61A Lecture 1

Wednesday, August 23, 2017

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Wednesday, August 23, 2017 (or perhaps even earlier)

Welcome to CS 61A!

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You have two instructors this semester

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denero@berkeley.edu

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Office hours in 781 Soda
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By appointment: denero.org/meet.html

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Contact both of us & heads of staff: cs61a@berkeley.edu

The 61A Community

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- Teach lab & discussion sections

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1,900+ fellow students make CS 61A unique

Parts of the Course

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Lab section: The most important part of this course (*next week*)

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Weekly homework assignments, three exams, & four programming projects

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Lots of optional special events to help you complete all this work

An Introduction to Computer Science

What is Computer Science?

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Different types of languages: Scheme & SQL

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Different types of languages: Scheme & SQL

A challenging course that will demand a lot of you

Alternatives to CS 61A

CS 10: The Beauty and Joy of Computing

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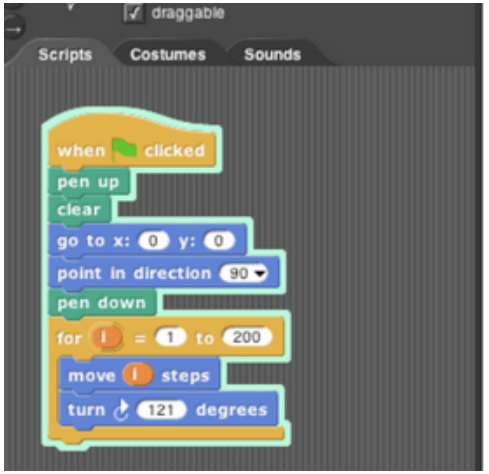

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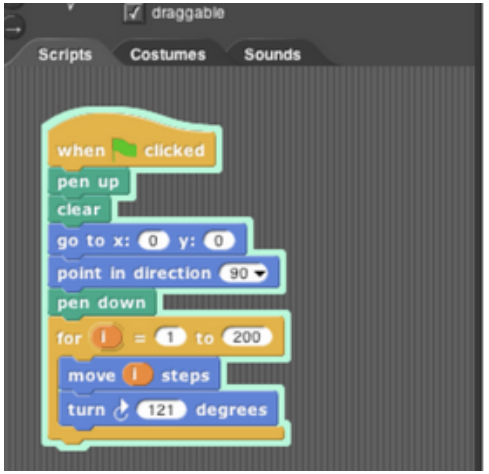

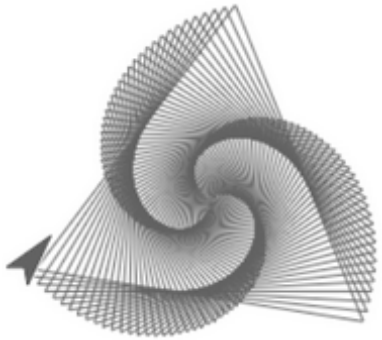

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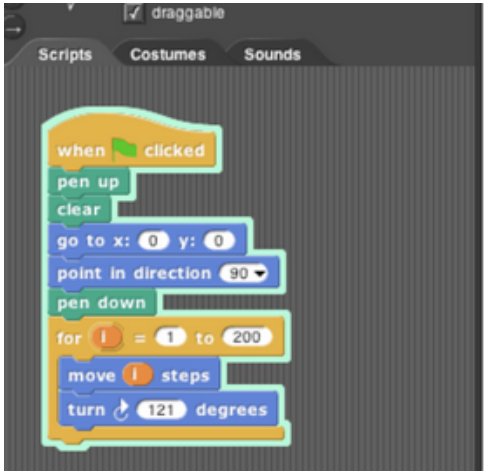

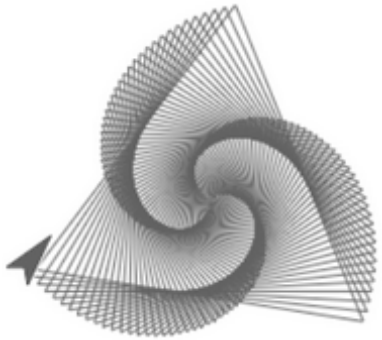

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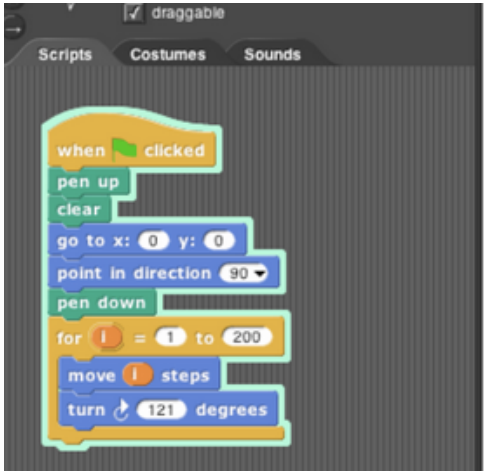

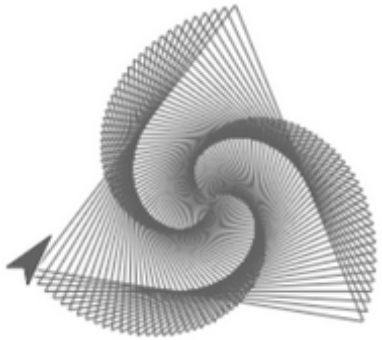

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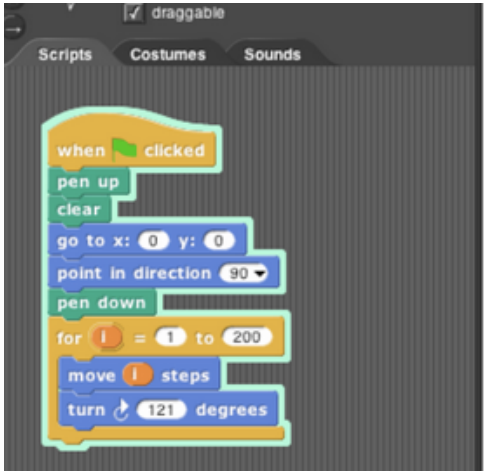

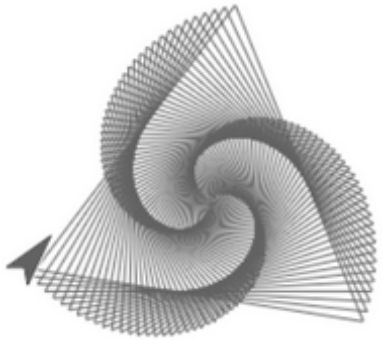

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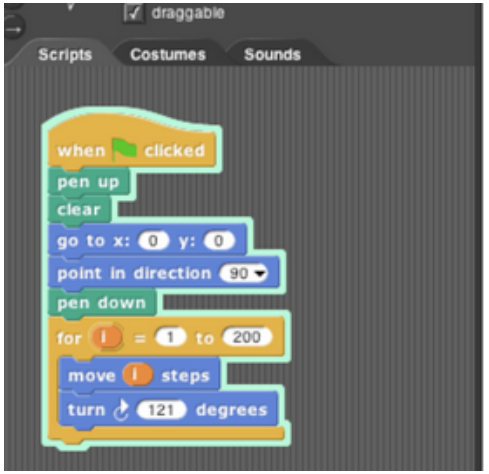

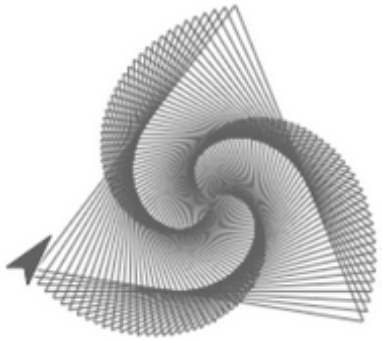

Data Science 8: Foundations of Data Science

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Fundamentals of computing, statistical inference, & machine learning applied to real-world data sets

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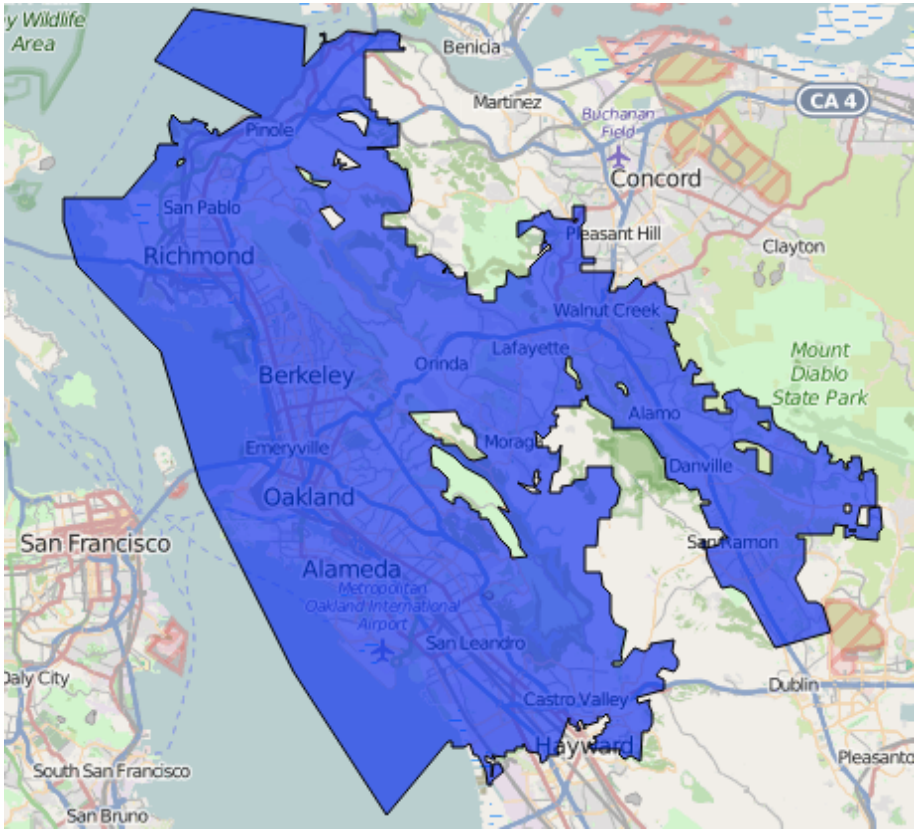

