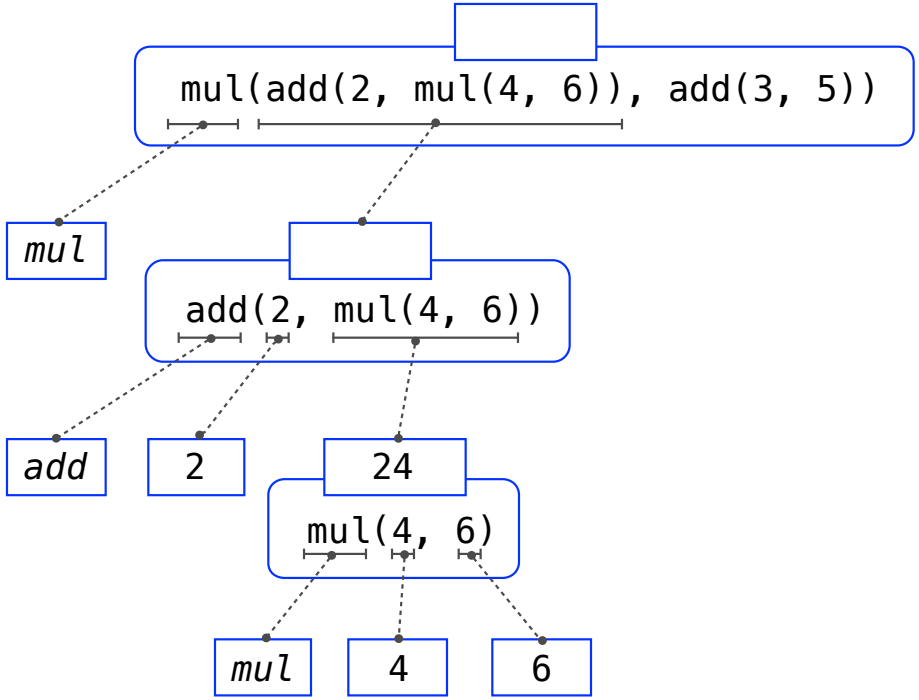

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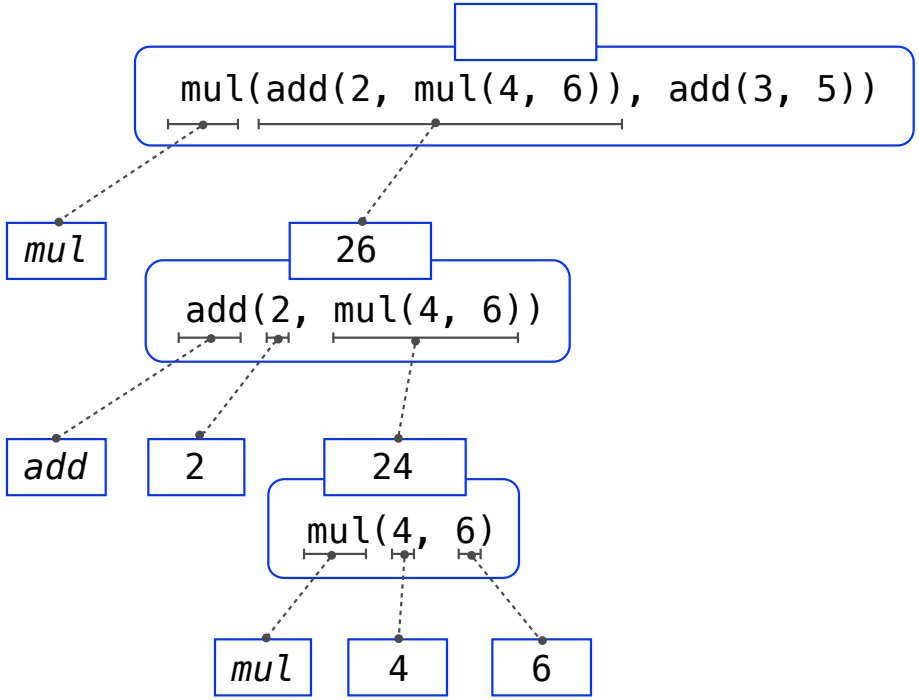

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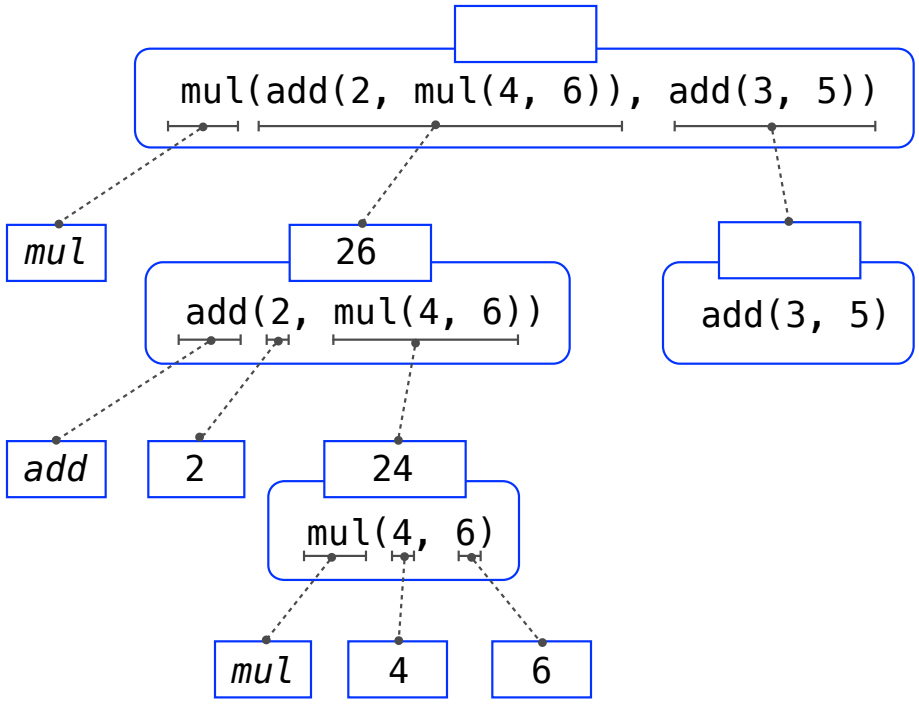

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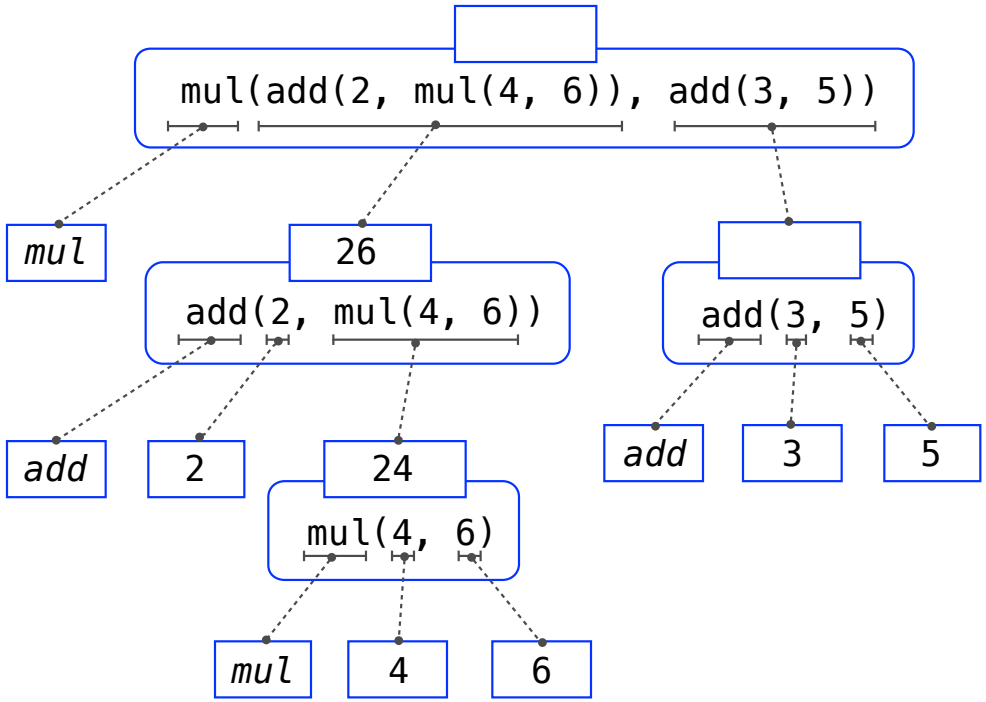

