61A Lecture 1

Wednesday, January 21, 2015

Welcome to Berkeley Computer Science!

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BERKELEY EECS

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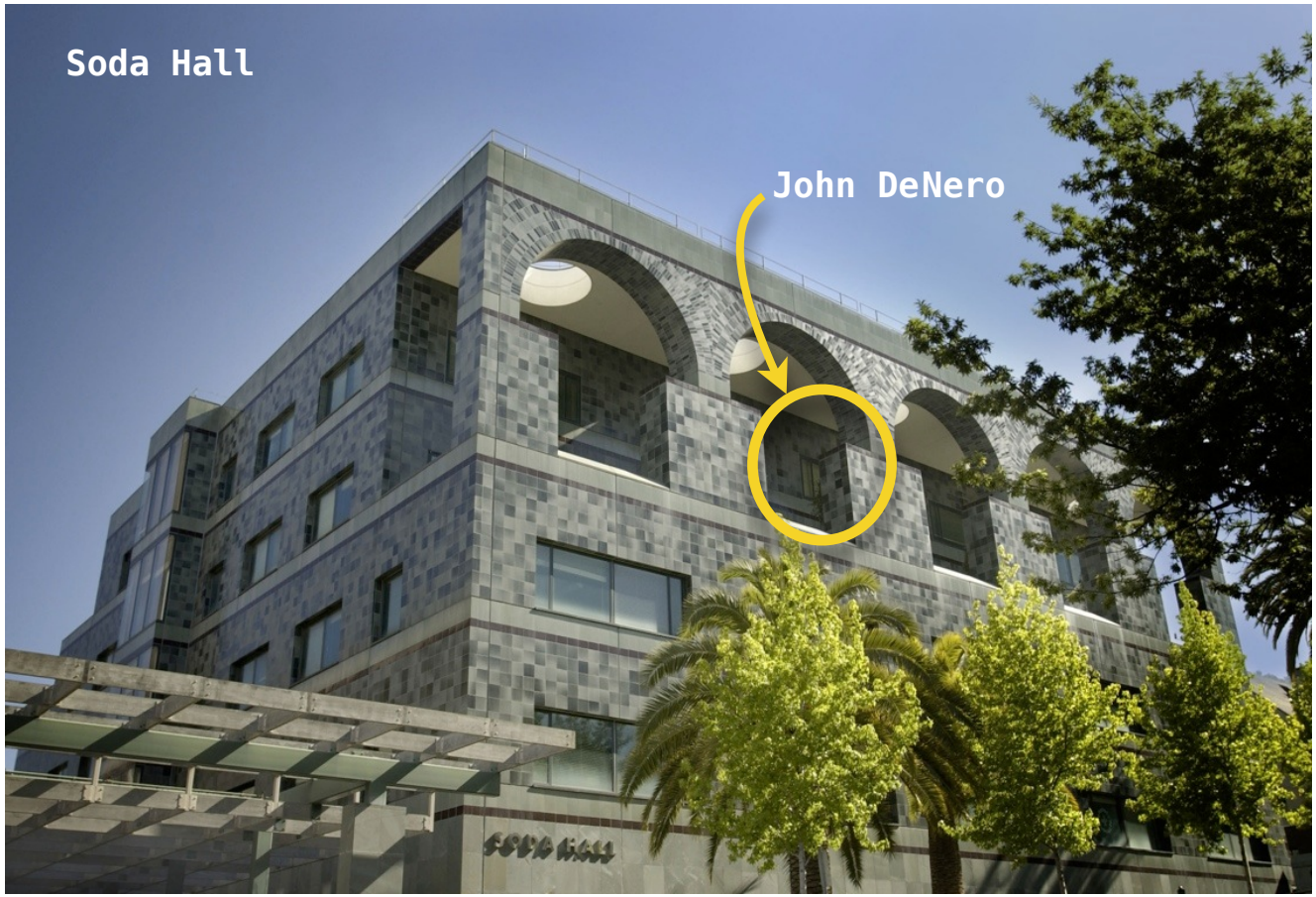

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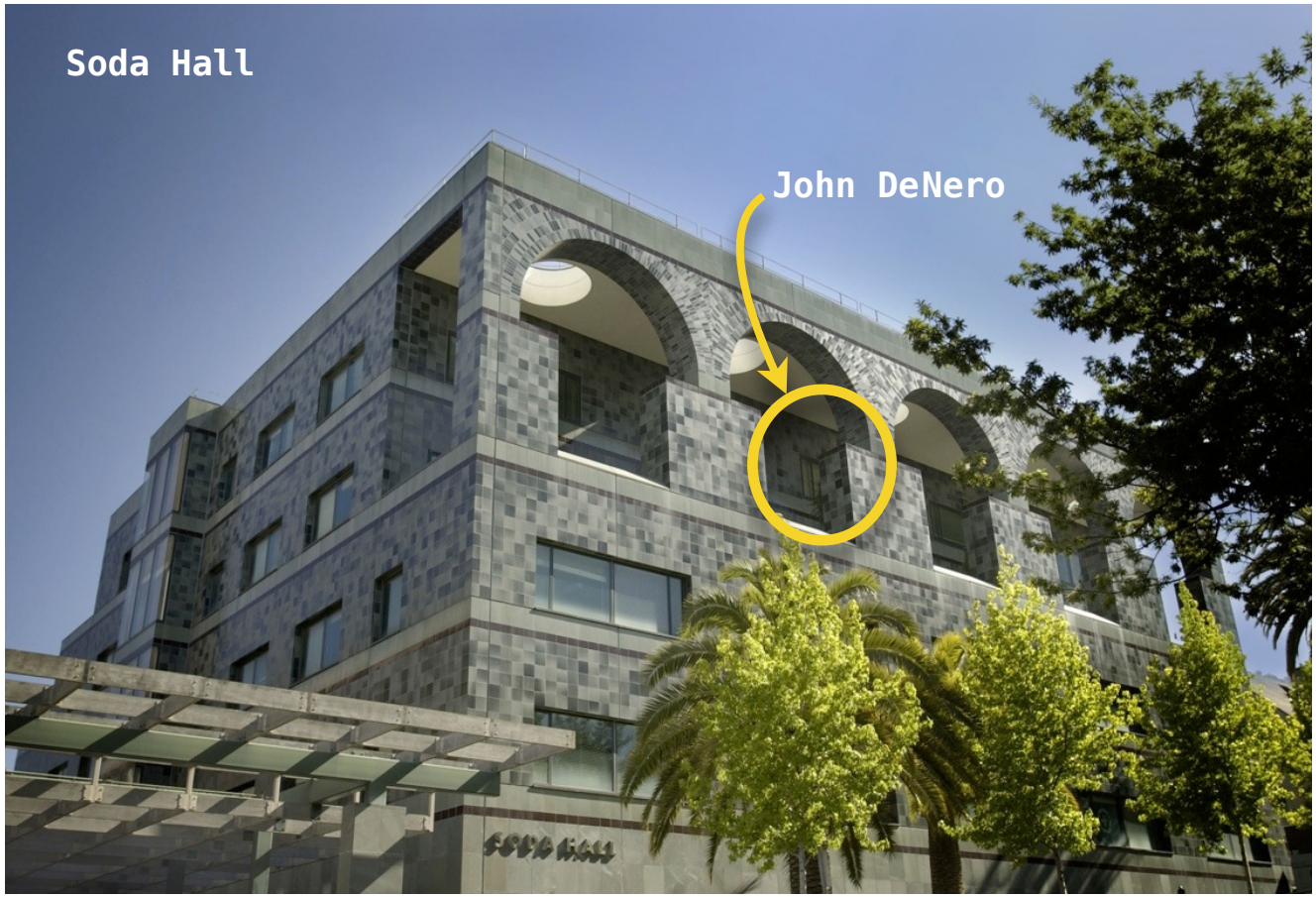

Spring 2015 office hours:

781 Soda
Wednesday 10am–12pm &
Friday by appointment:
http://denero.org/meet

The Course Staff

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Teaching Assistants (GSIs/UGSIs) run discussion sections, labs, and office hours

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Over 300 **Lab Assistants** ensure that you don't get stuck for too long

Parts of the Course

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

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Lots of special events

An Introduction to Computer Science

What is Computer Science?