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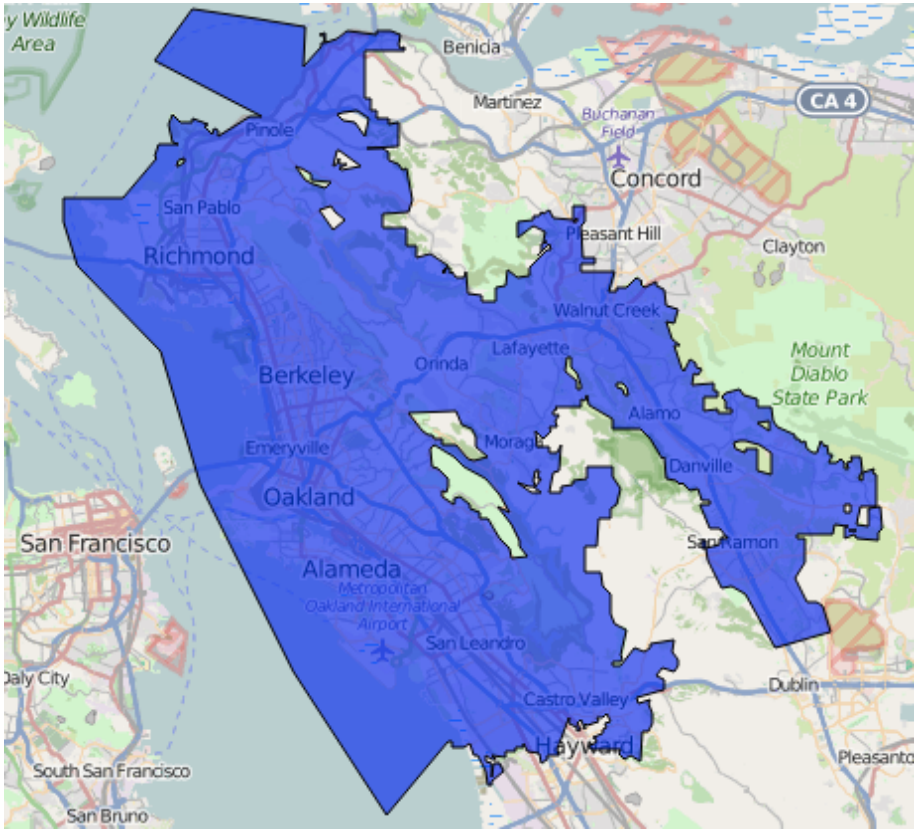
More statistics than computer science



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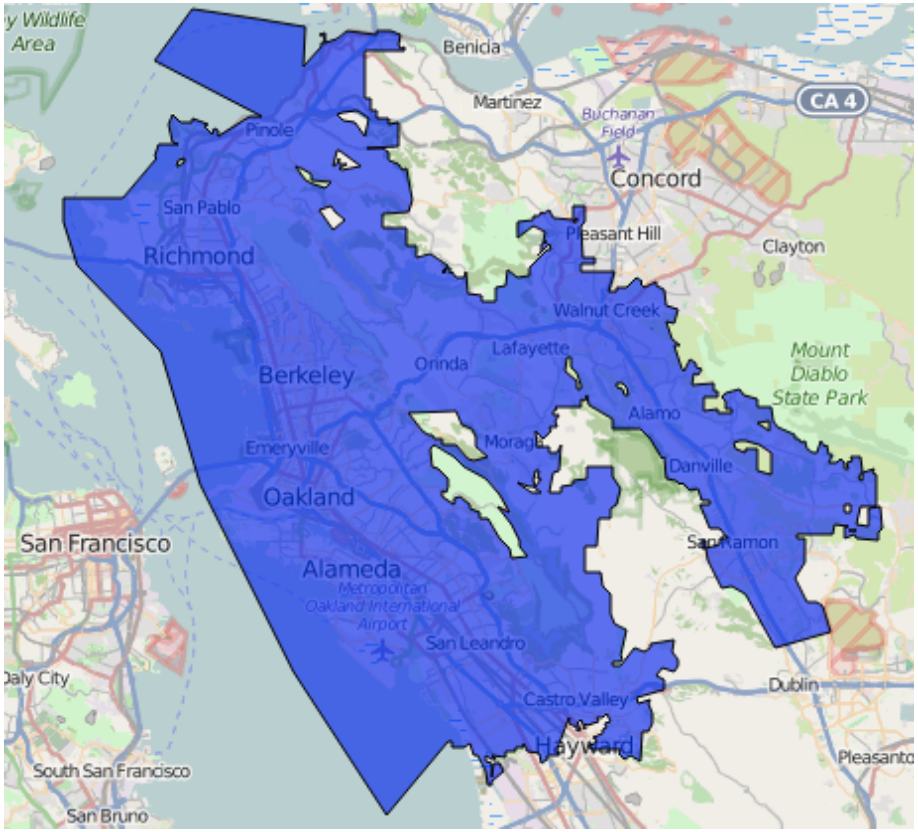

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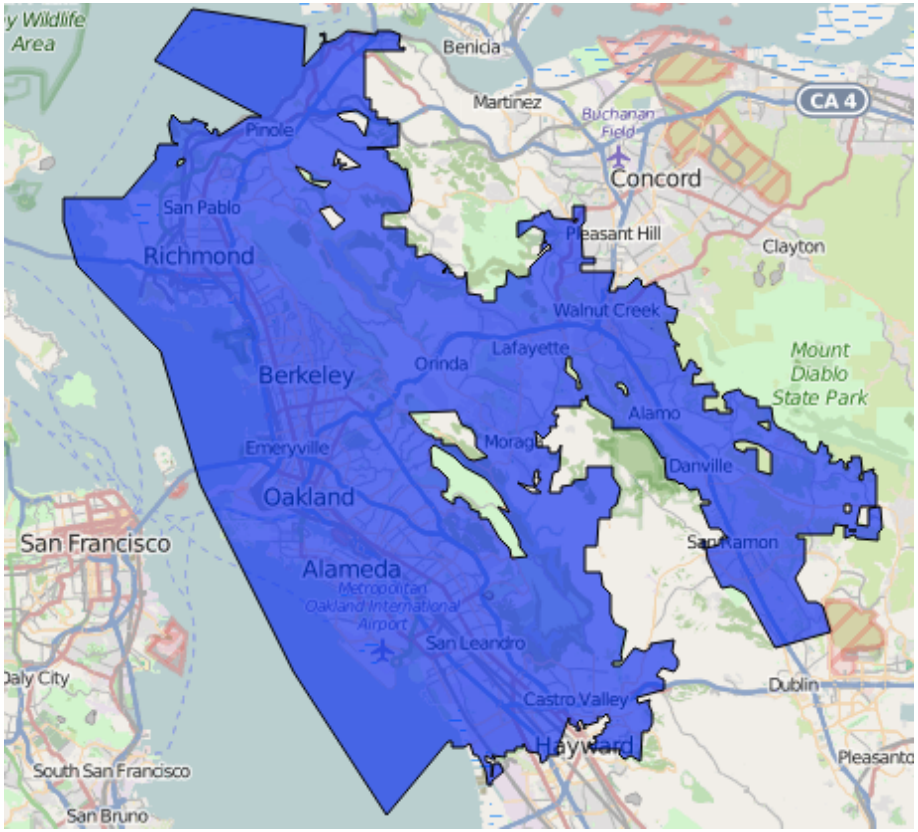

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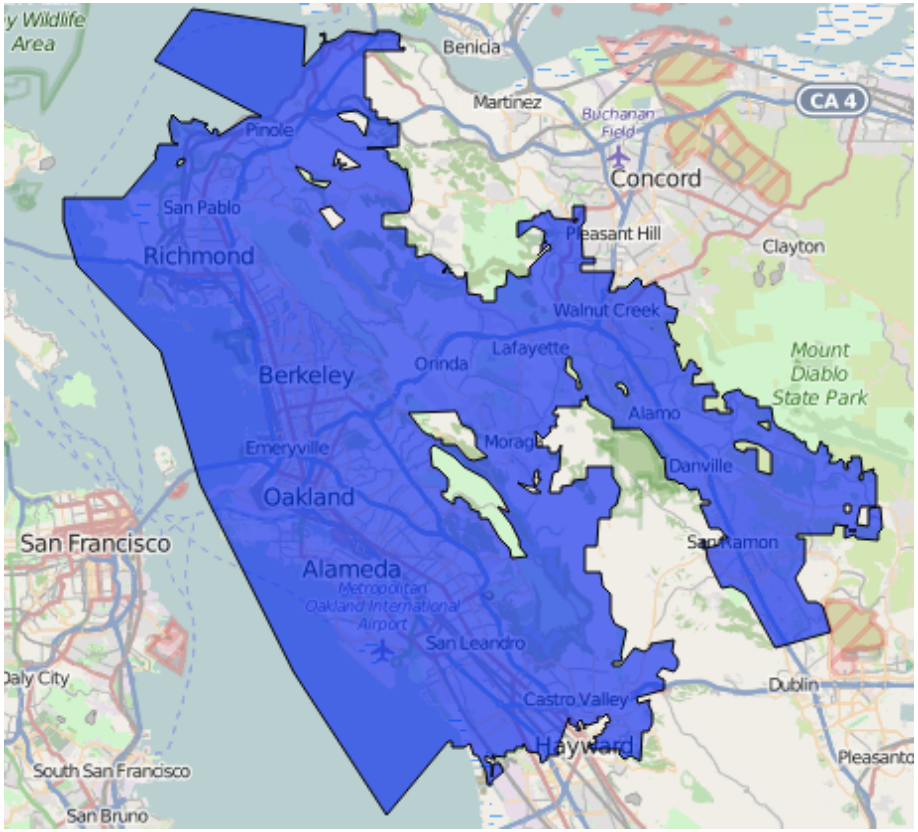

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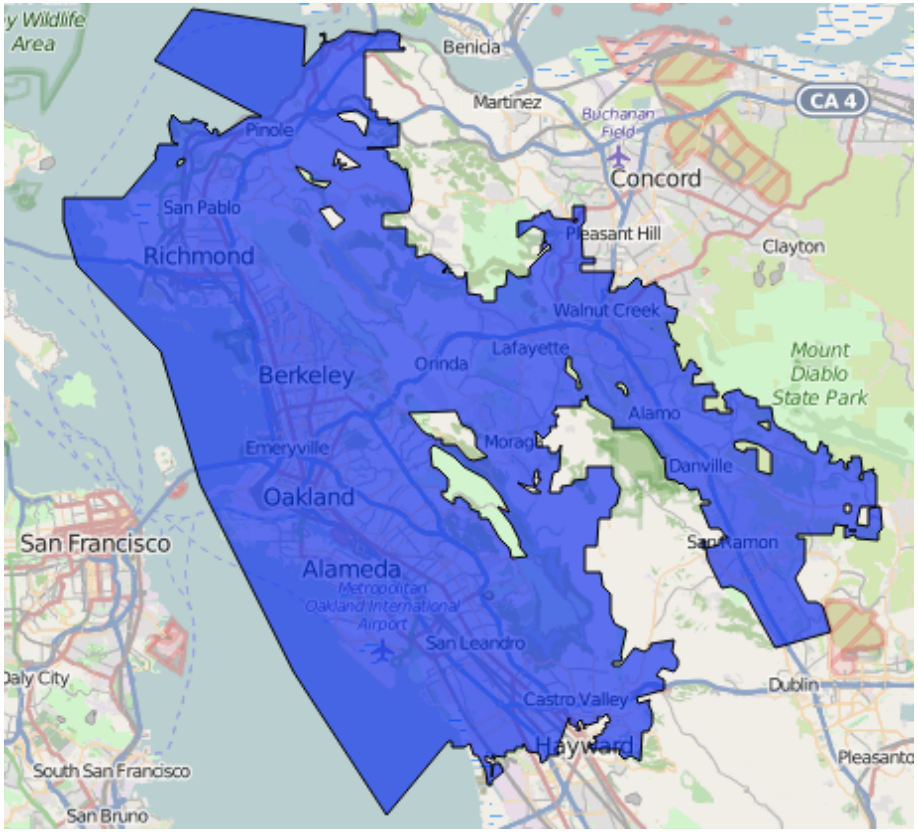