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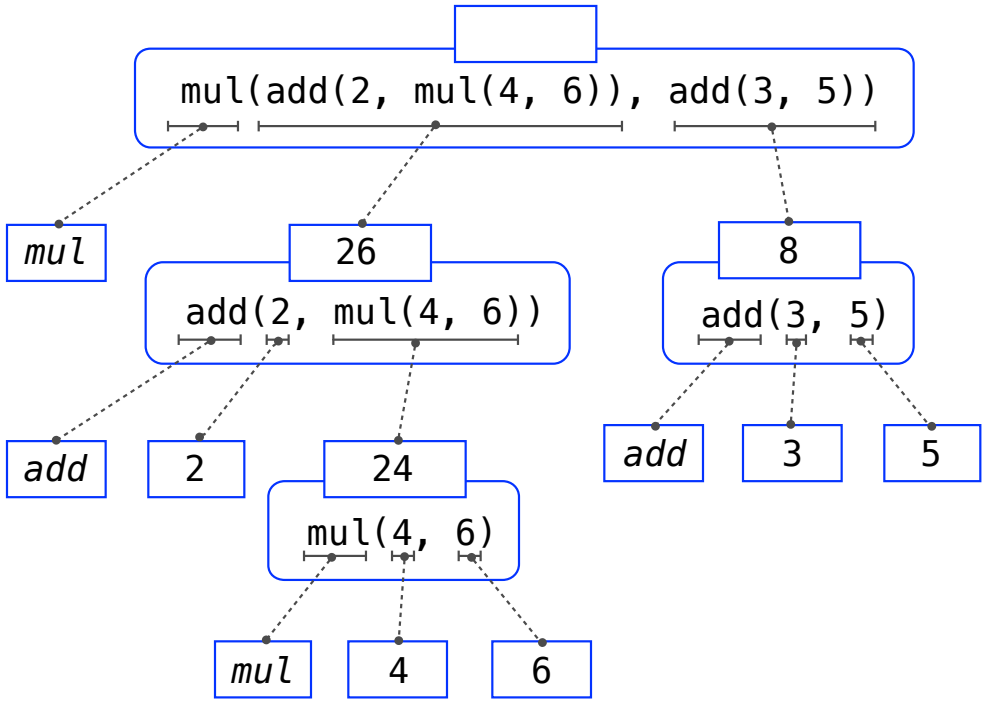

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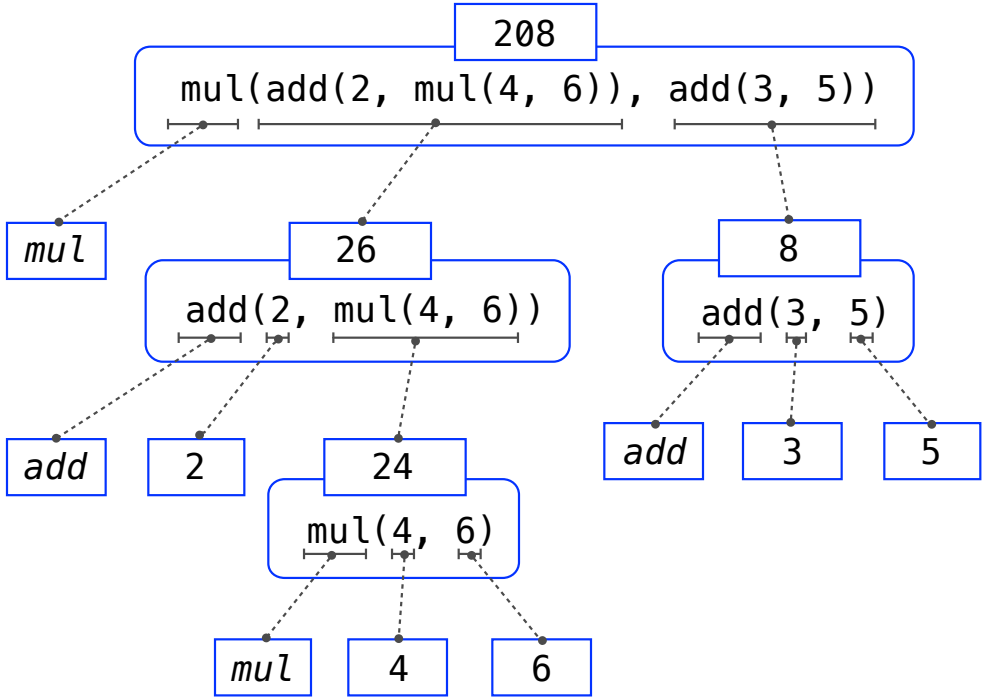

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mul(add(2, mul(4, 6)), add(3, 5))