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```
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```

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Security

Networking

Programming Languages

Theory

Scientific Computing

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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 CS 61A

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CS 61AS: Self-Paced CS 61A

CS 10: The Beauty and Joy of Computing

Course Policies

Learning

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Community

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Course Staff

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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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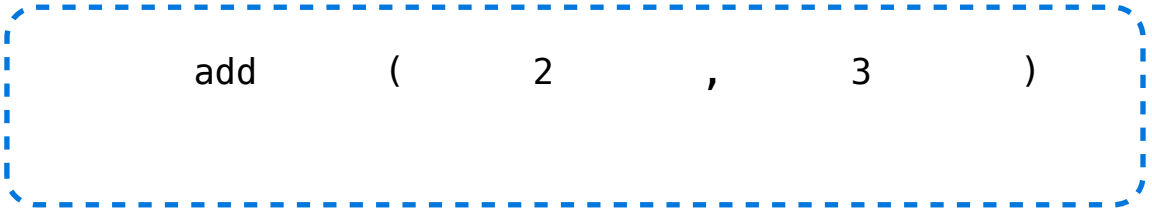
```
add     (     2     ,     3     )
```

Anatomy of a Call Expression



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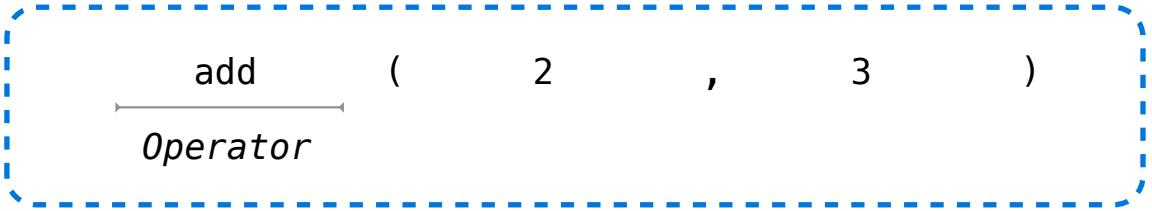

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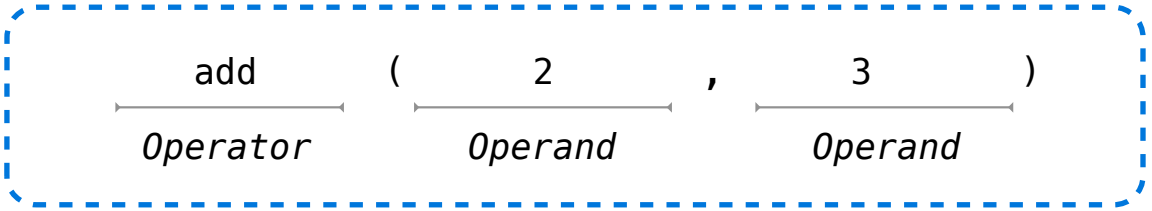

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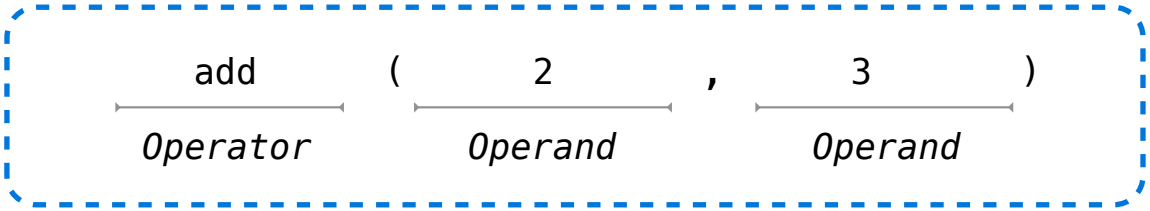

Operators and operands are also expressions

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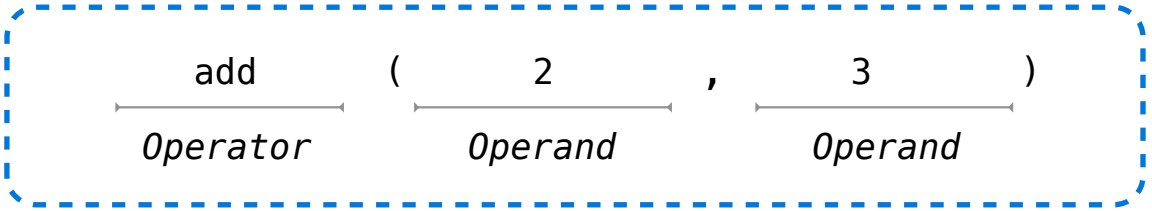

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So they evaluate to values

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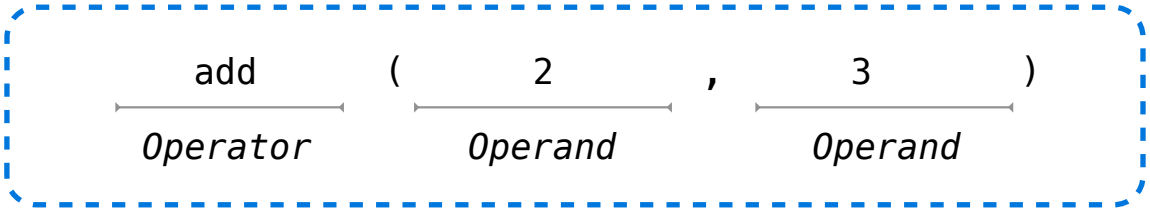

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Evaluation procedure for call expressions:

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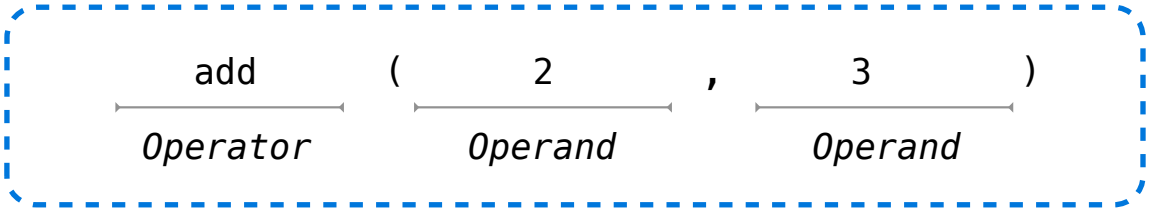

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1. Evaluate the operator and then the operand subexpressions