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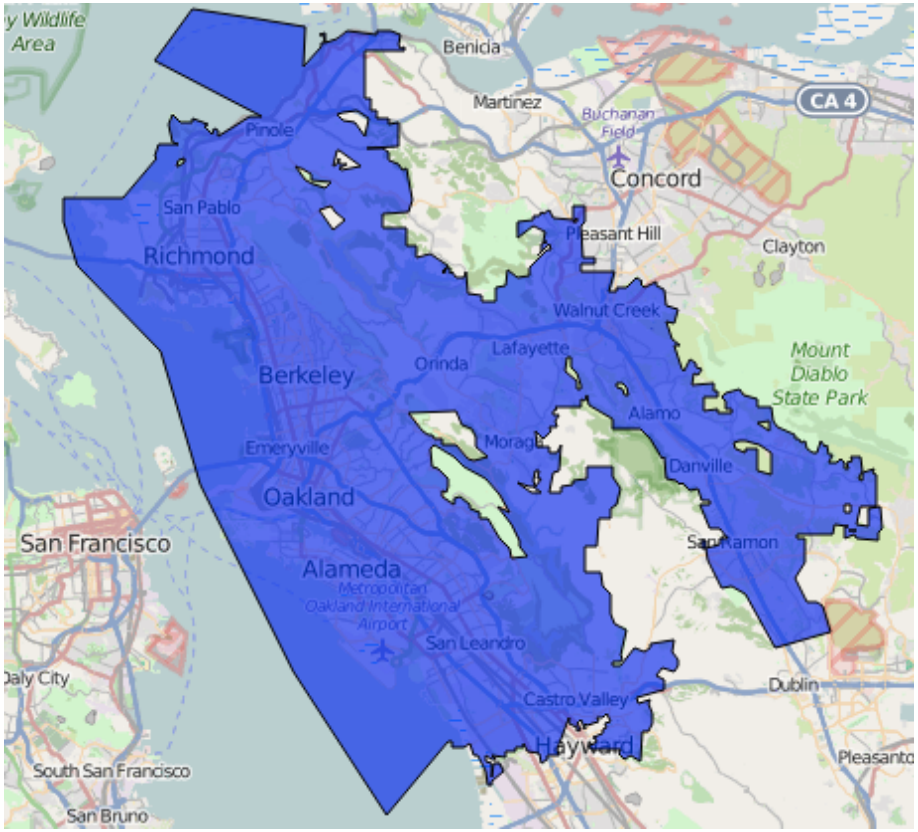

Course Policies

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Learning

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Course Staff

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Details...

http://cs61a.org/articles/about.html

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The limits of collaboration

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- One simple rule: Don't share your code, except with your project partner
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- We really do catch people who violate the rules, because...
  - We also know how to search the web for solutions
  - We use computers to check your work

Build good habits now

Expressions

Types of expressions

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An expression describes a computation and evaluates to a value

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Call Expressions in Python

All expressions can use function call notation

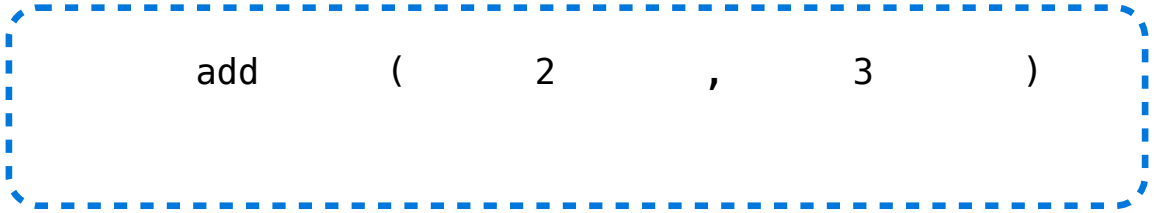
(Demo)

Anatomy of a Call Expression

Anatomy of a Call Expression

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

Anatomy of a Call Expression



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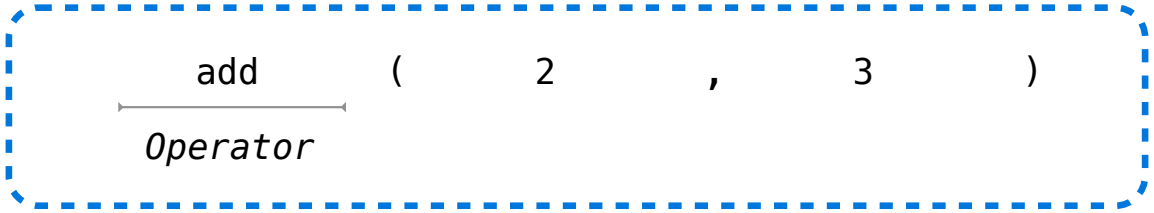

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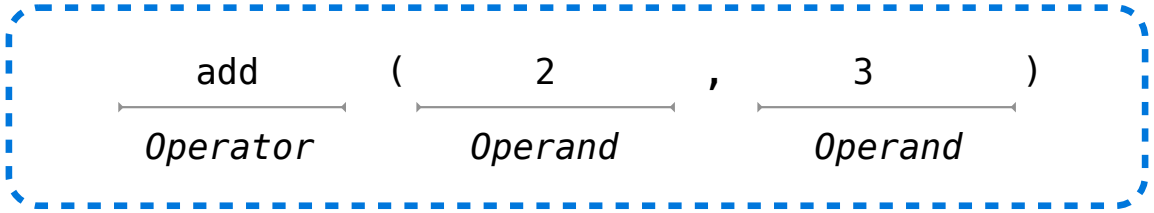

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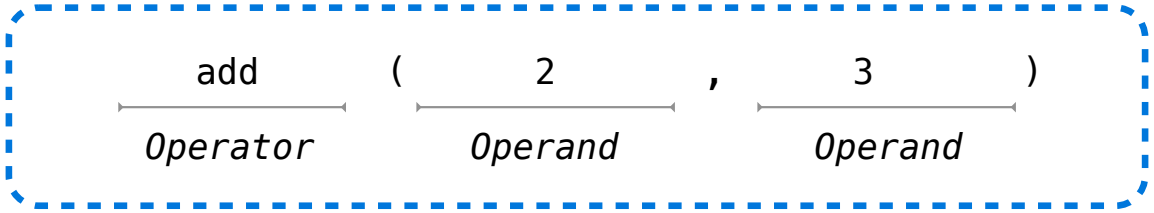
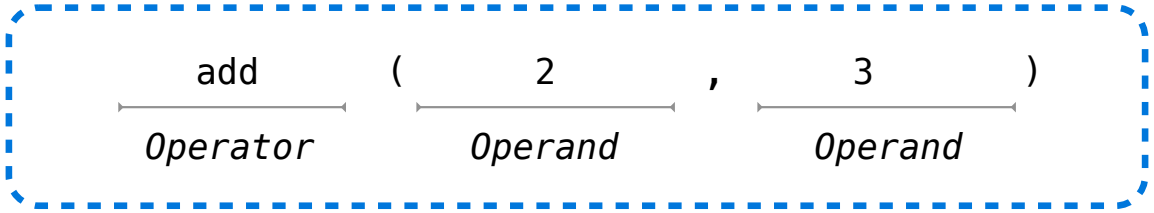


Operators and operands are also expressions

Anatomy of a Call Expression



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So they evaluate to values

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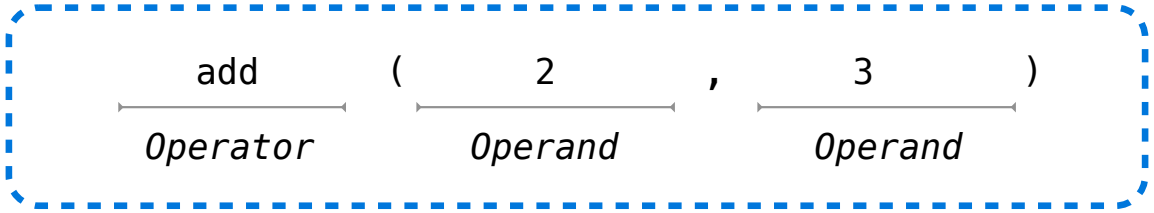

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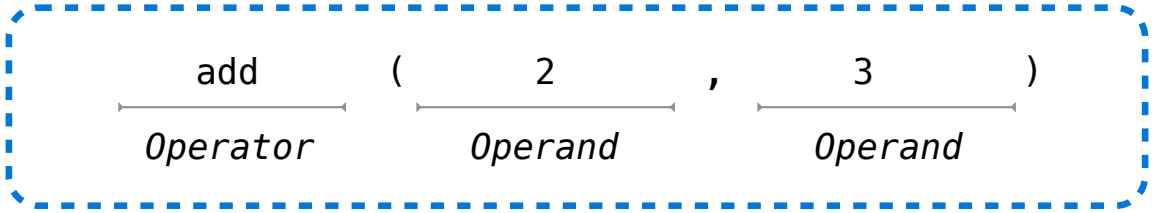
Evaluation procedure for call expressions:

Anatomy of a Call Expression



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1. Evaluate the operator and then the operand subexpressions

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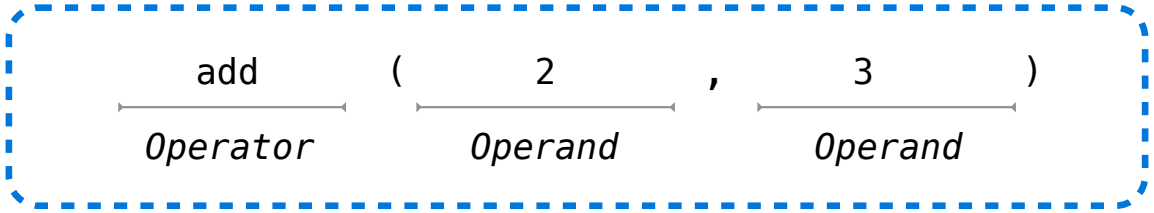