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Evaluating Nested Expressions

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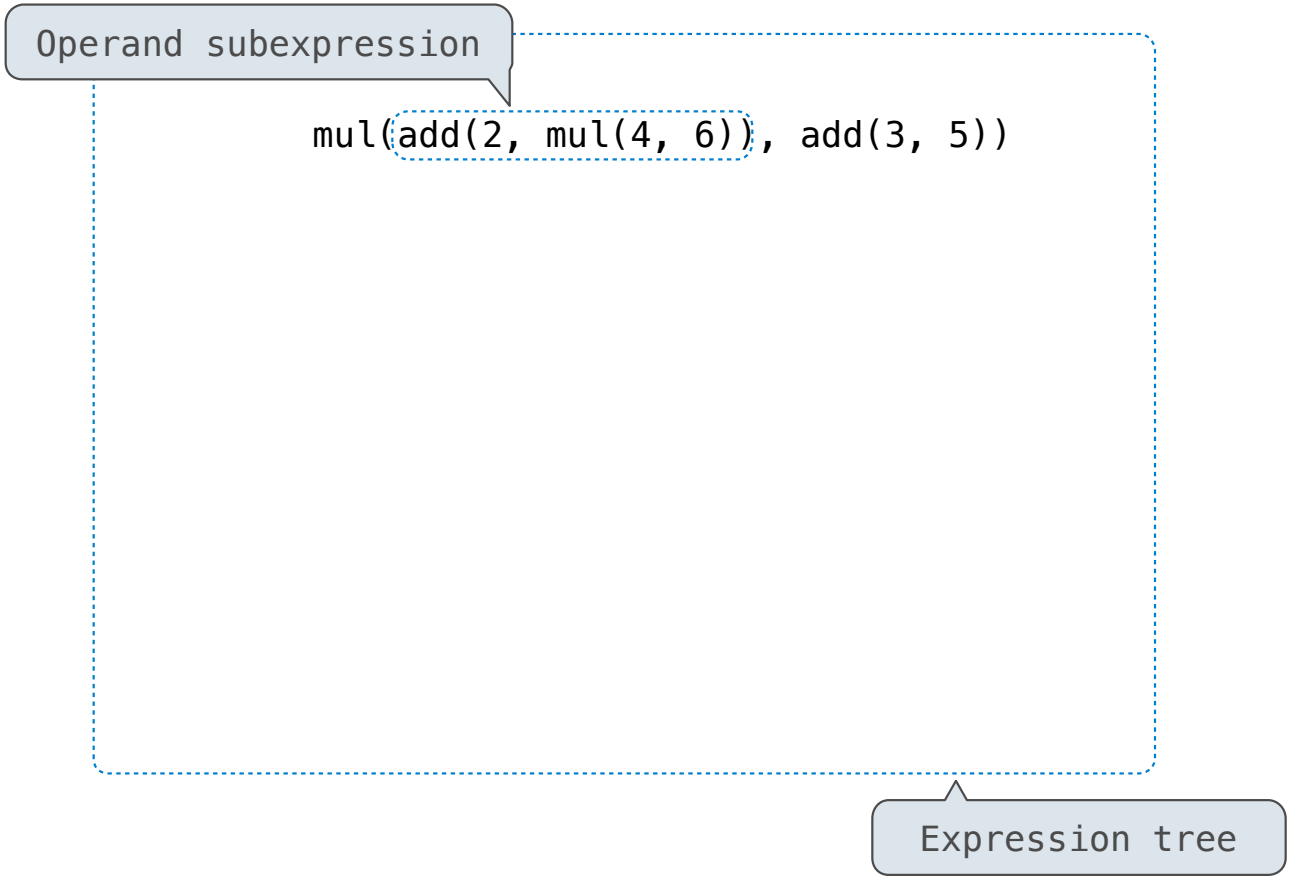
```

Expression tree

Evaluating Nested Expressions



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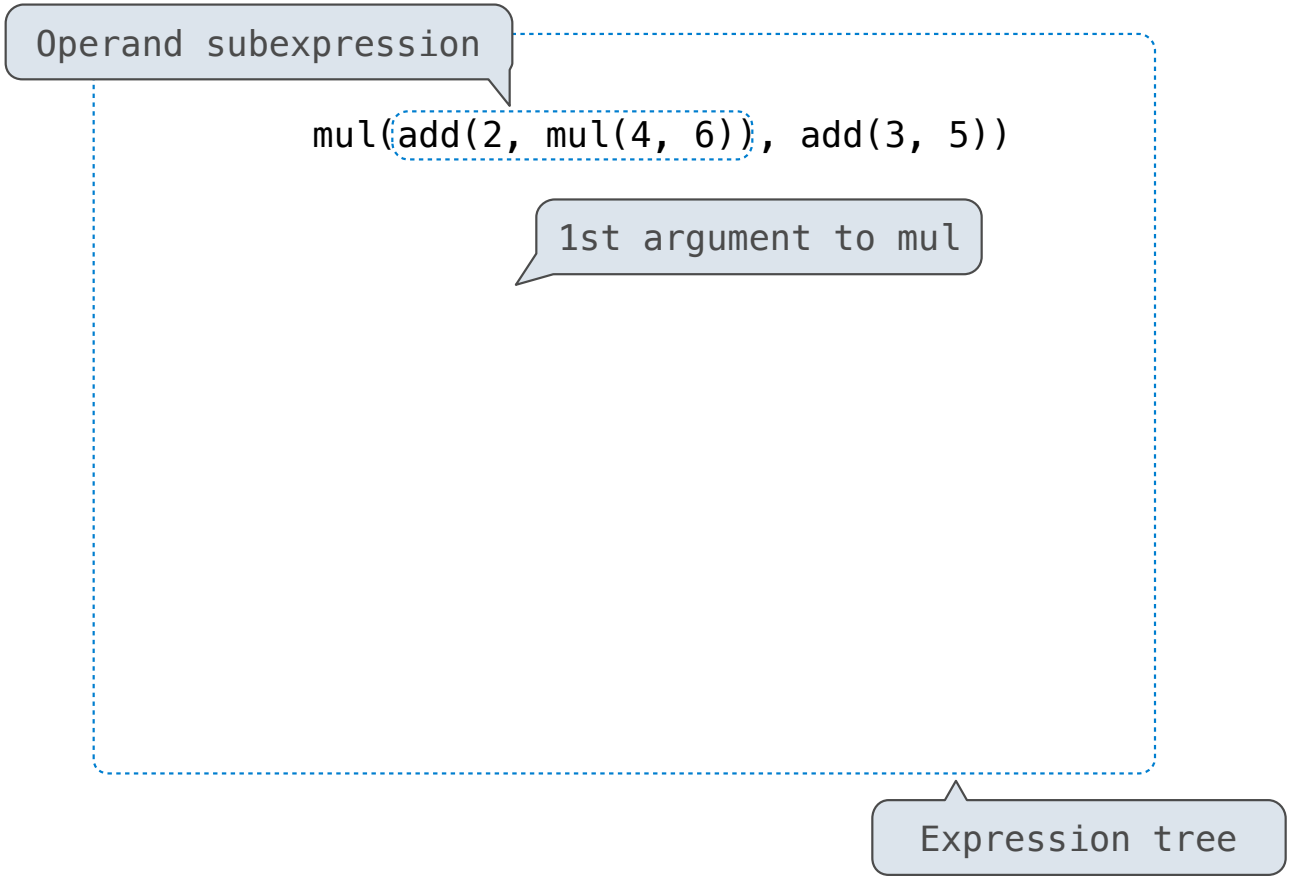