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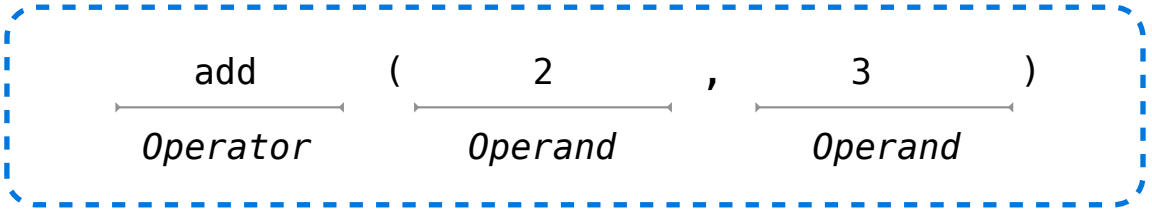

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Evaluation procedure for call expressions:

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))
```

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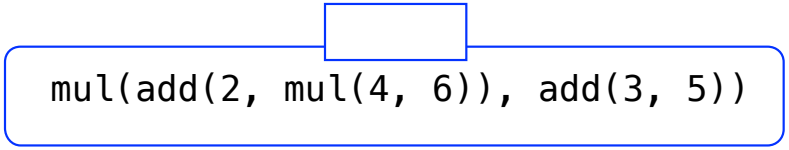