Operators and operands are also expressions

So they evaluate to values

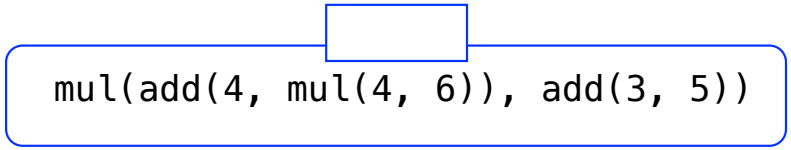
Evaluation procedure for call expressions:

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

Evaluating Nested Expressions



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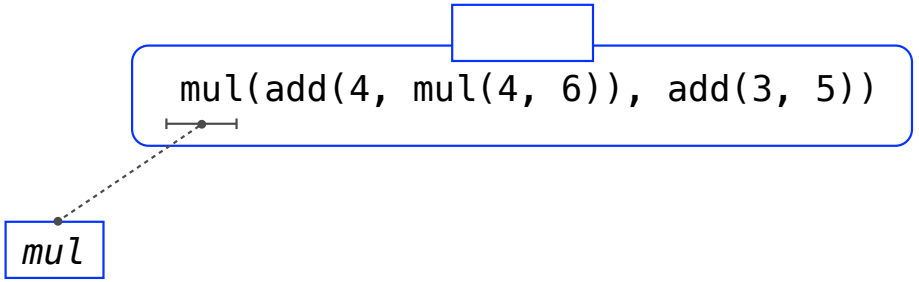

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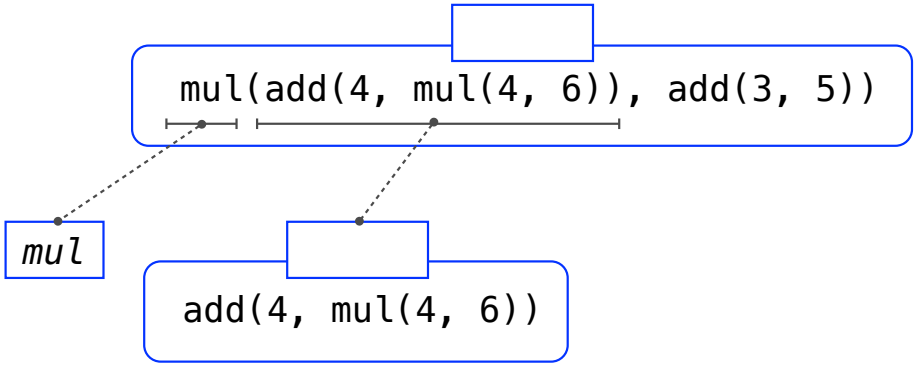

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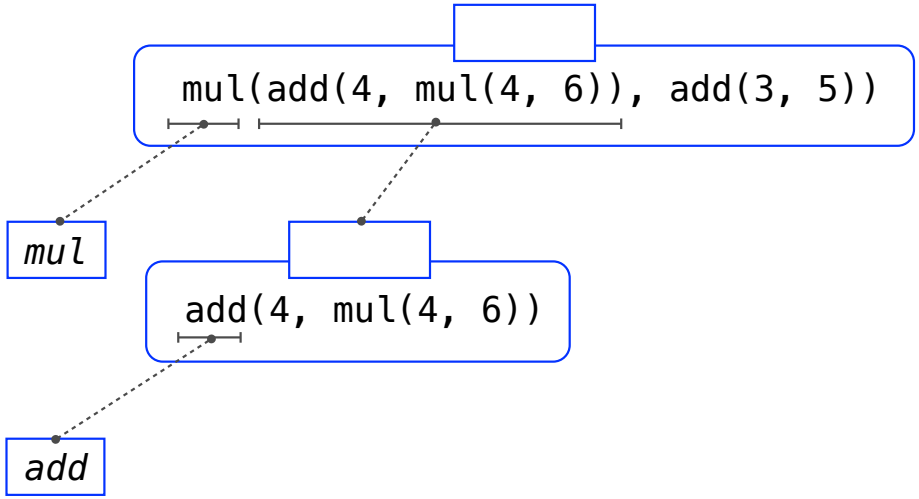

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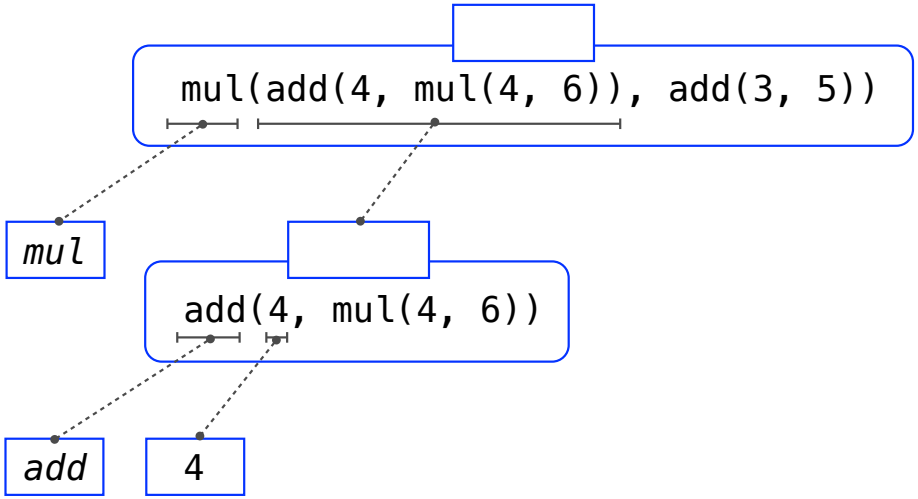

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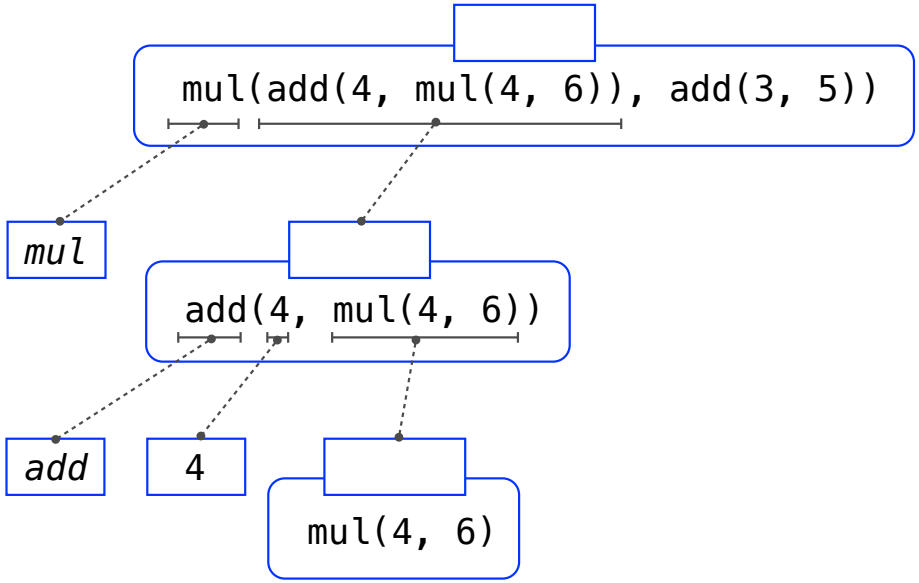

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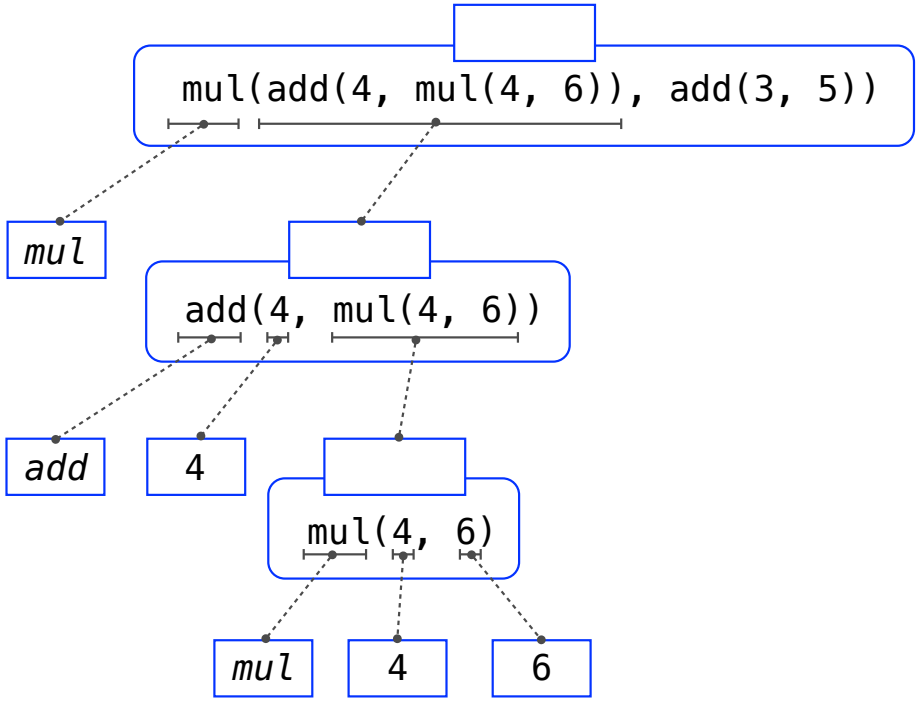