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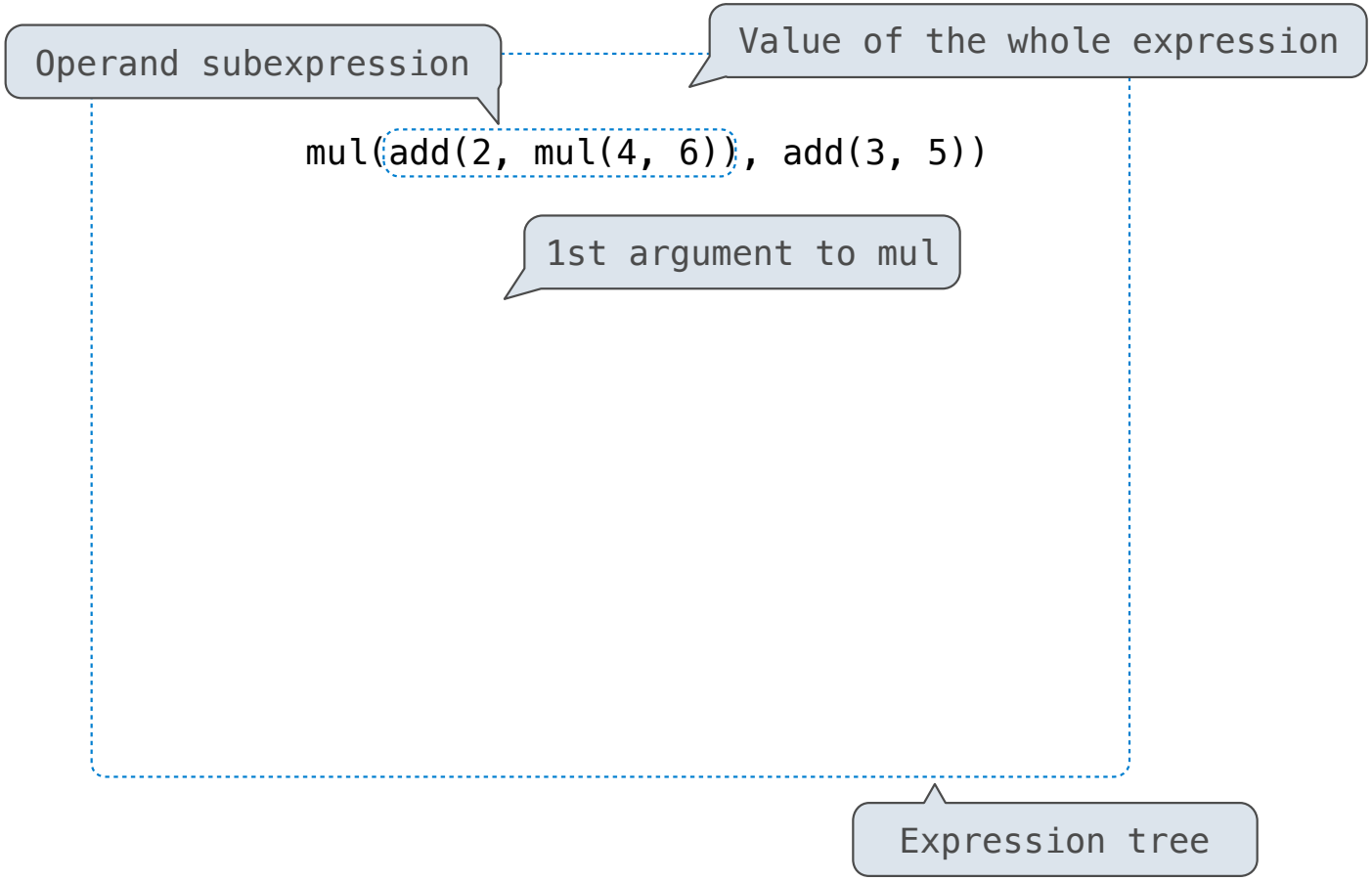

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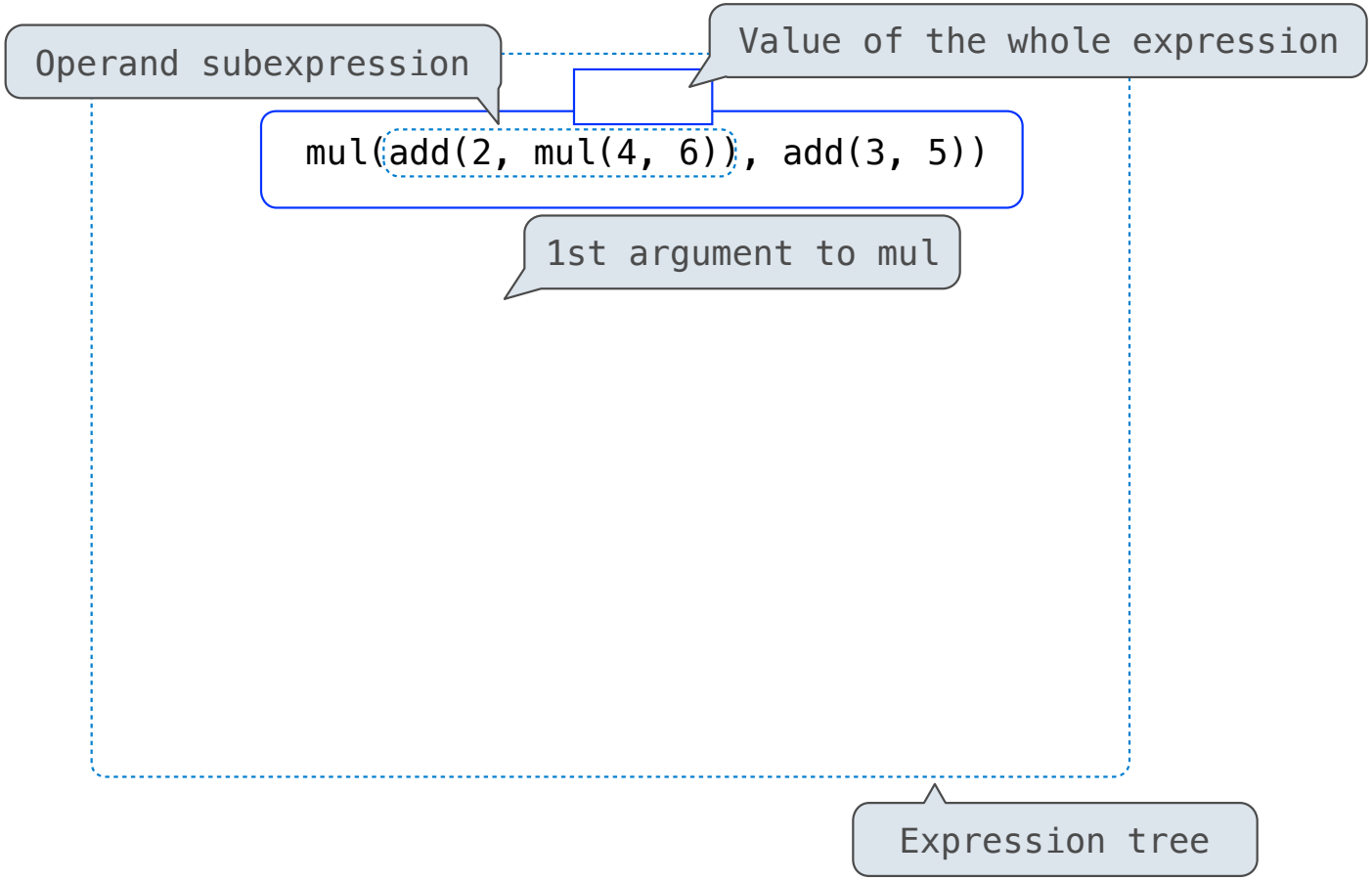

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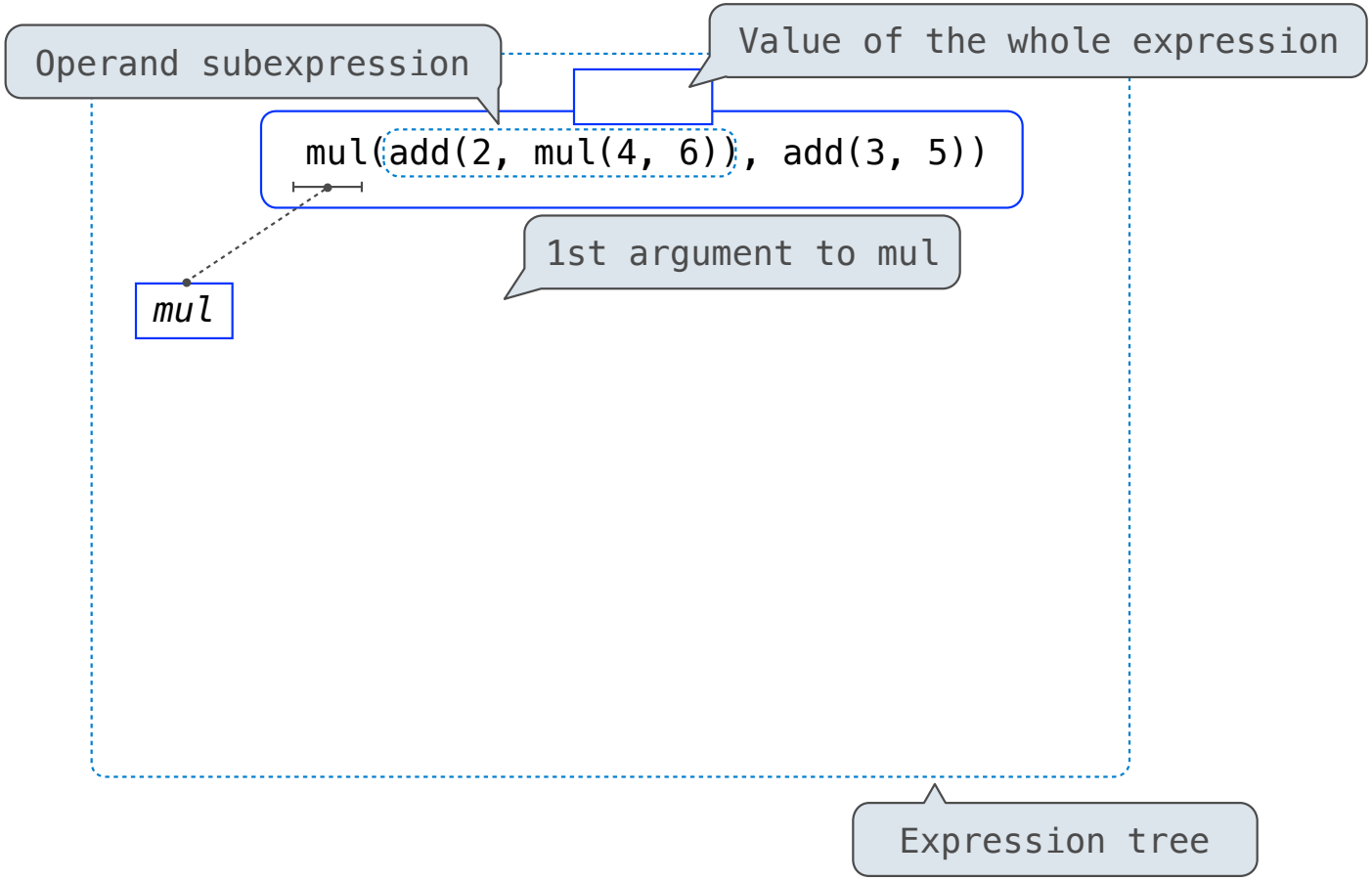