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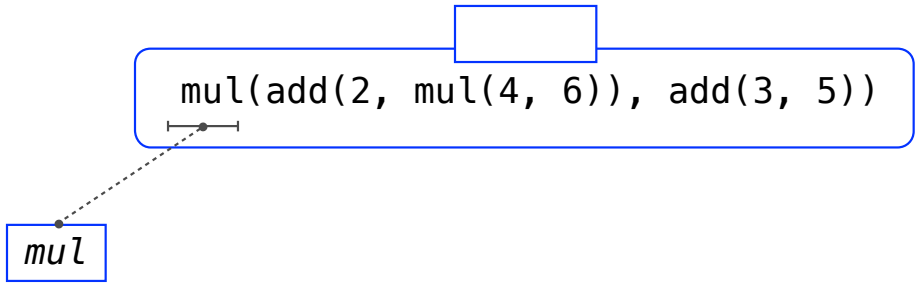

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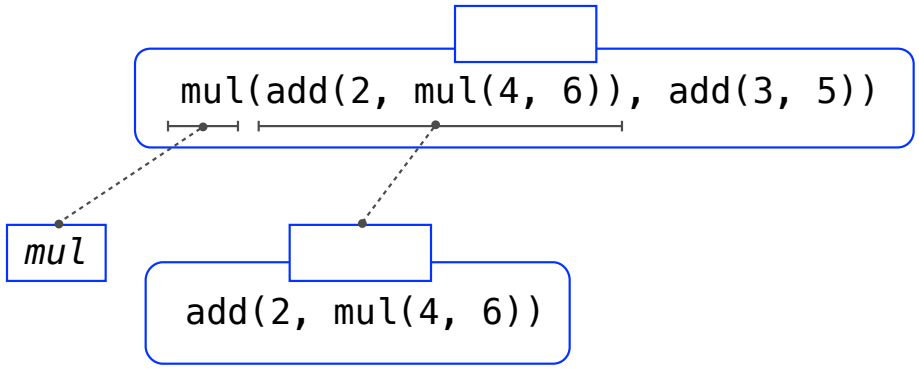

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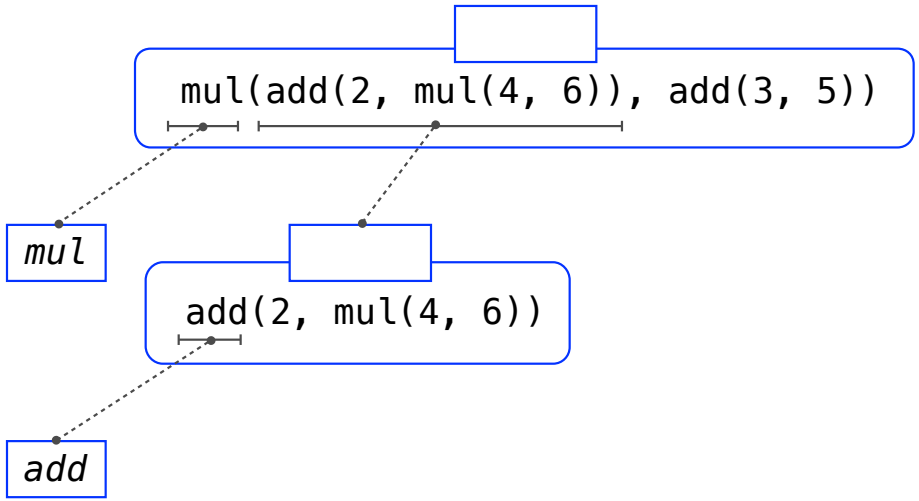