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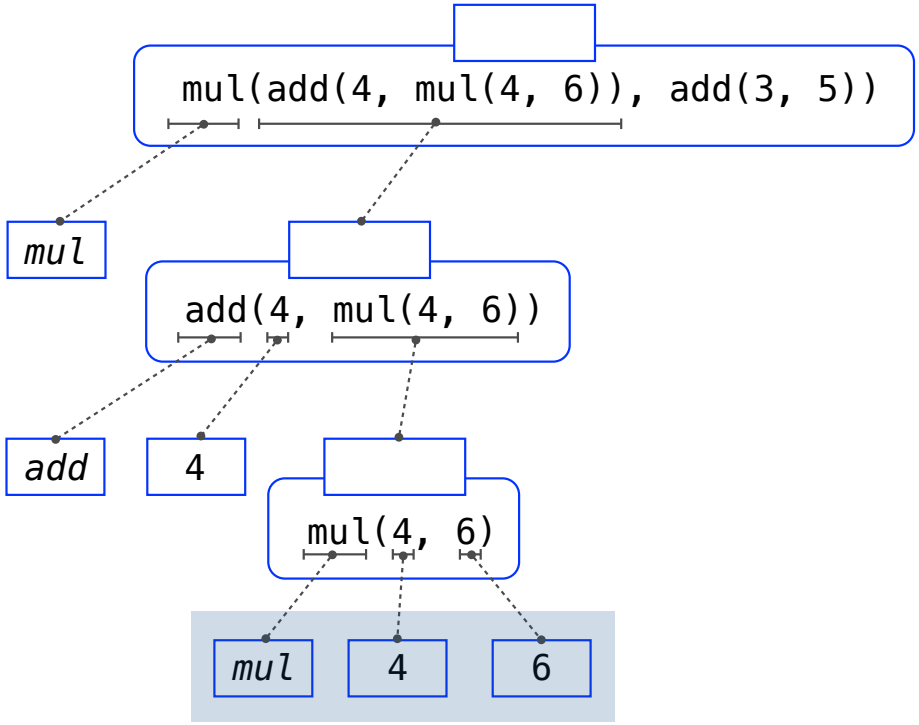

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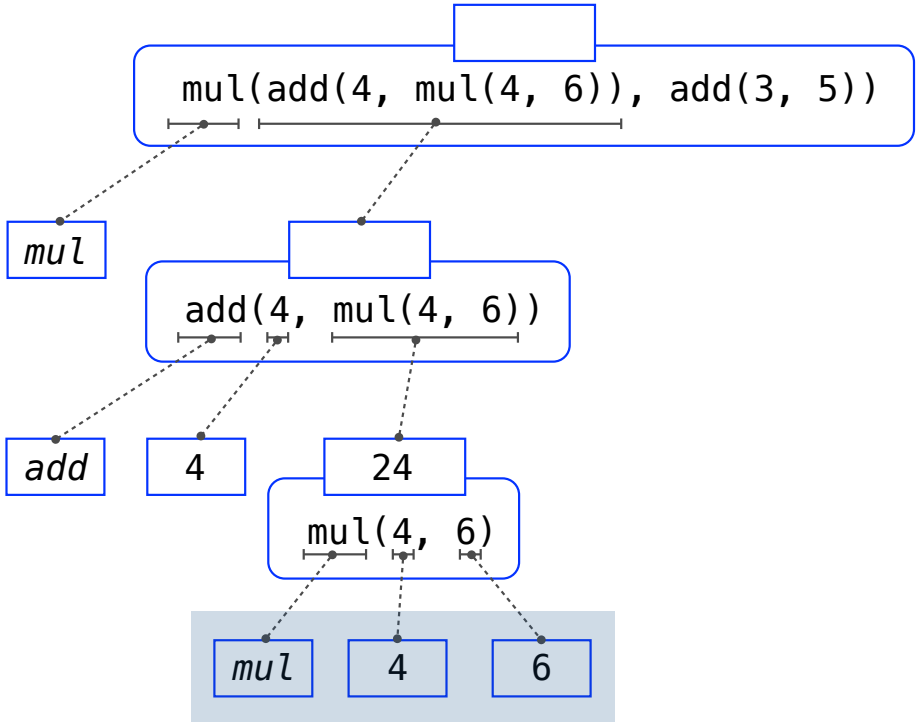

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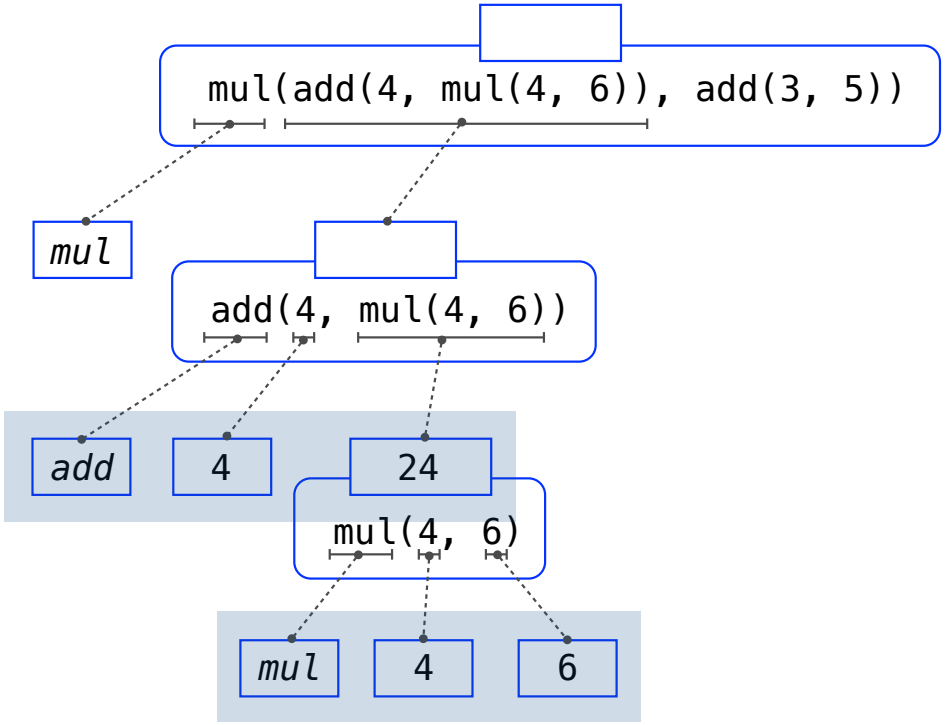

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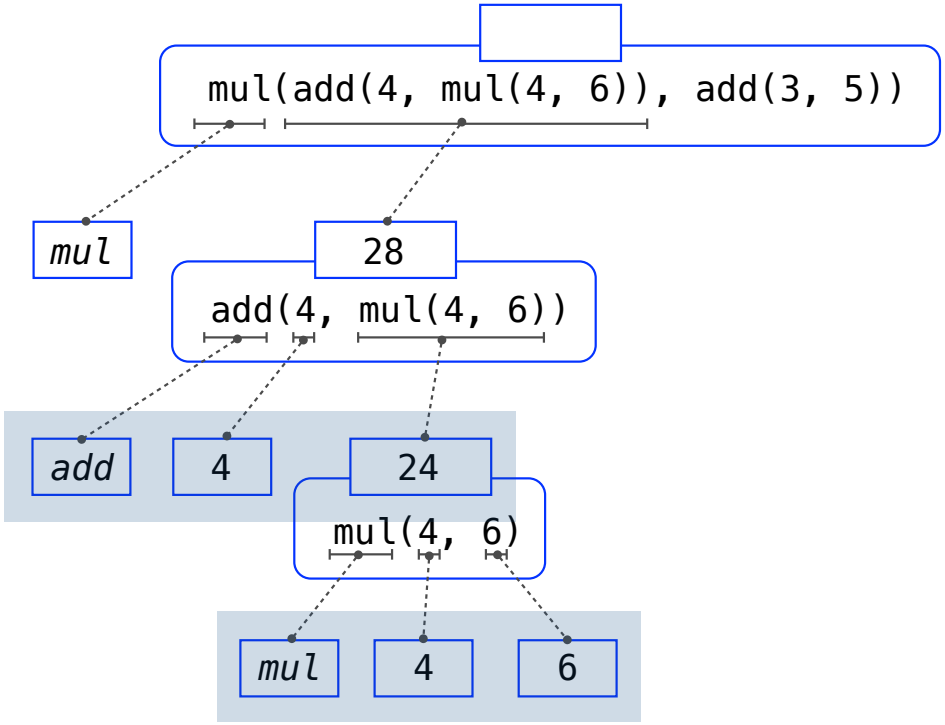

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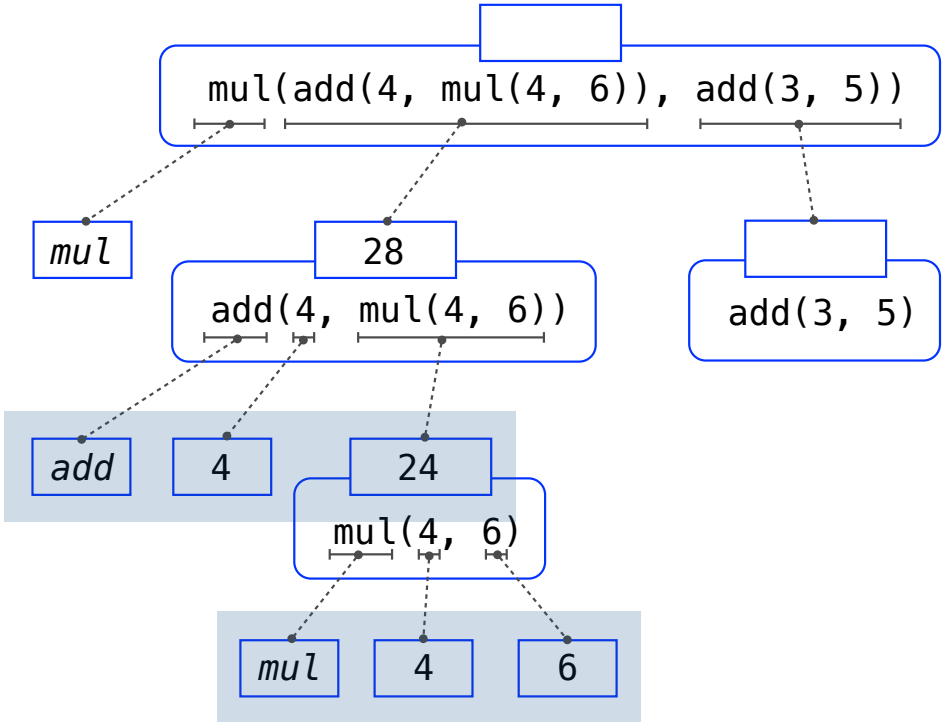