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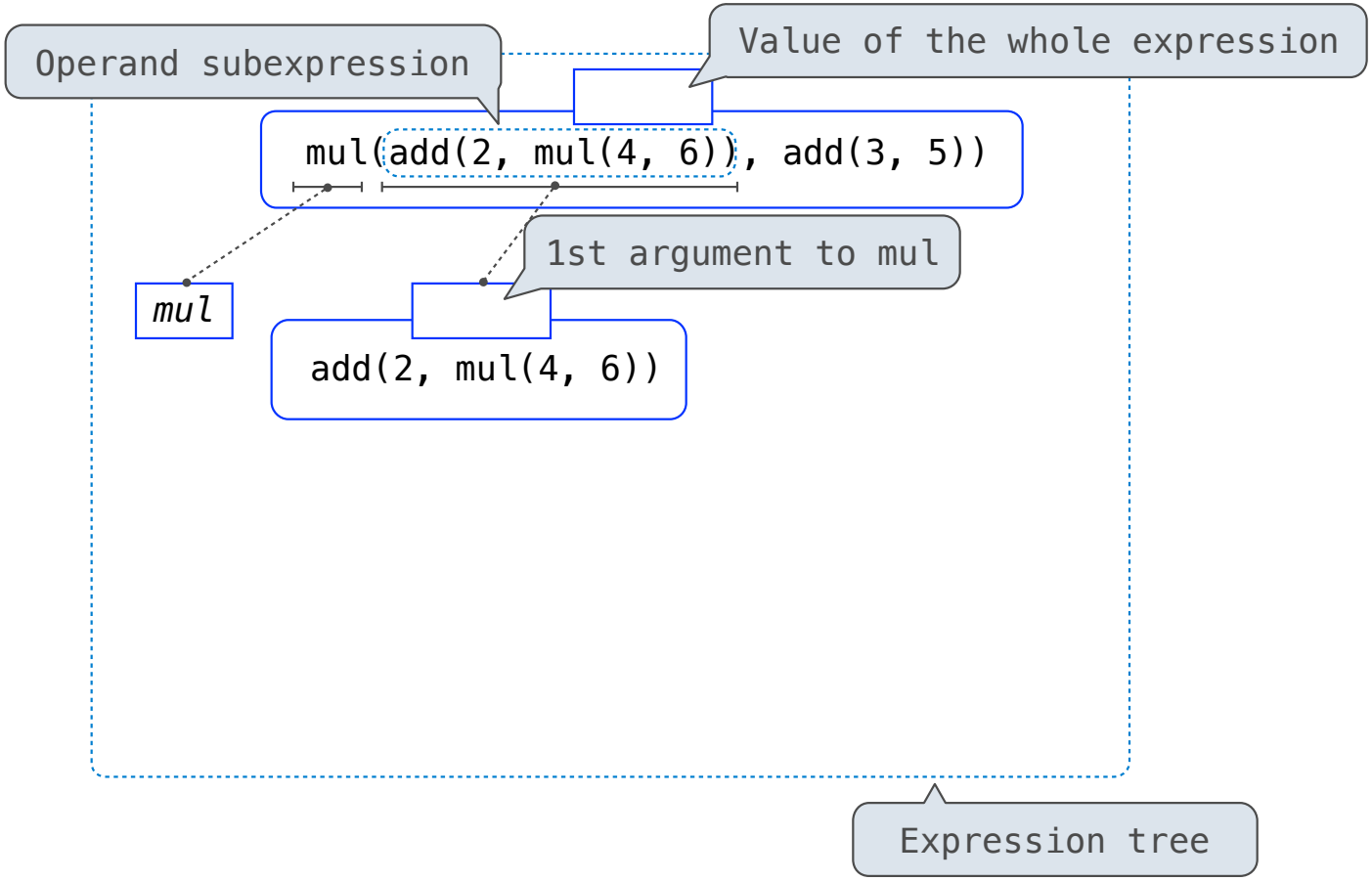

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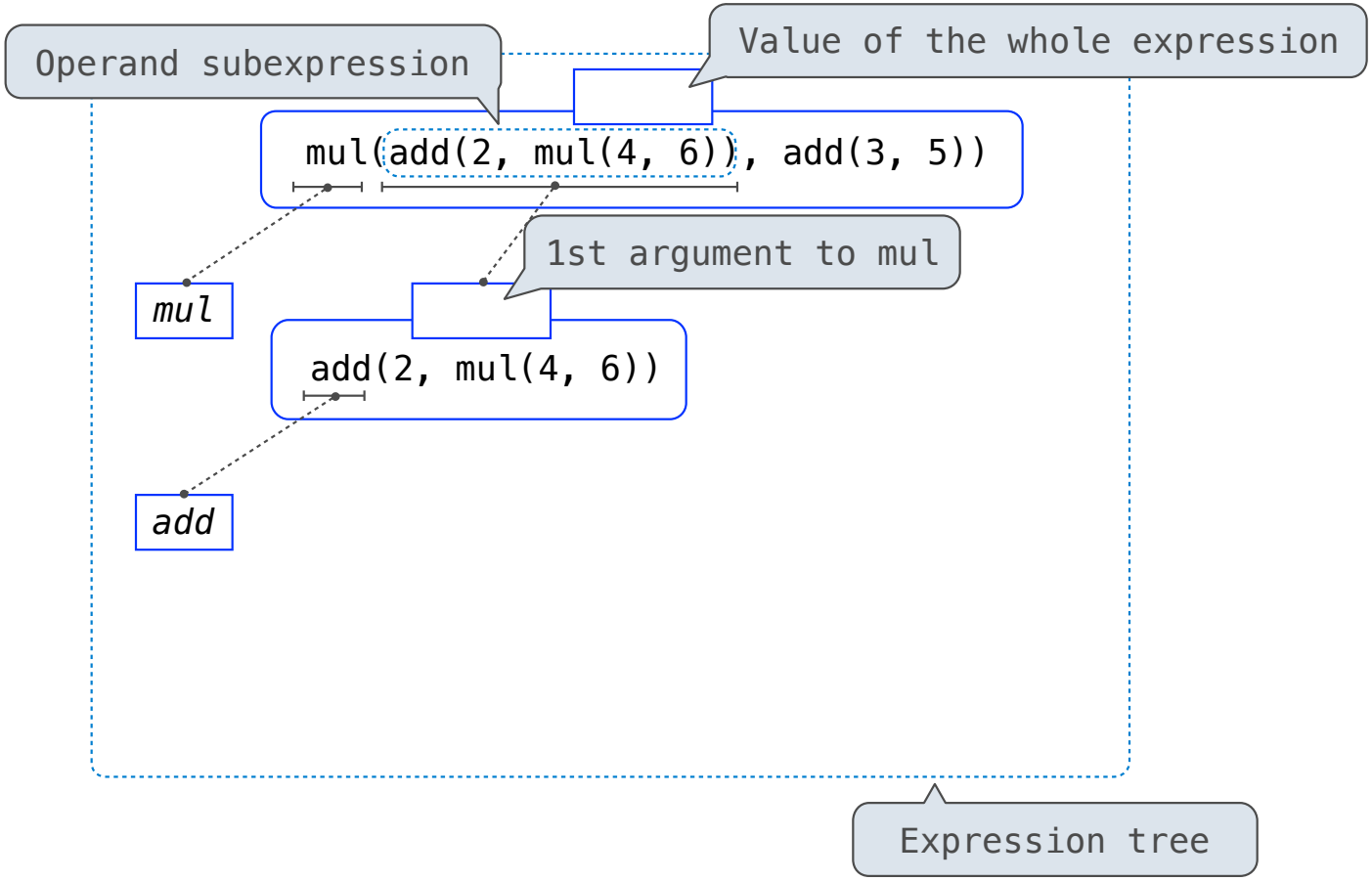

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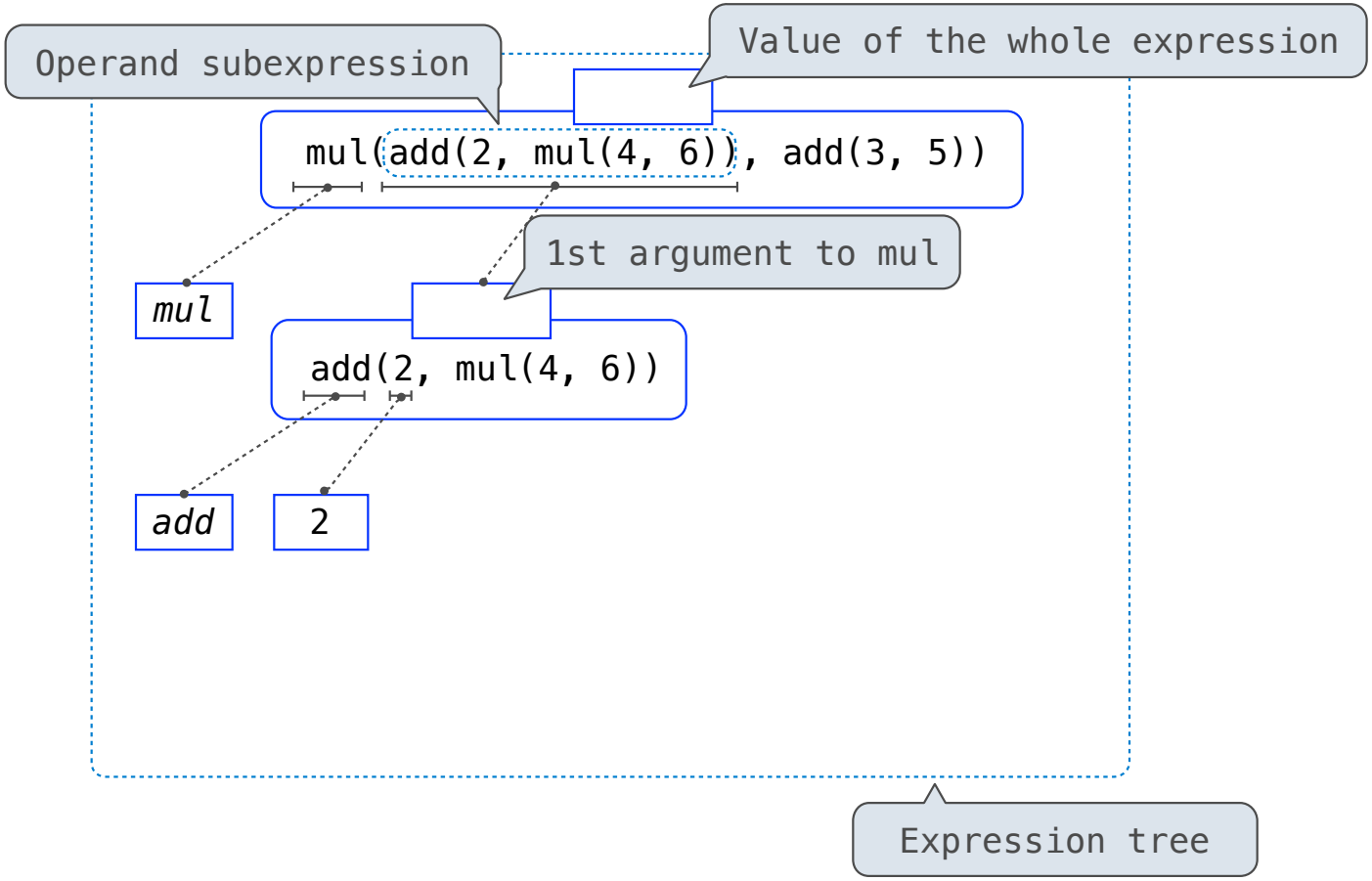