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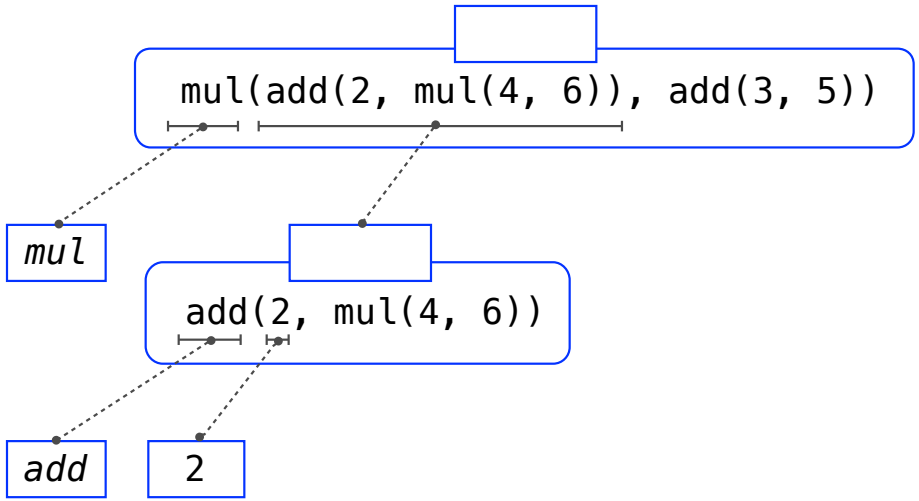

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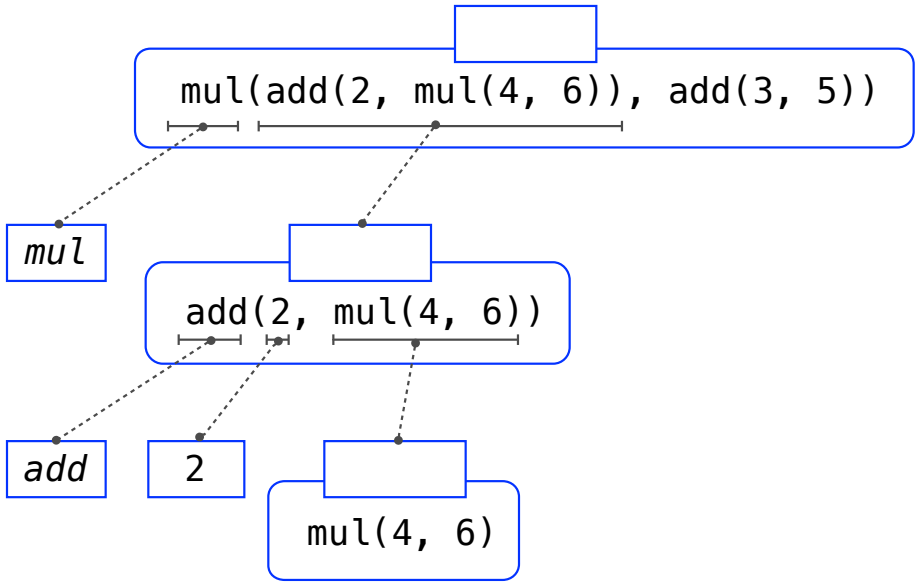

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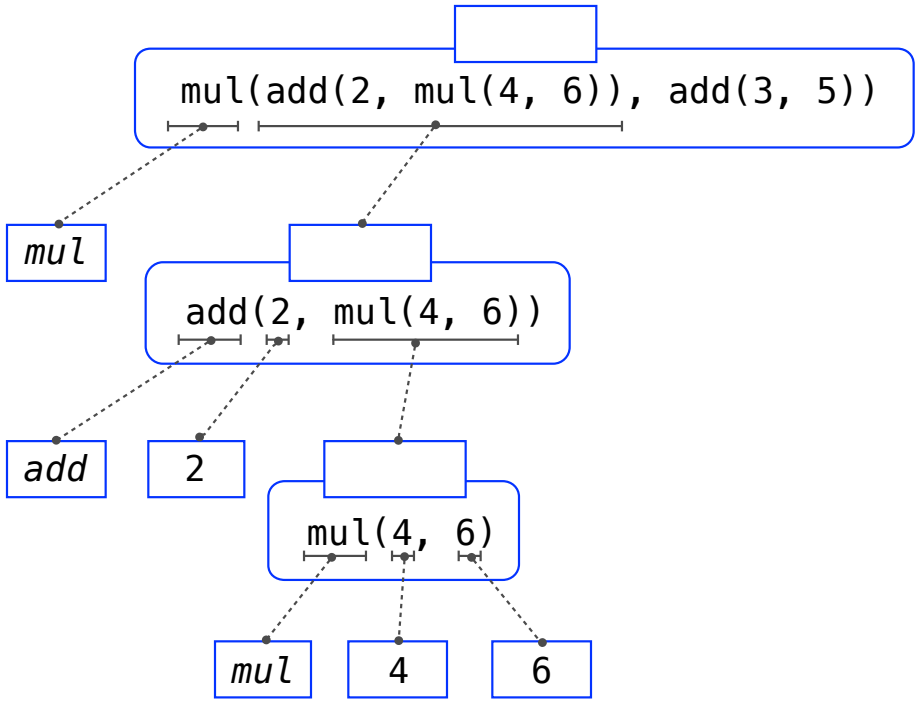

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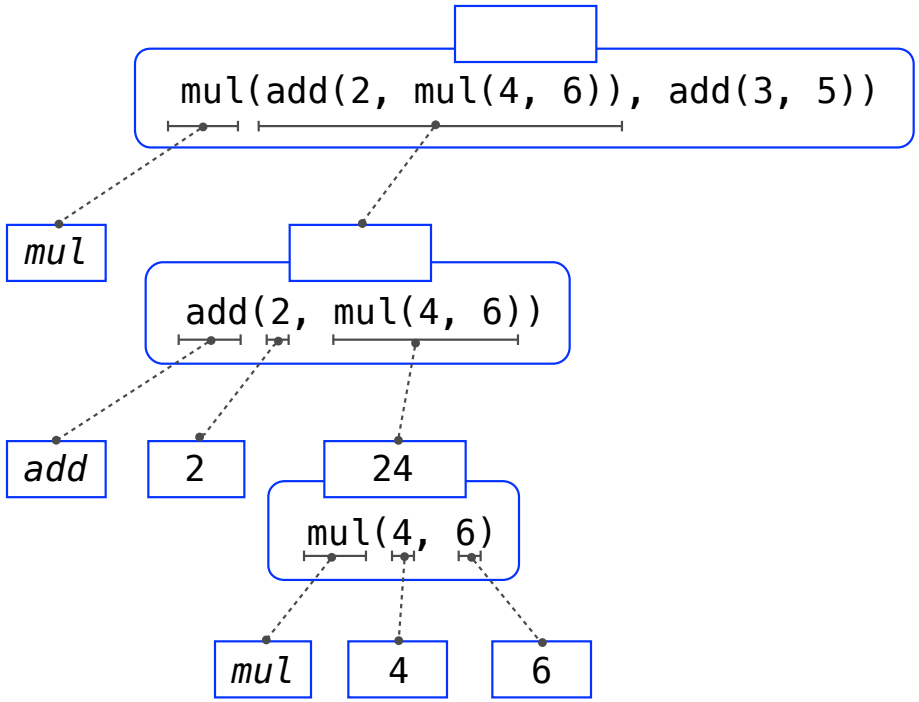