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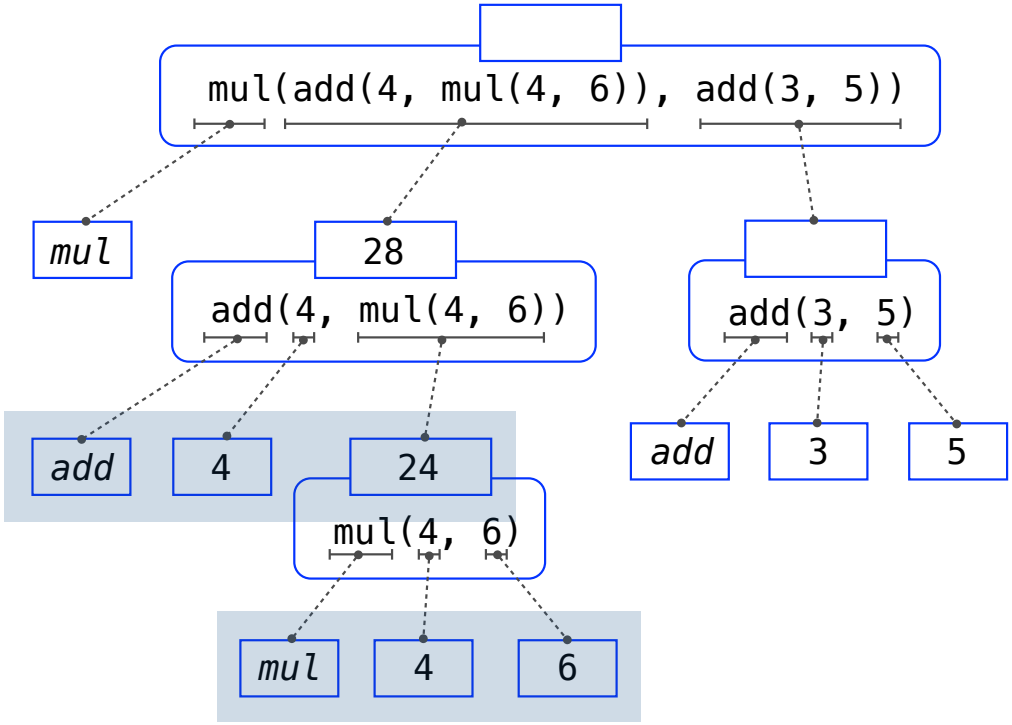

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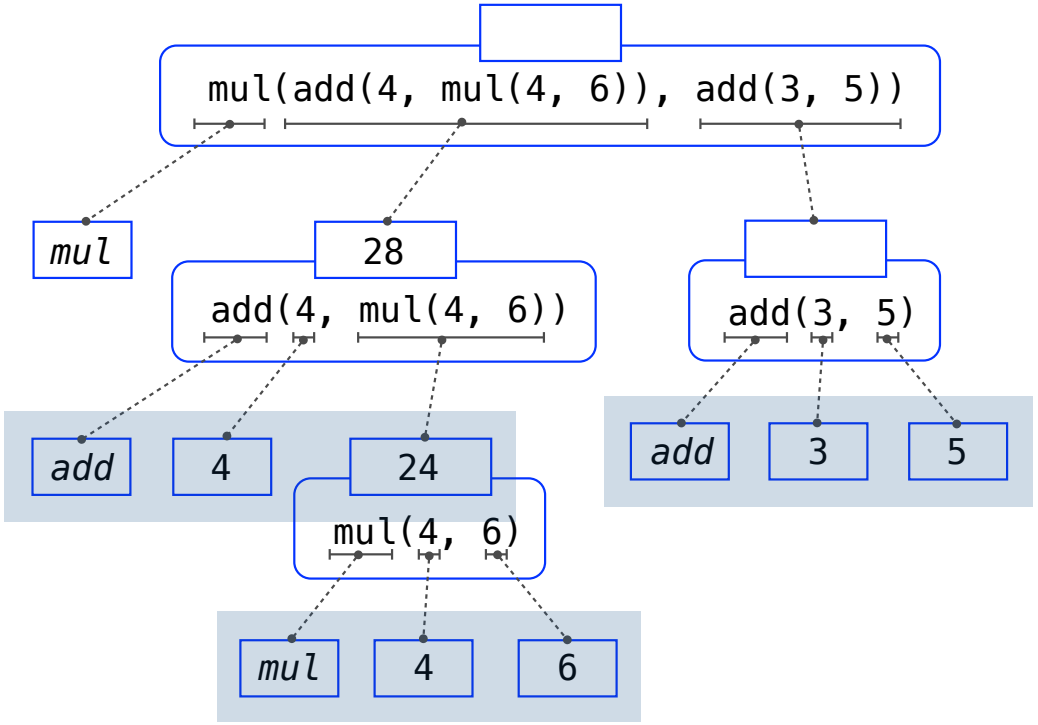

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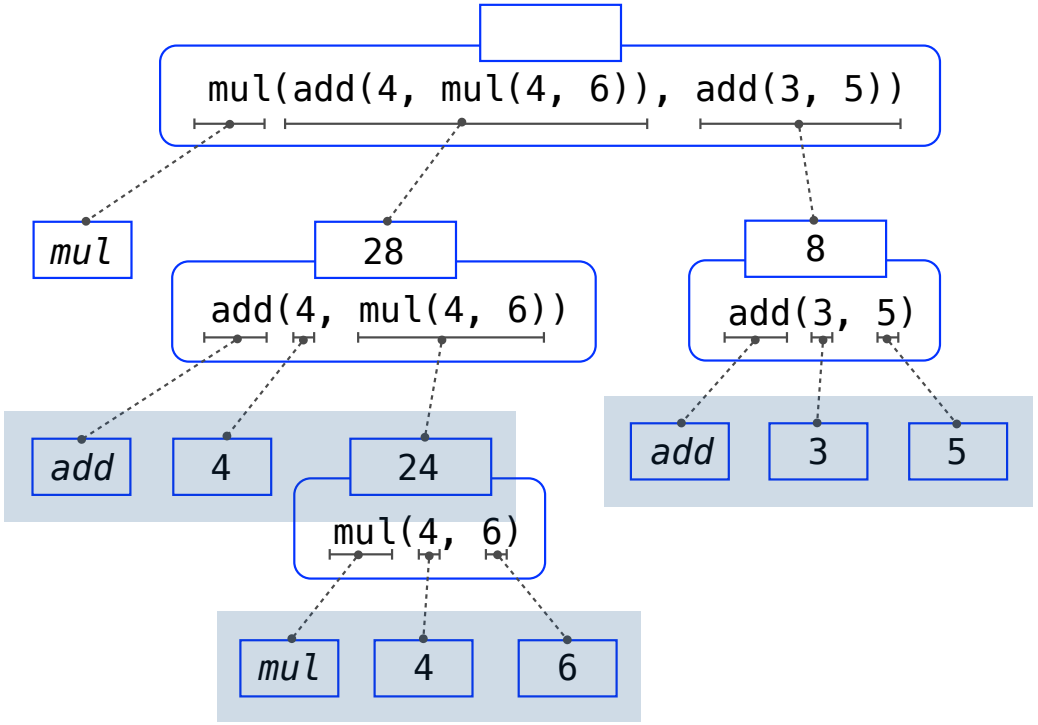

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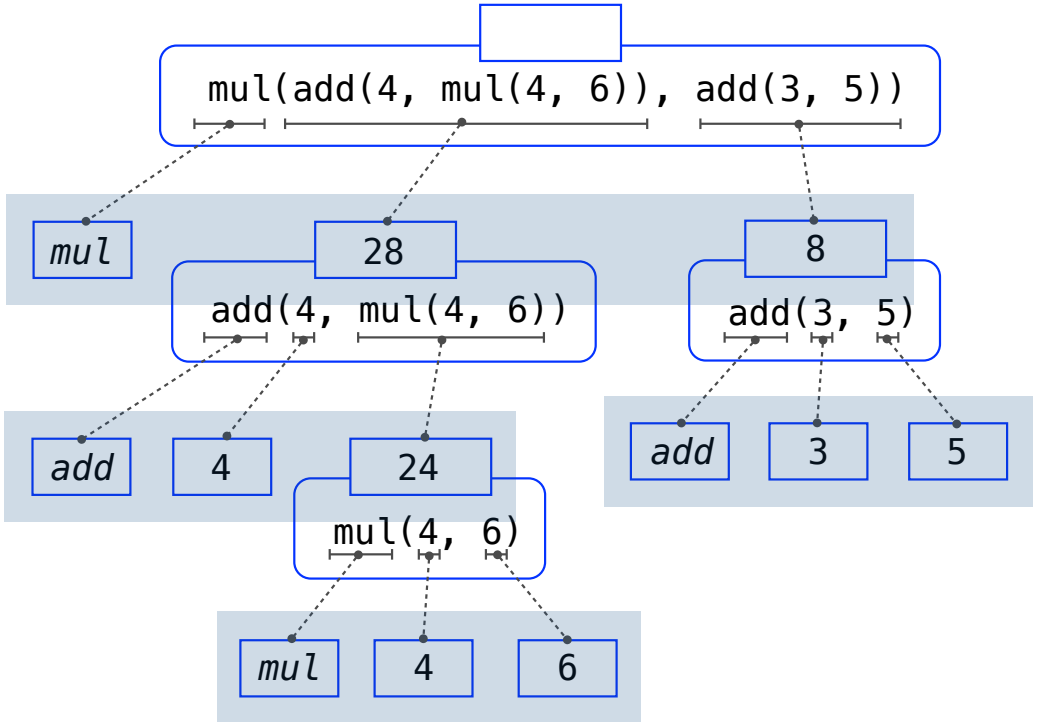

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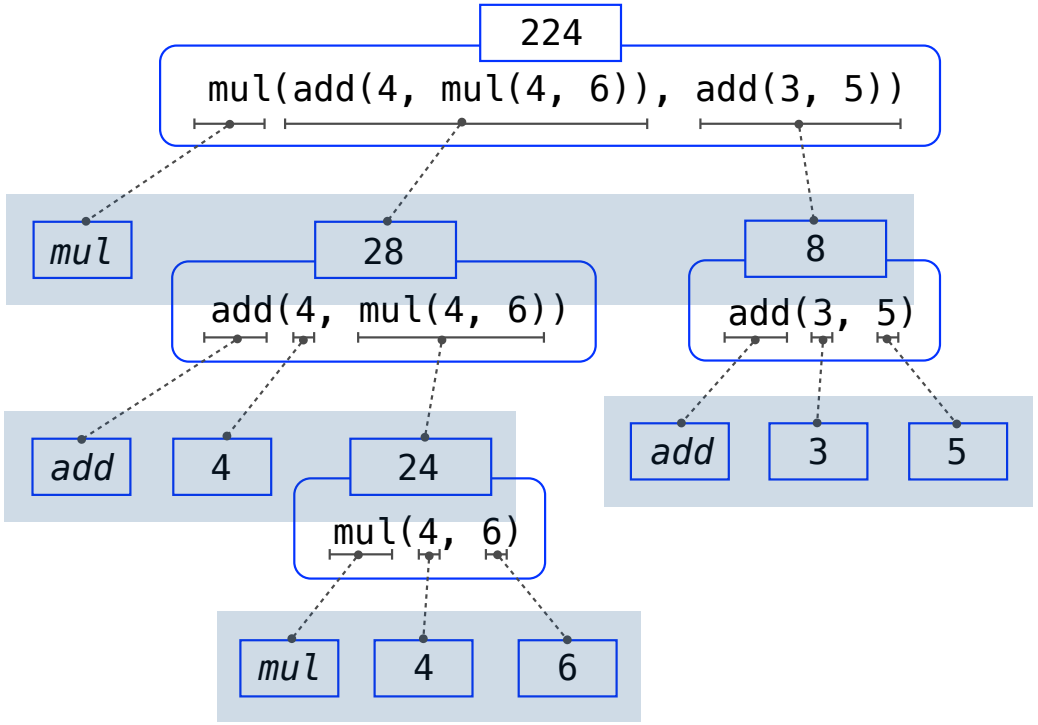