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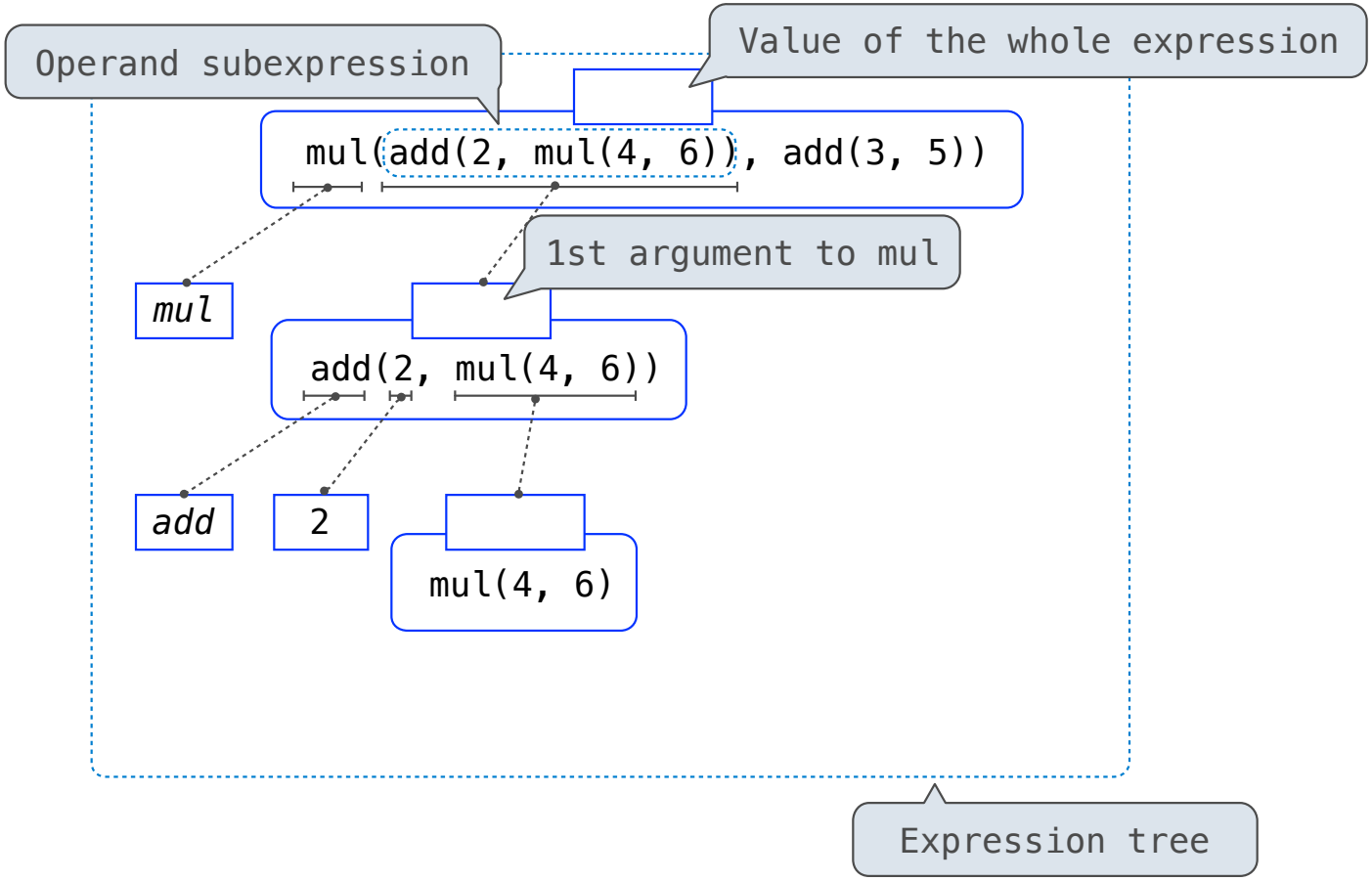

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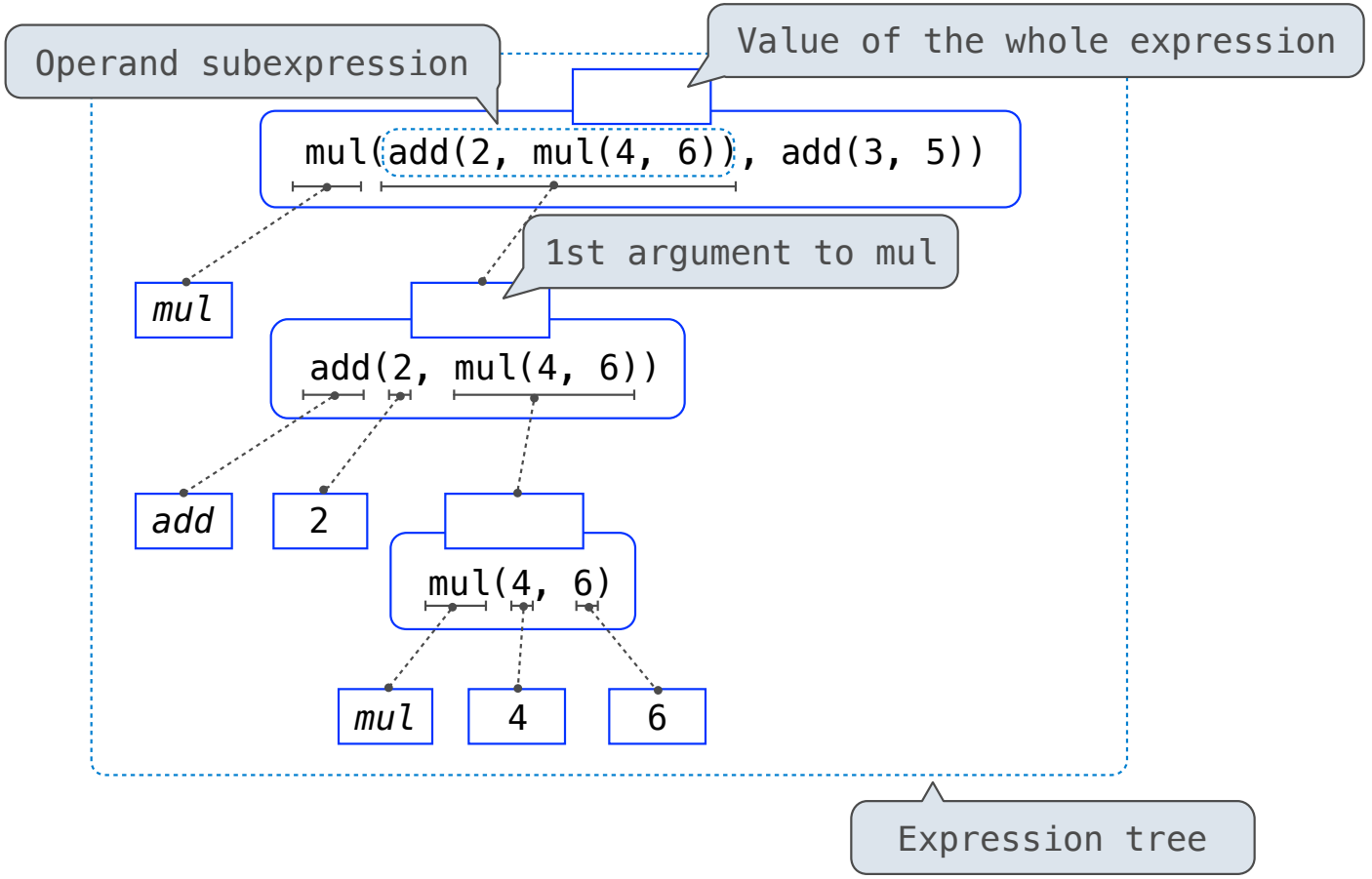

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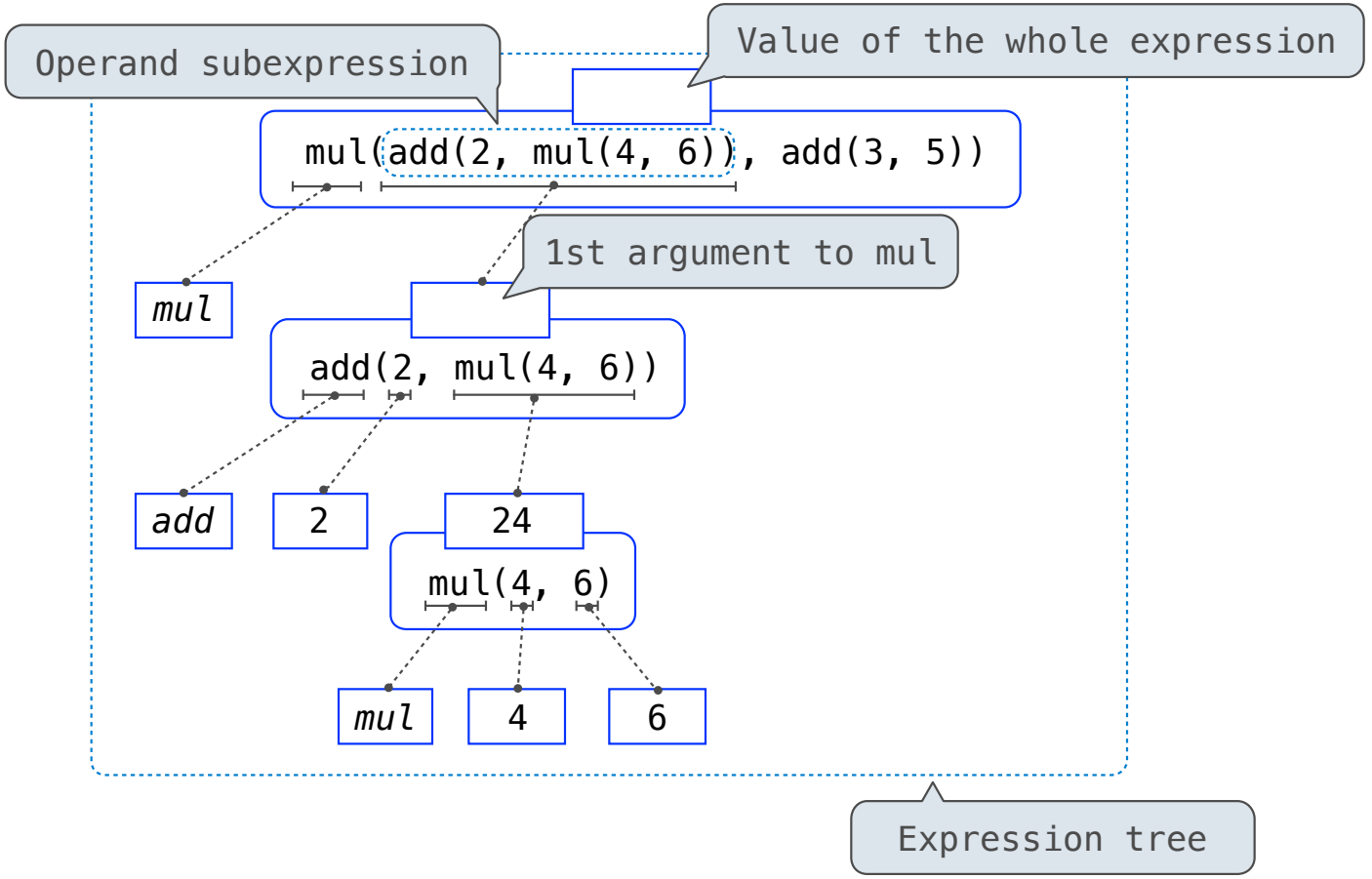