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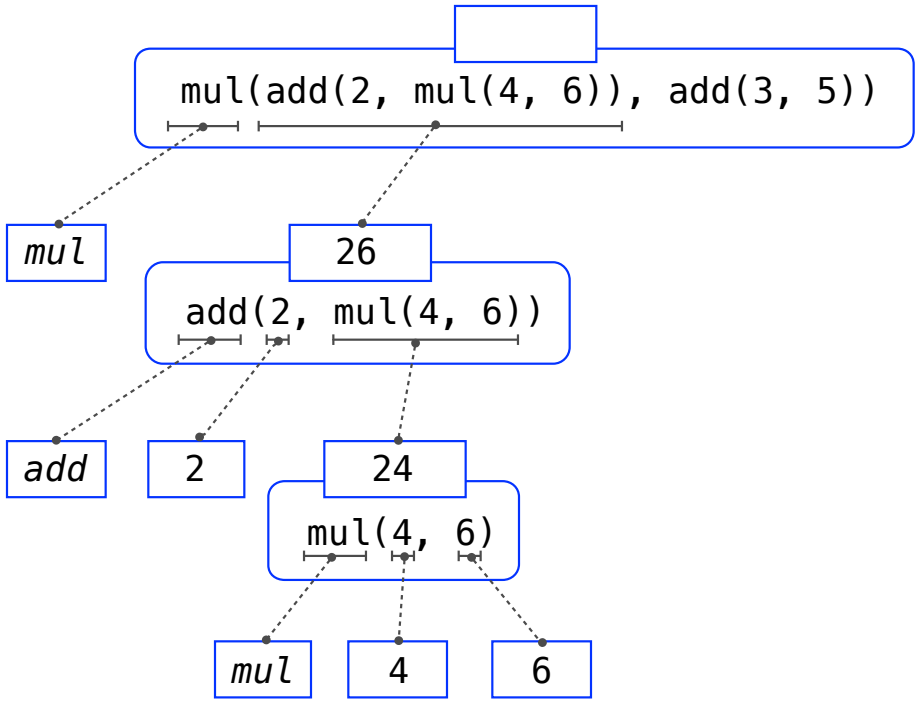

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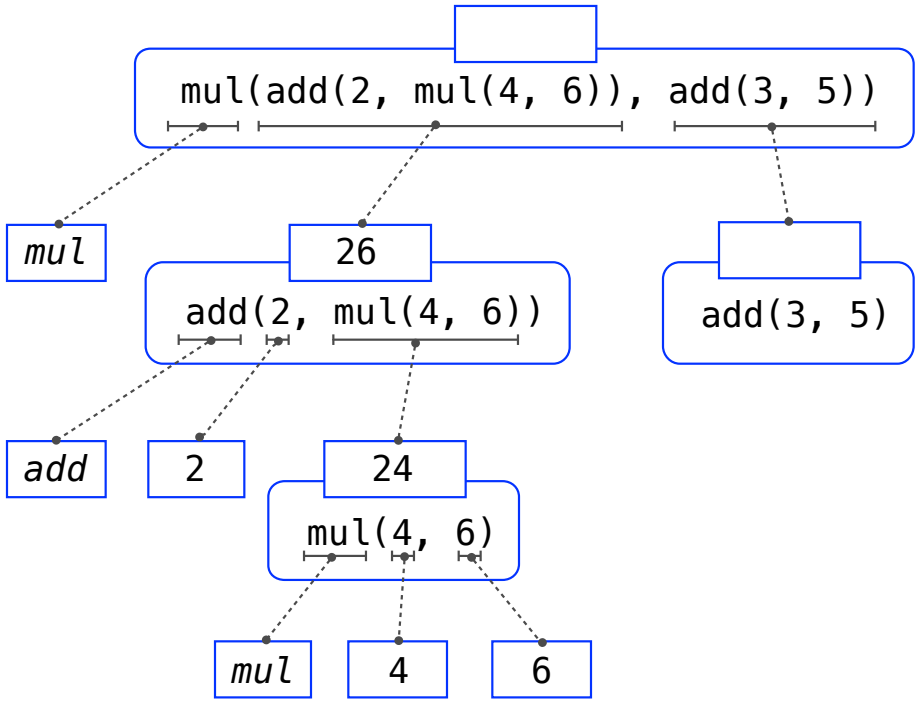

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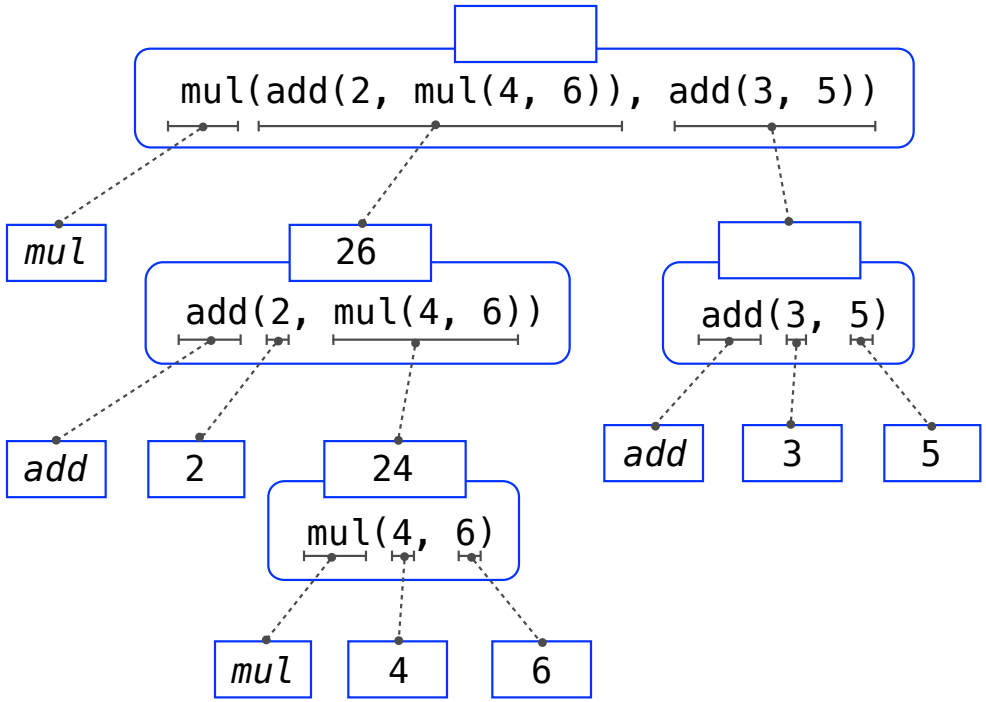