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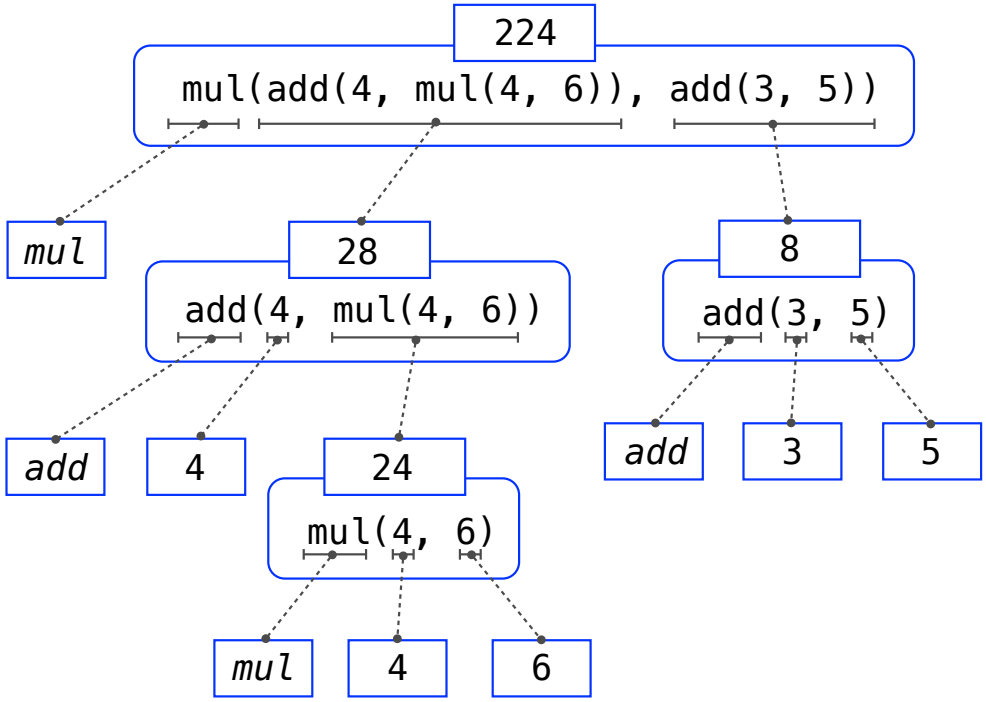

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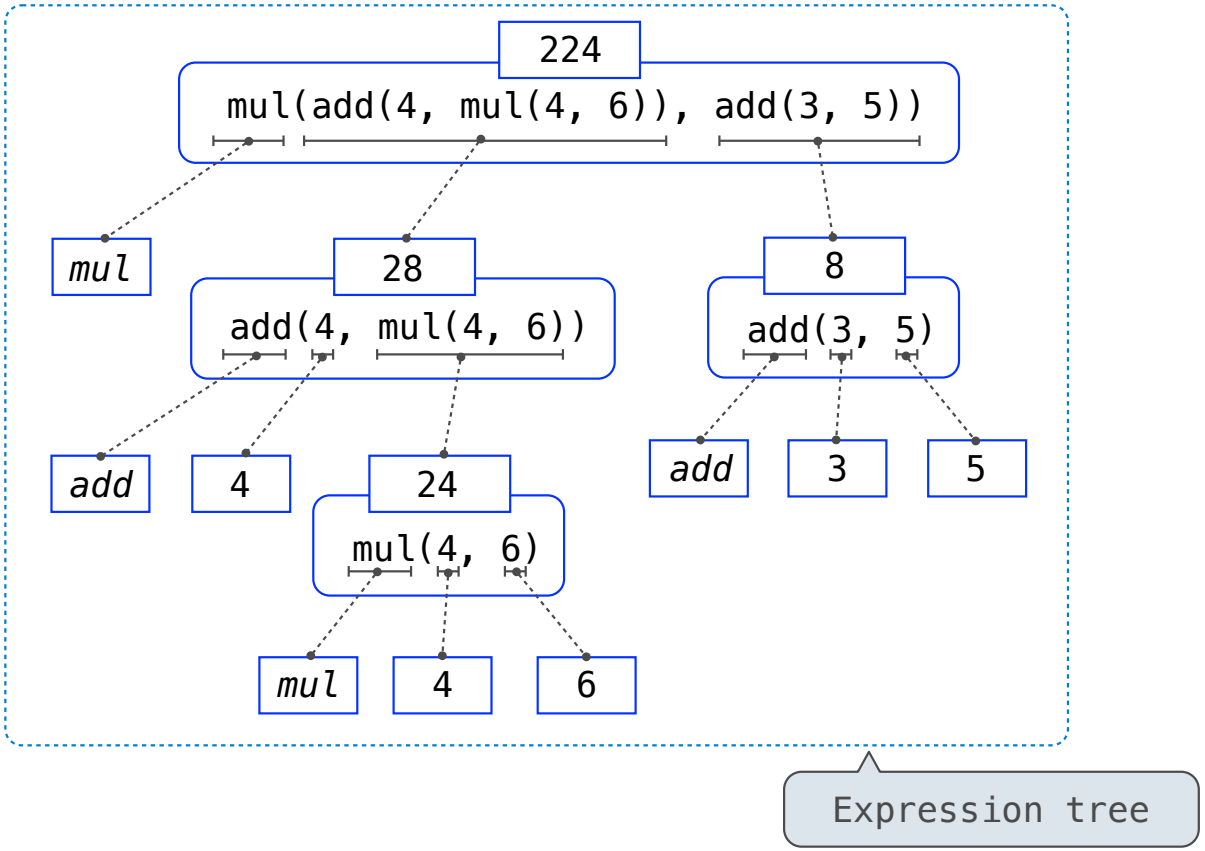

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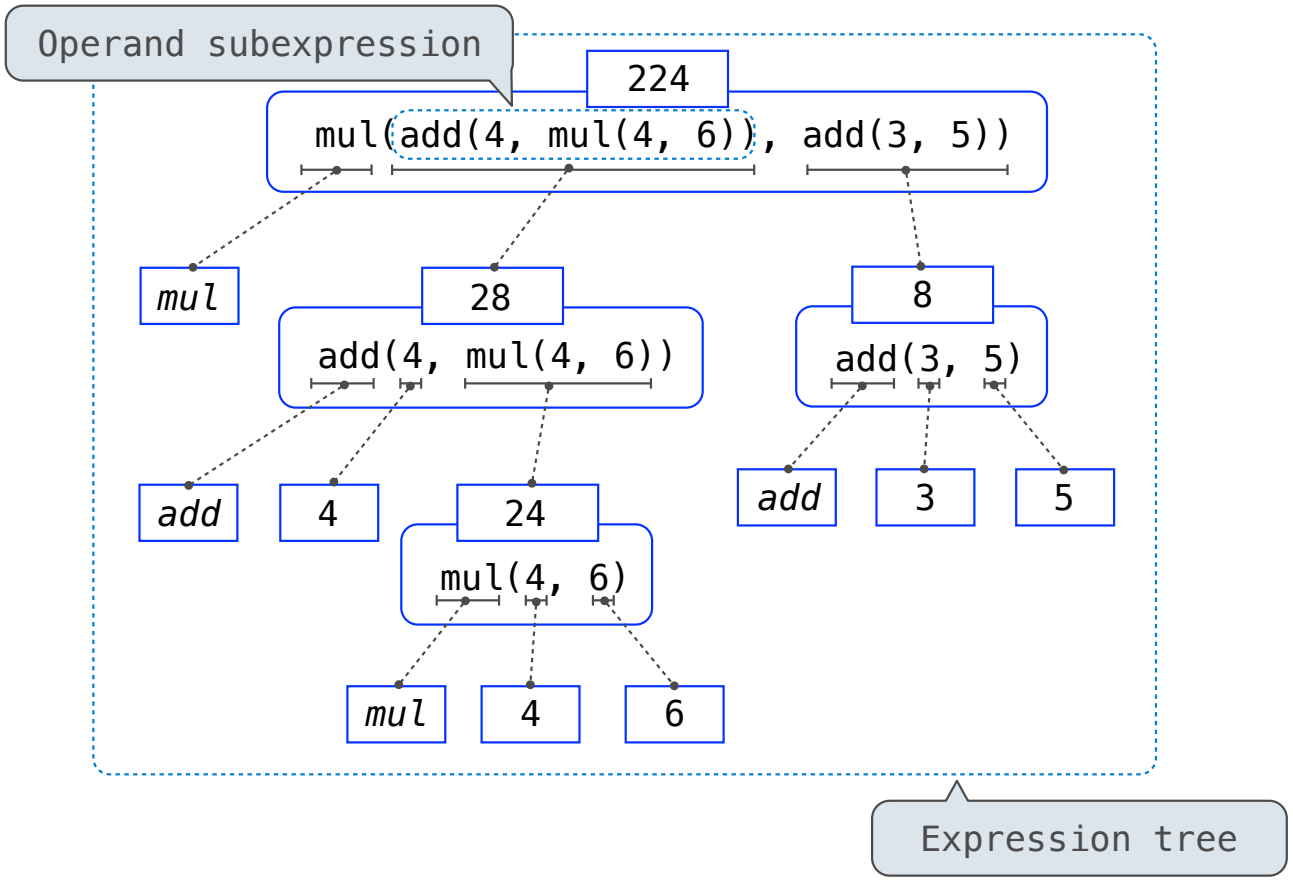