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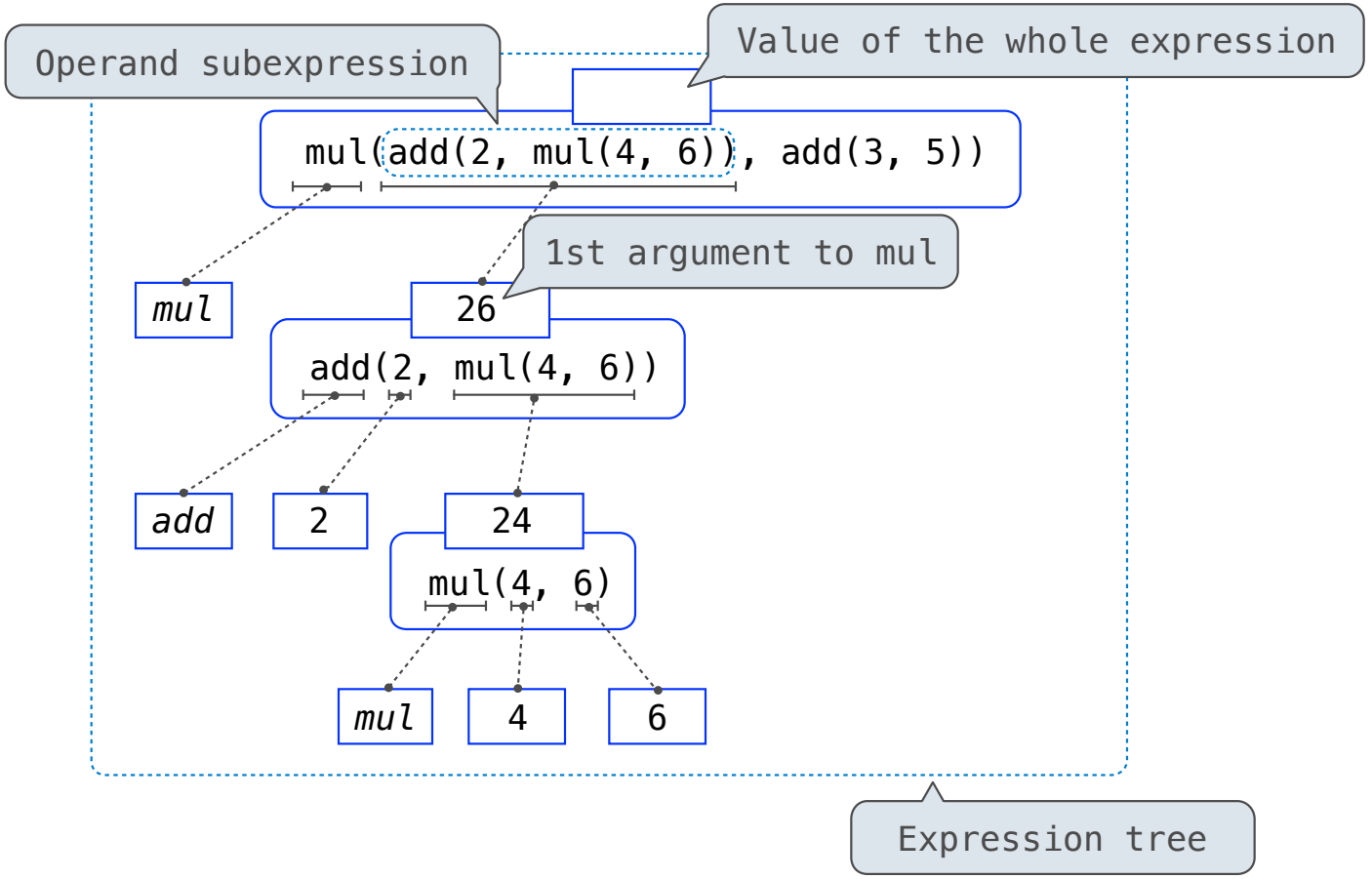

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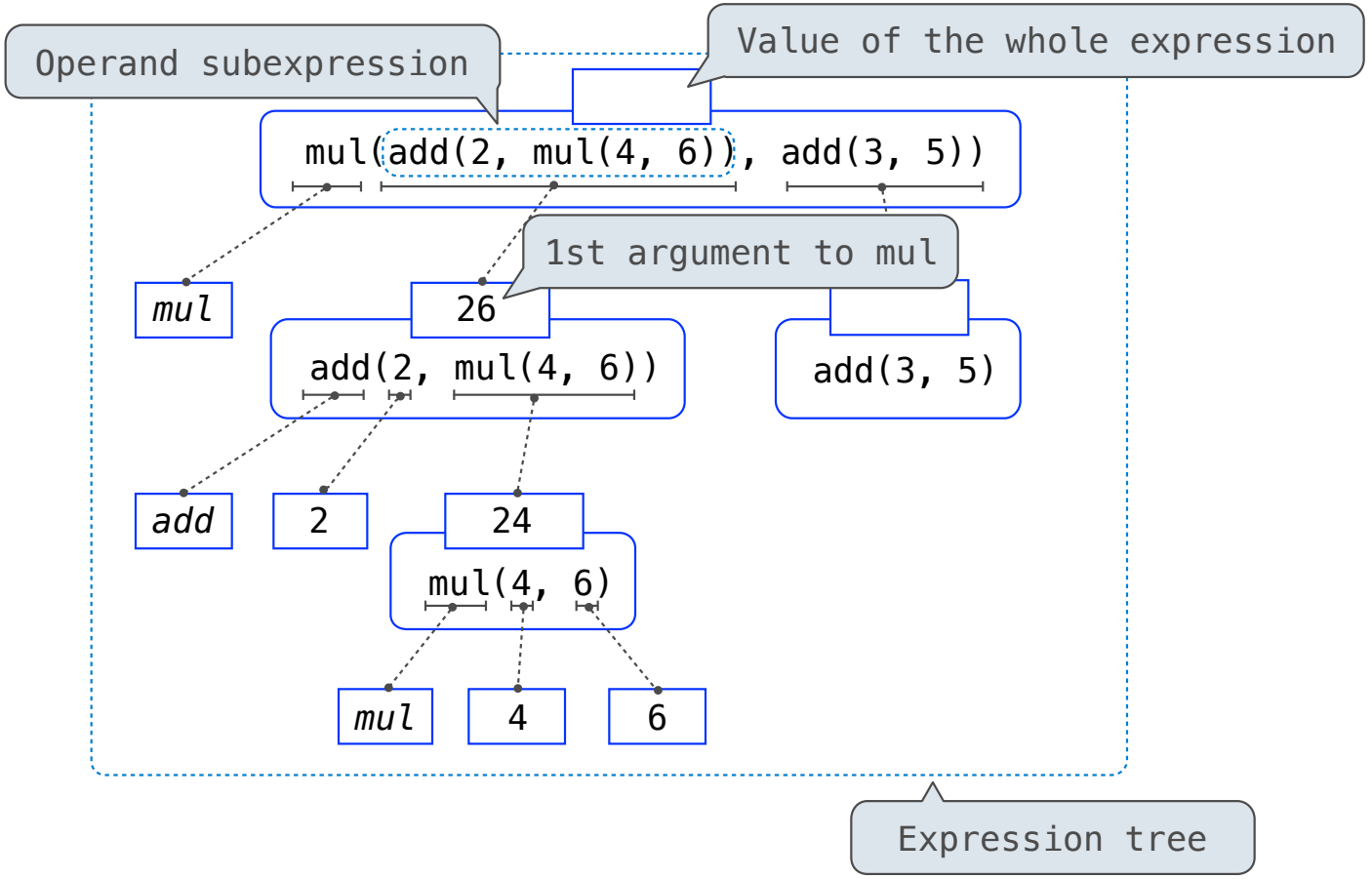

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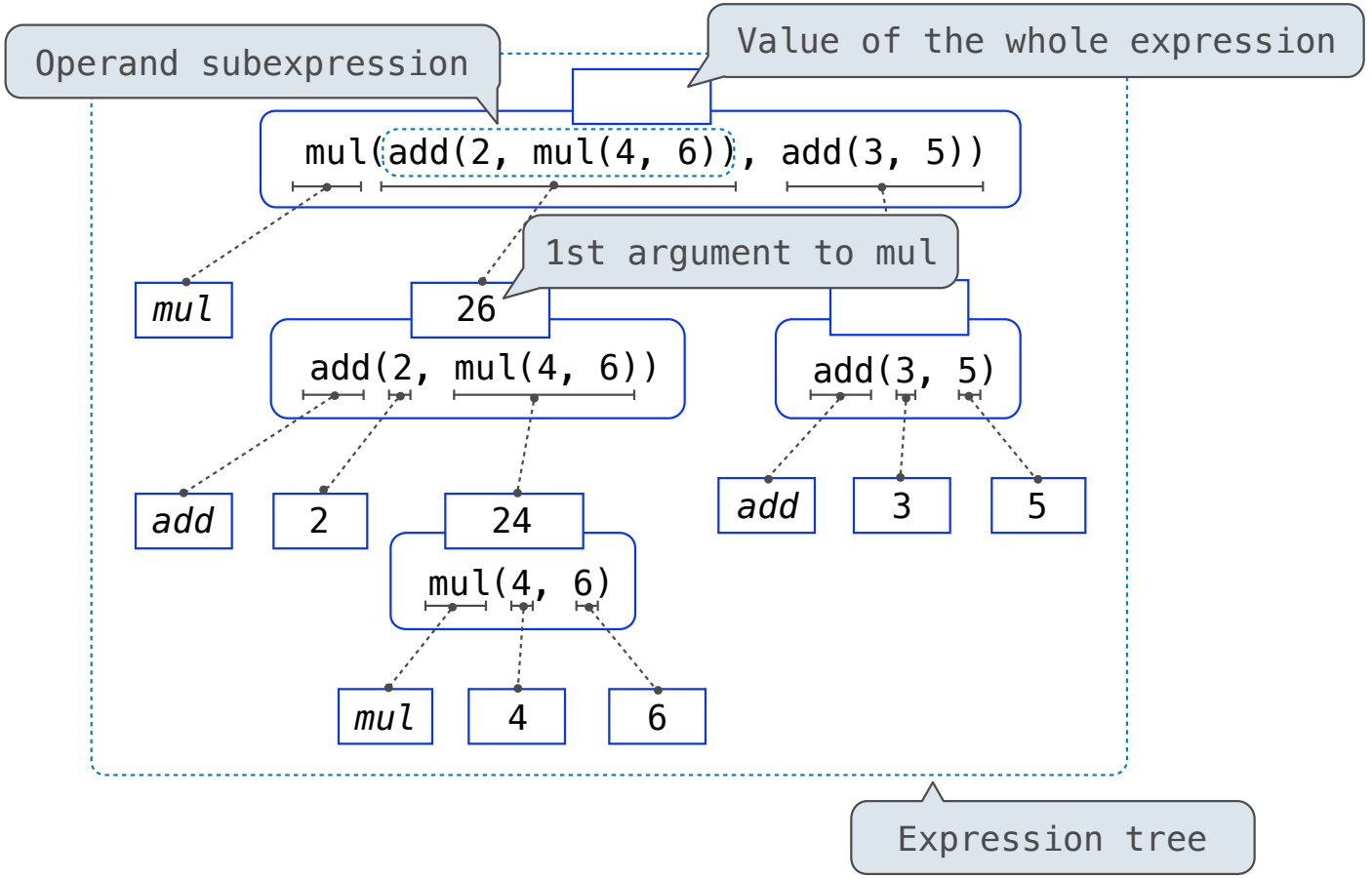