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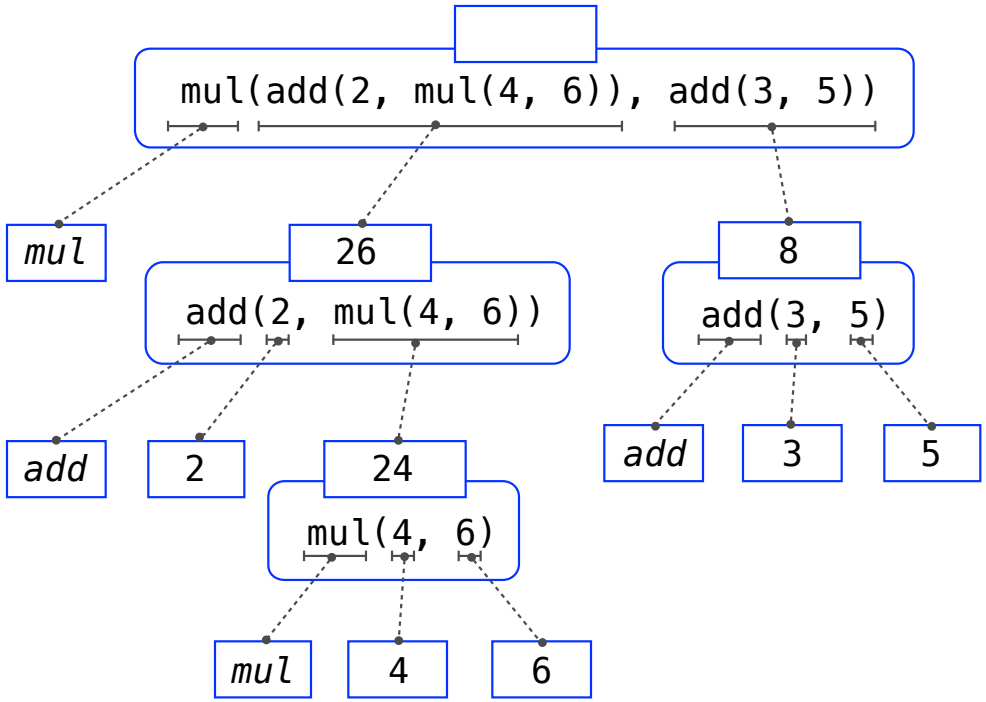
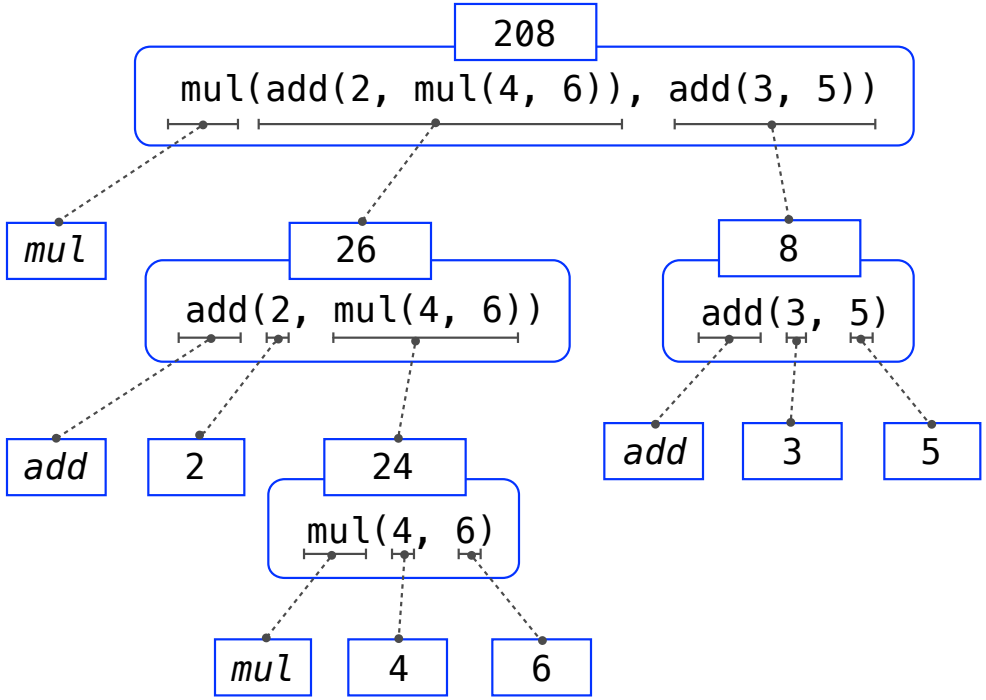


Evaluating Nested Expressions



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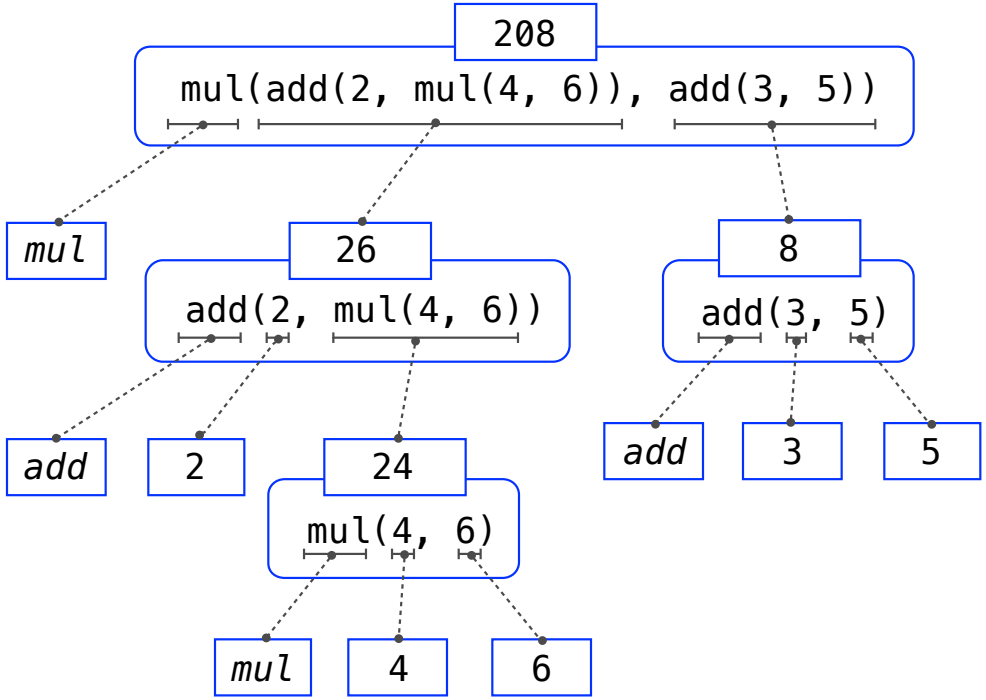
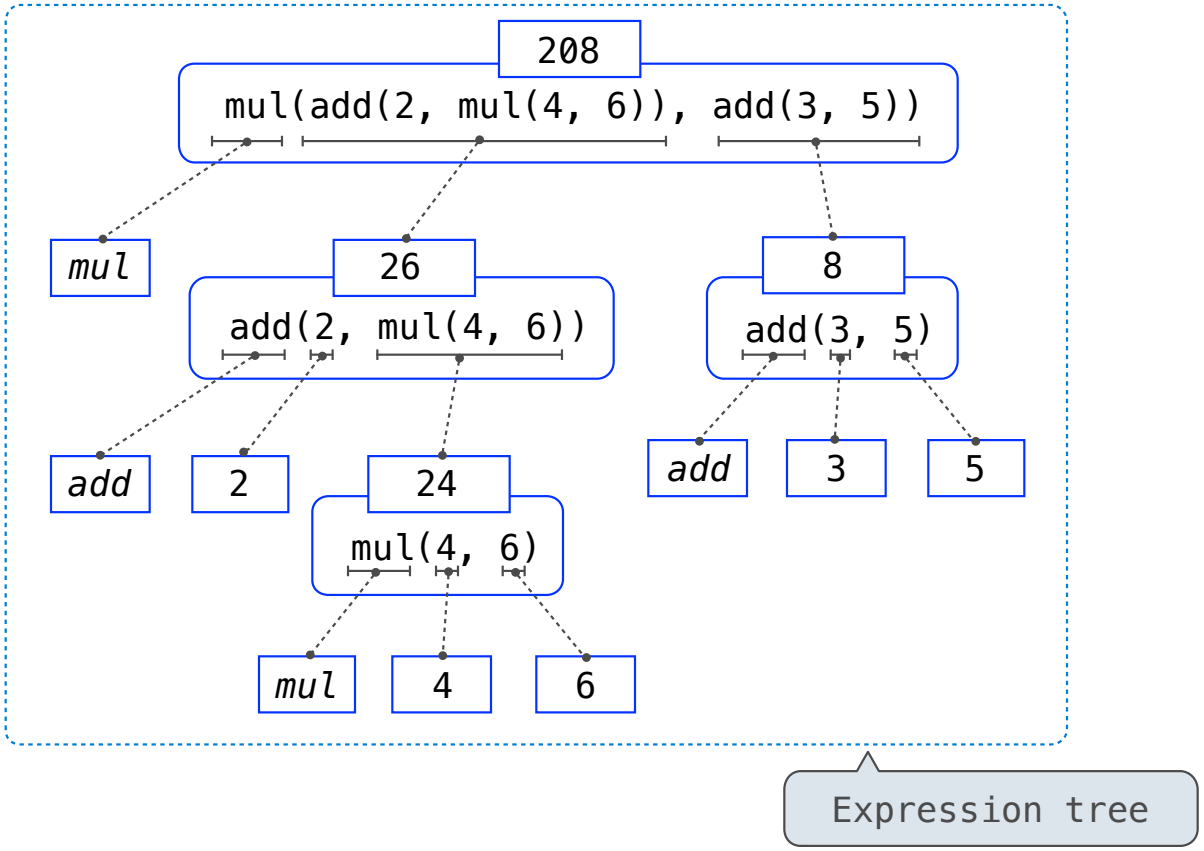
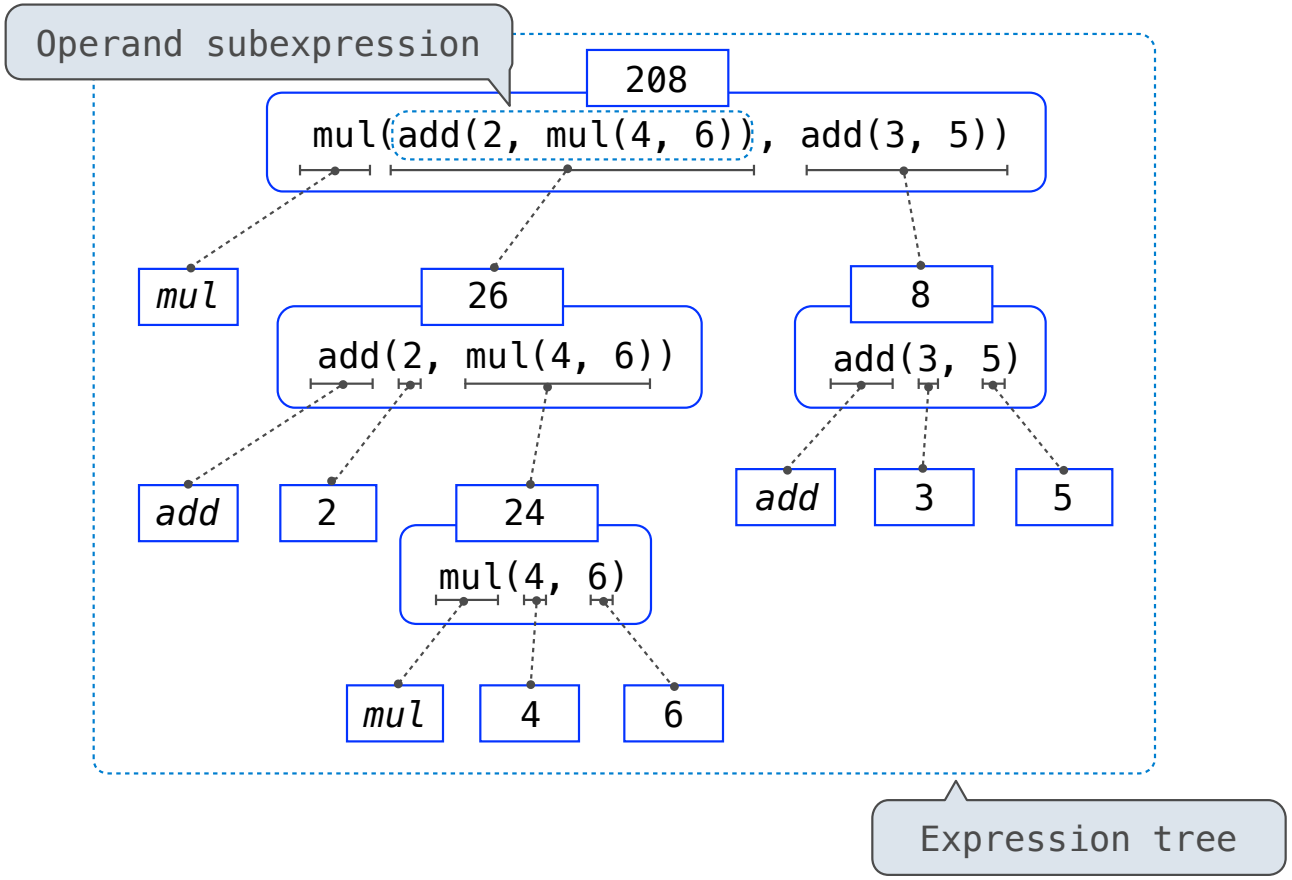