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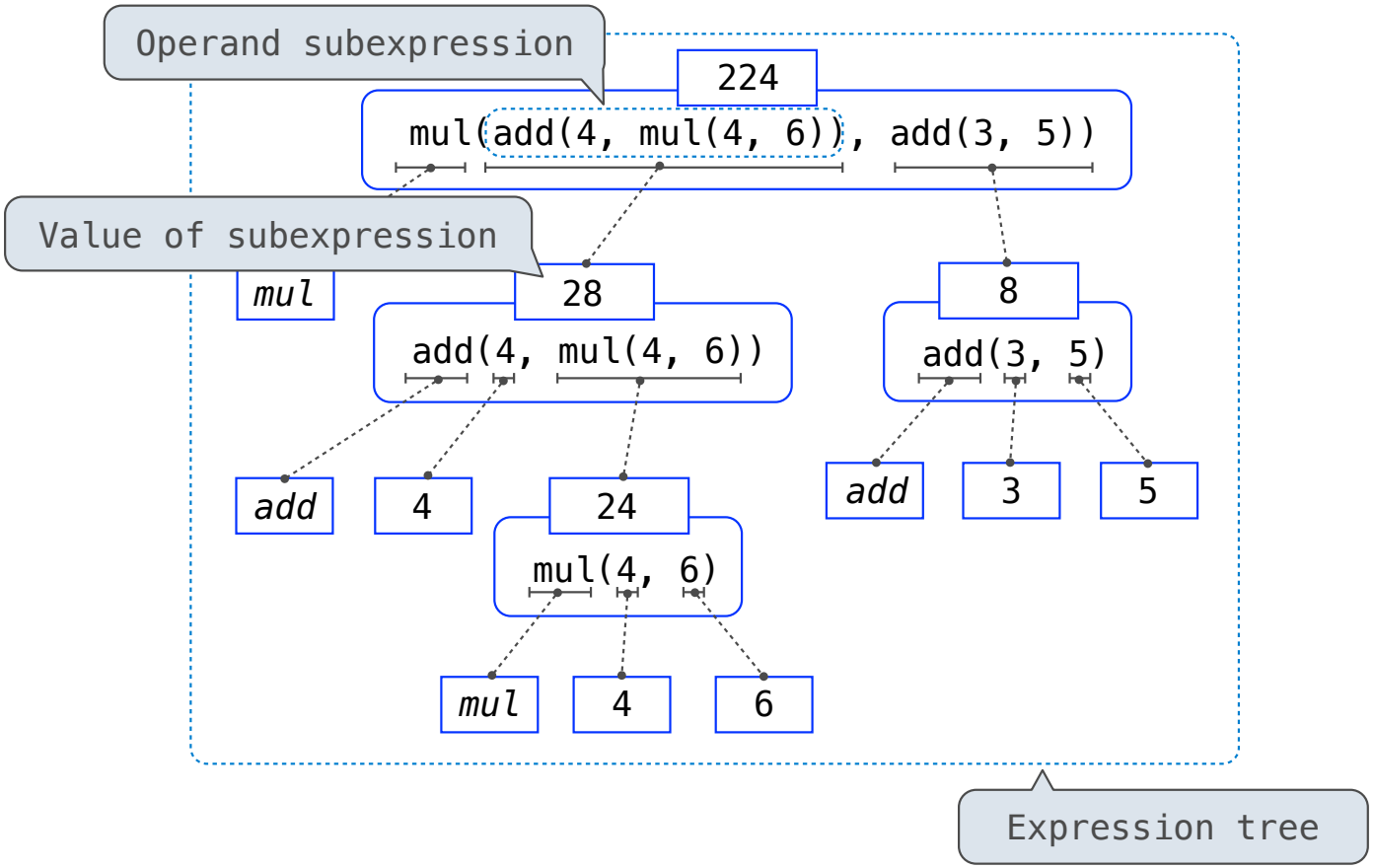

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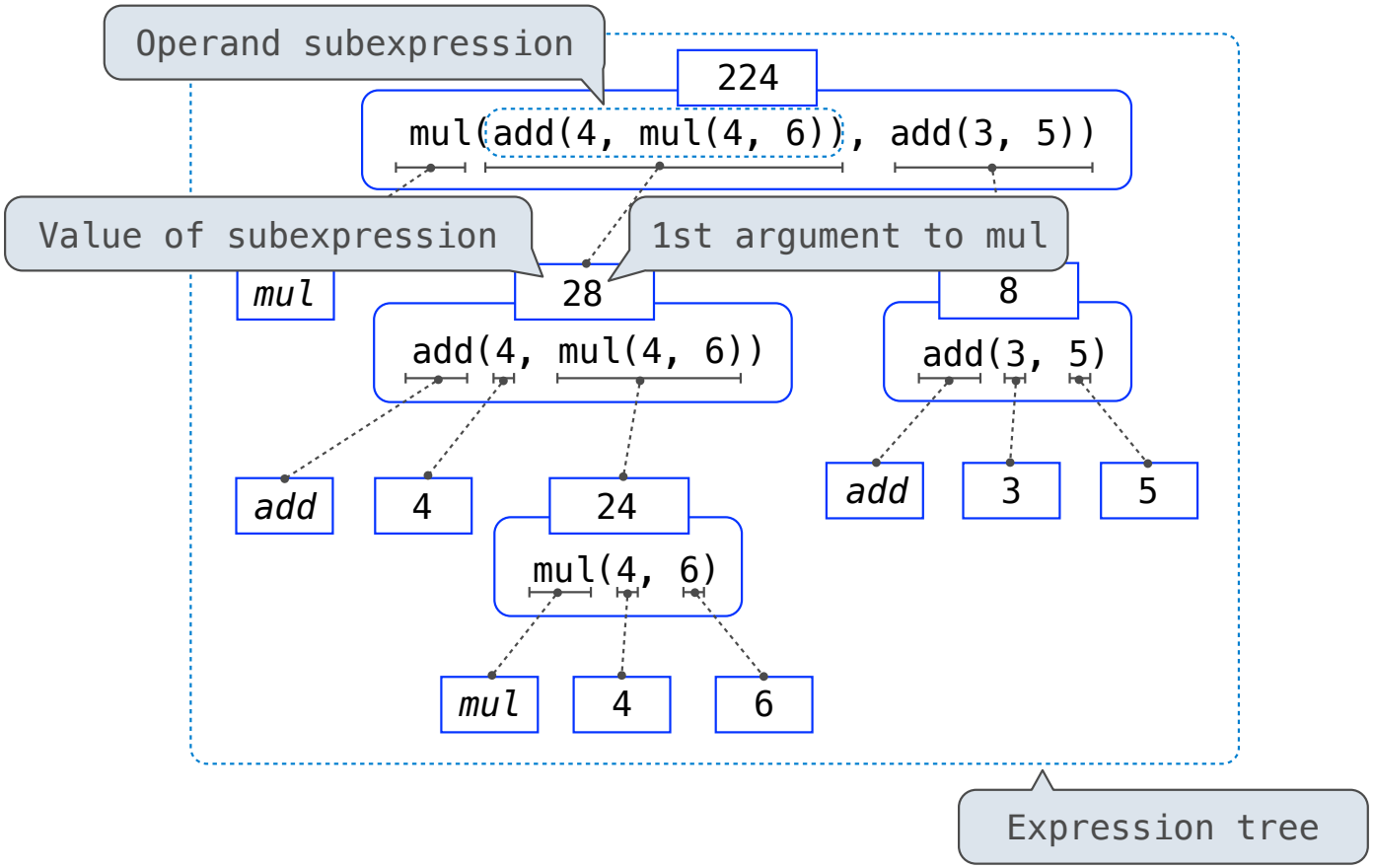

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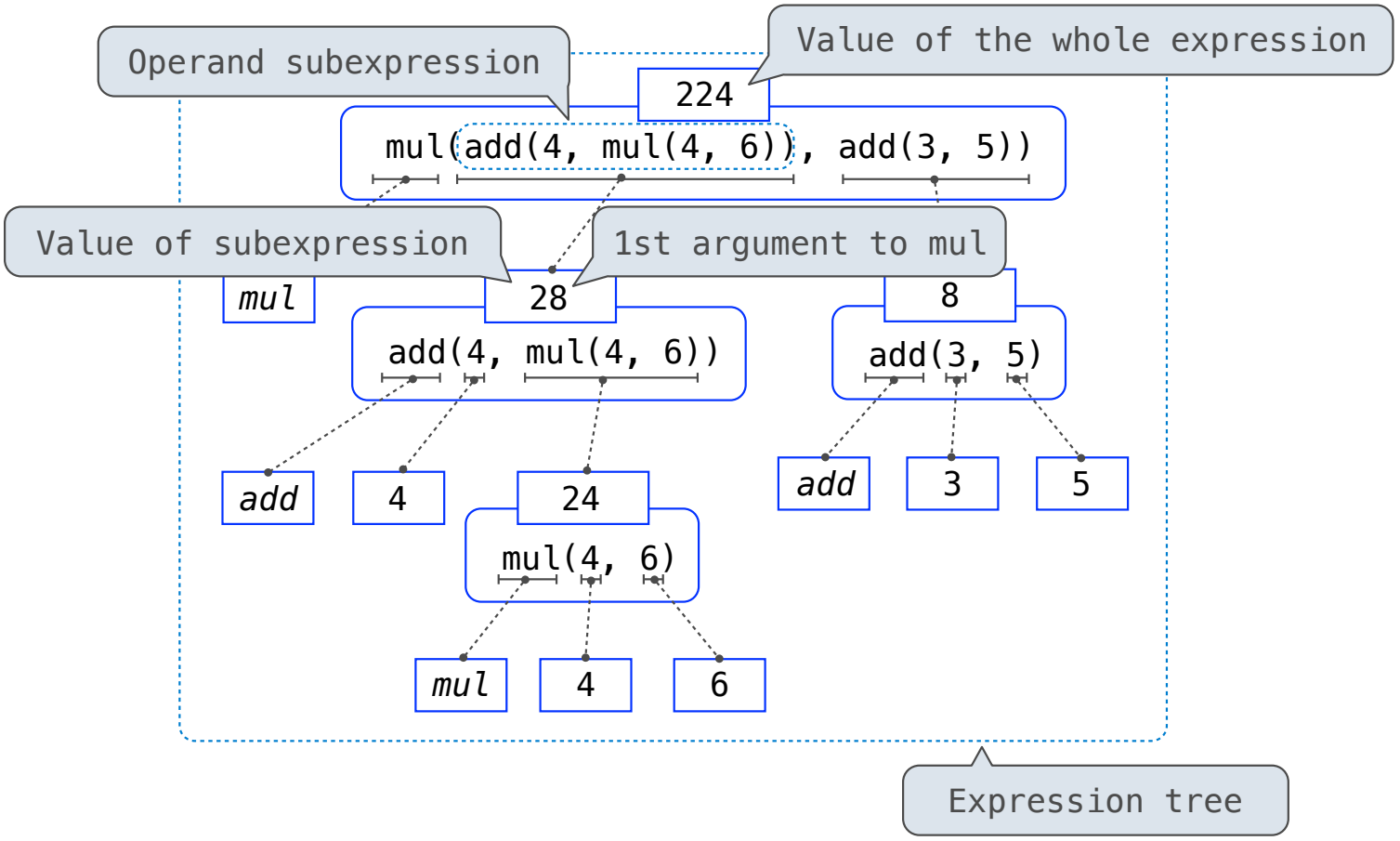

Functions, Values, Objects, Interpreters, and Data

(Demo)