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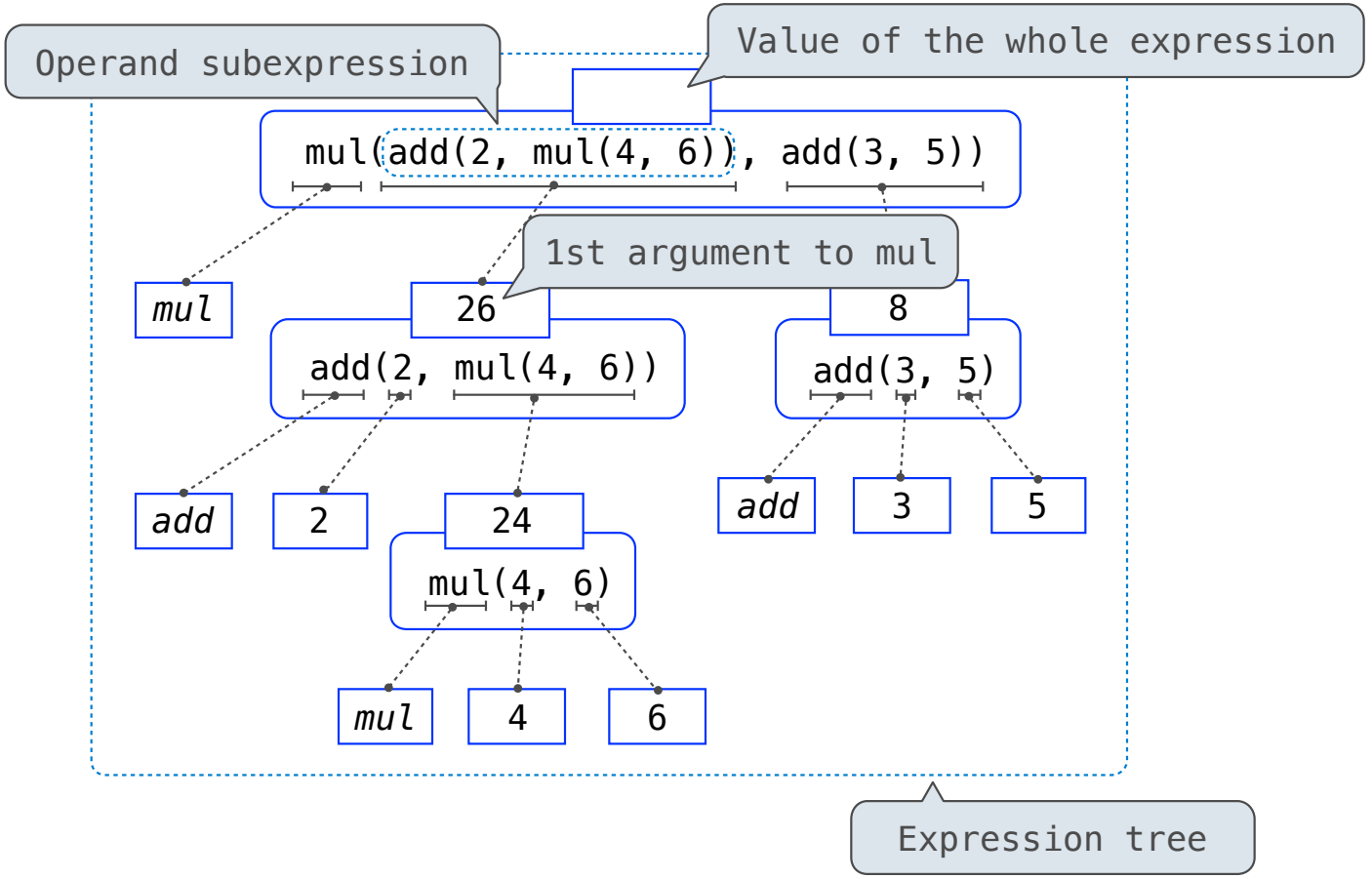

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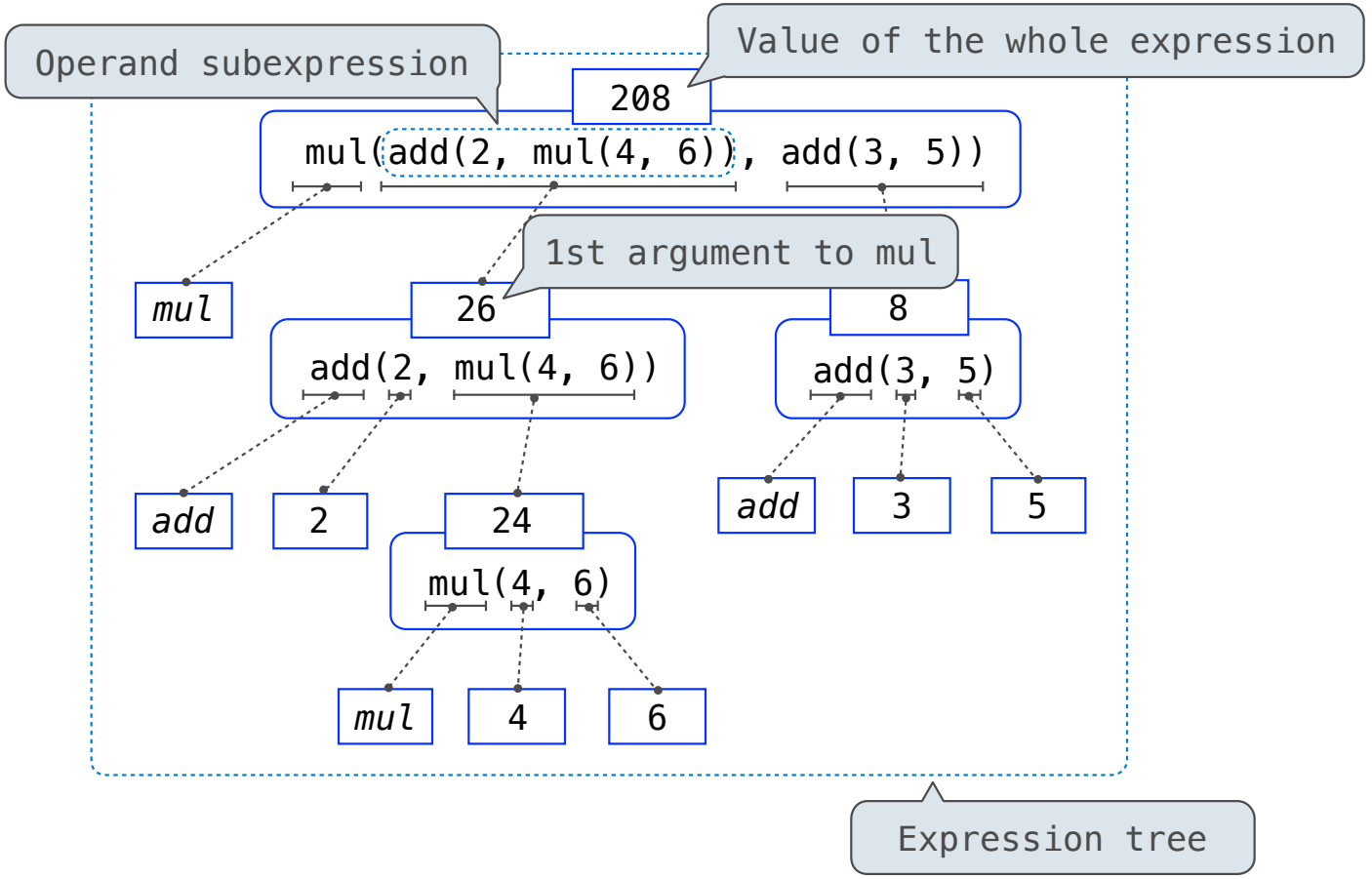

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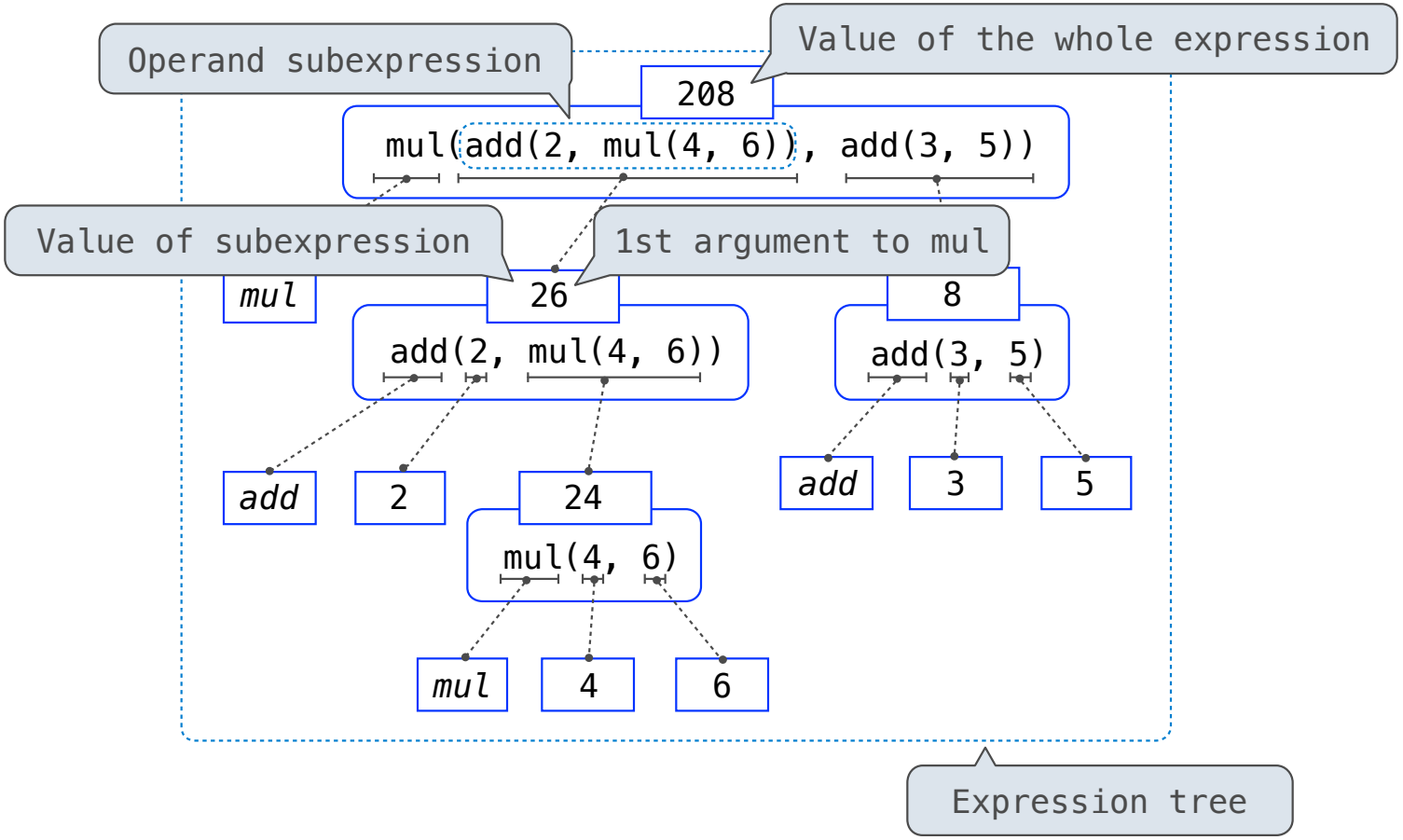

Functions, Objects, and Interpreters

(Demo)