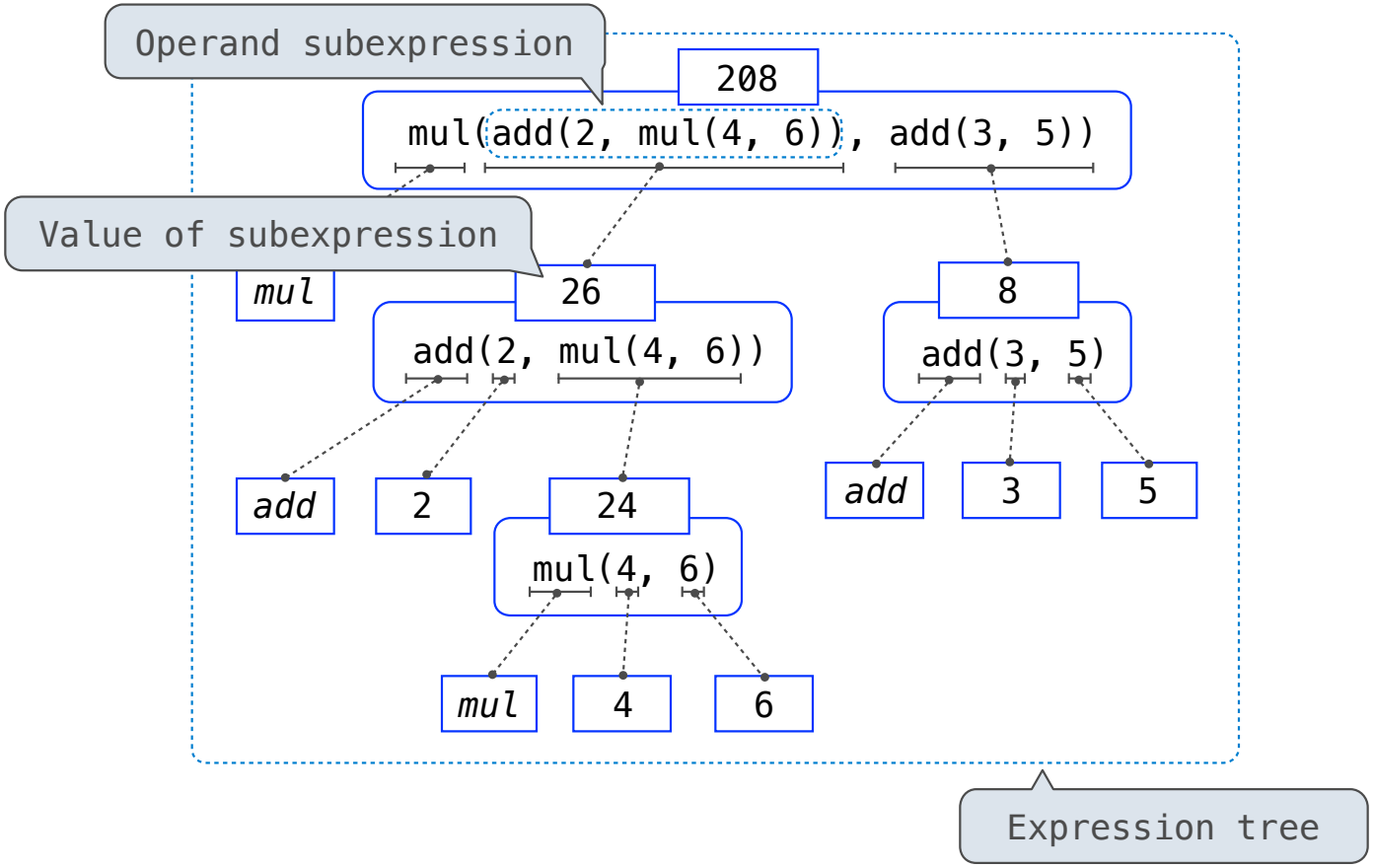
Evaluating Nested Expressions



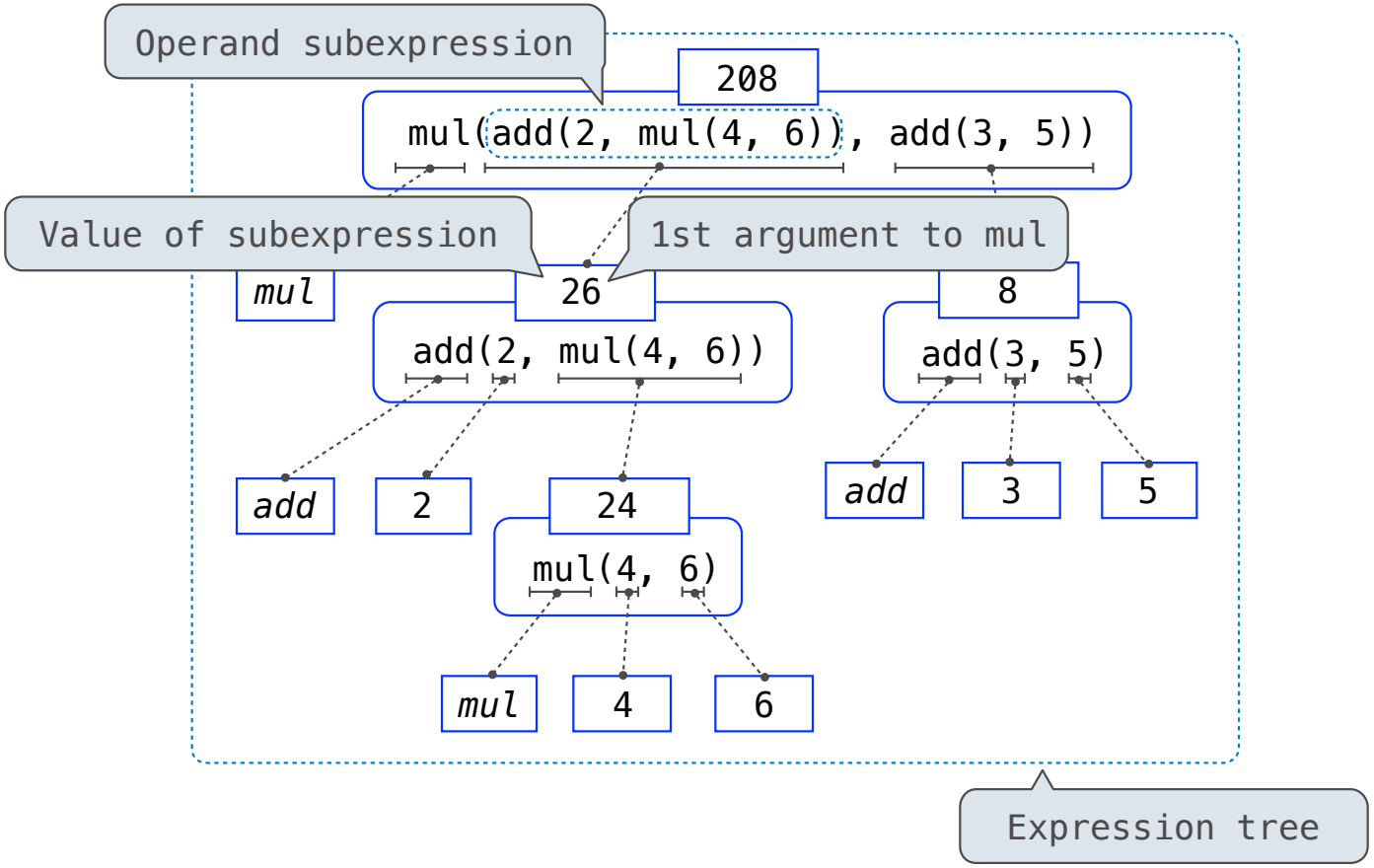
Evaluating Nested Expressions



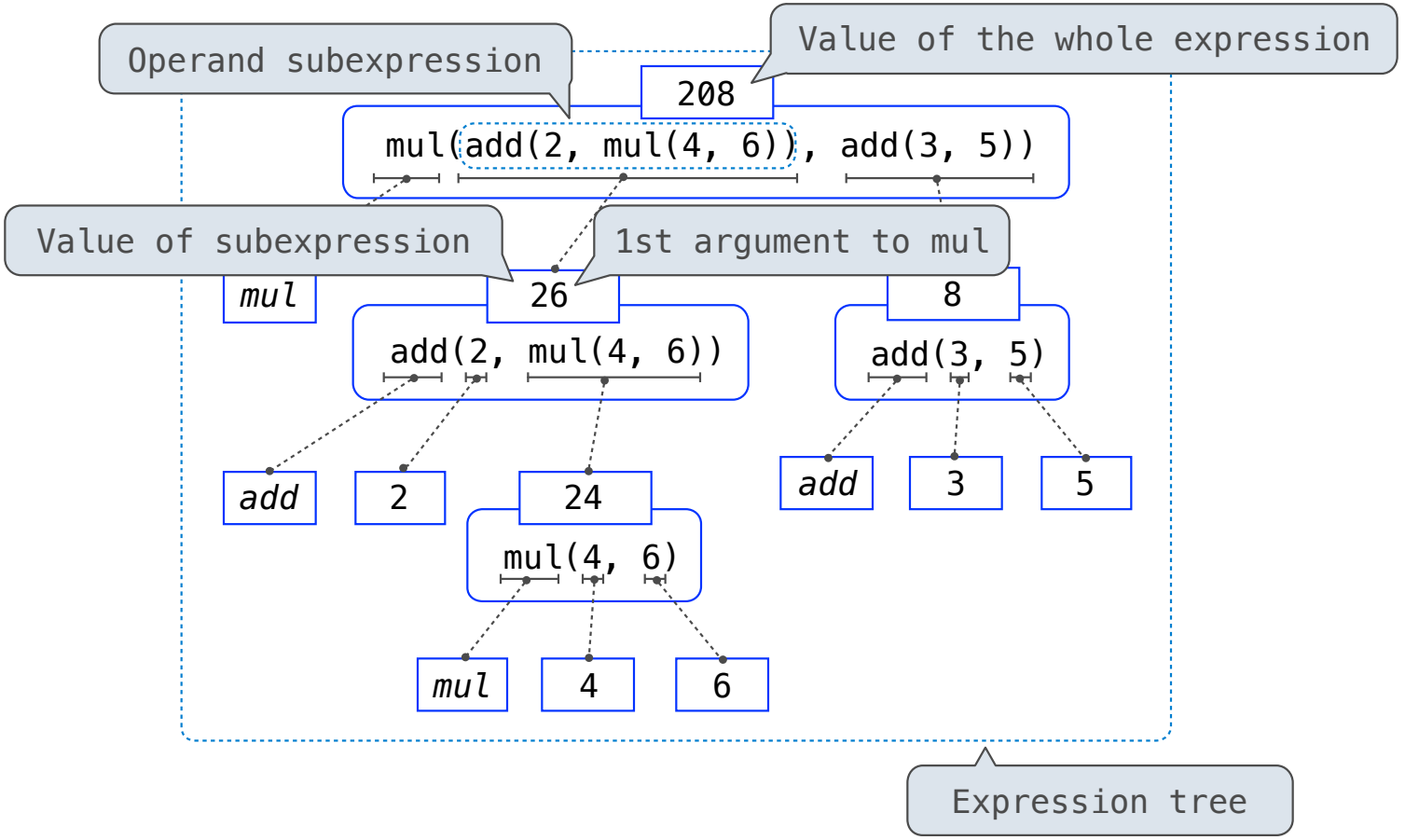
Evaluating Nested Expressions



Evaluating Nested Expressions



Evaluating Nested Expressions



Functions, Objects, and Interpreters

(Demo)