61A Lecture 1

Wednesday, August 26, 2015

Welcome to Berkeley Computer Science!

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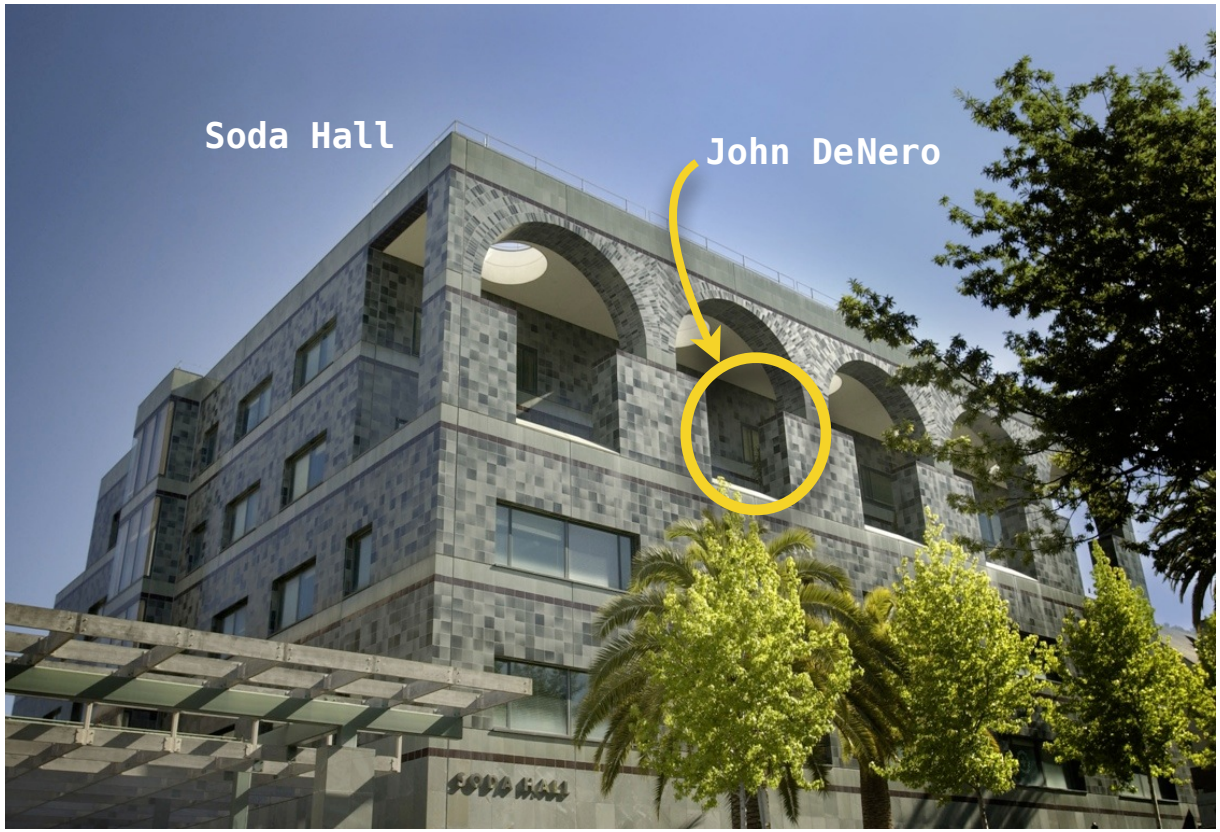

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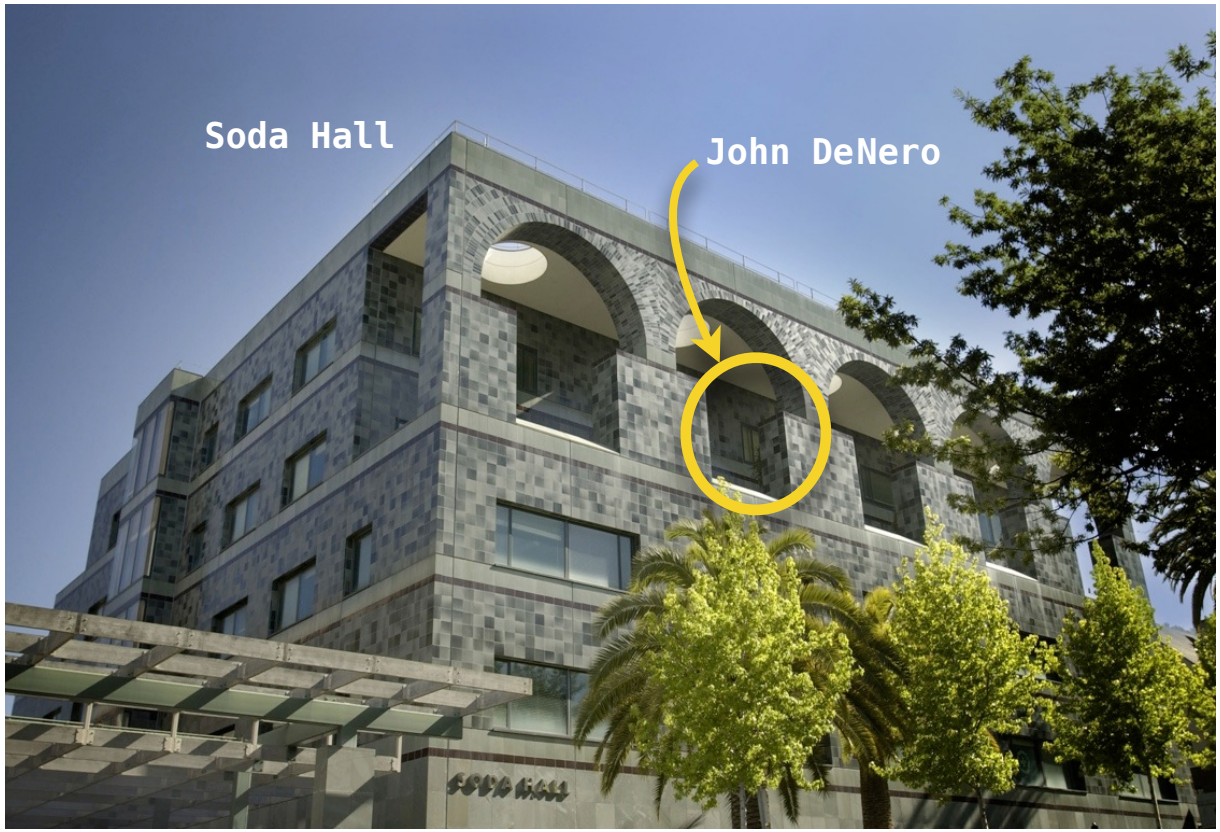

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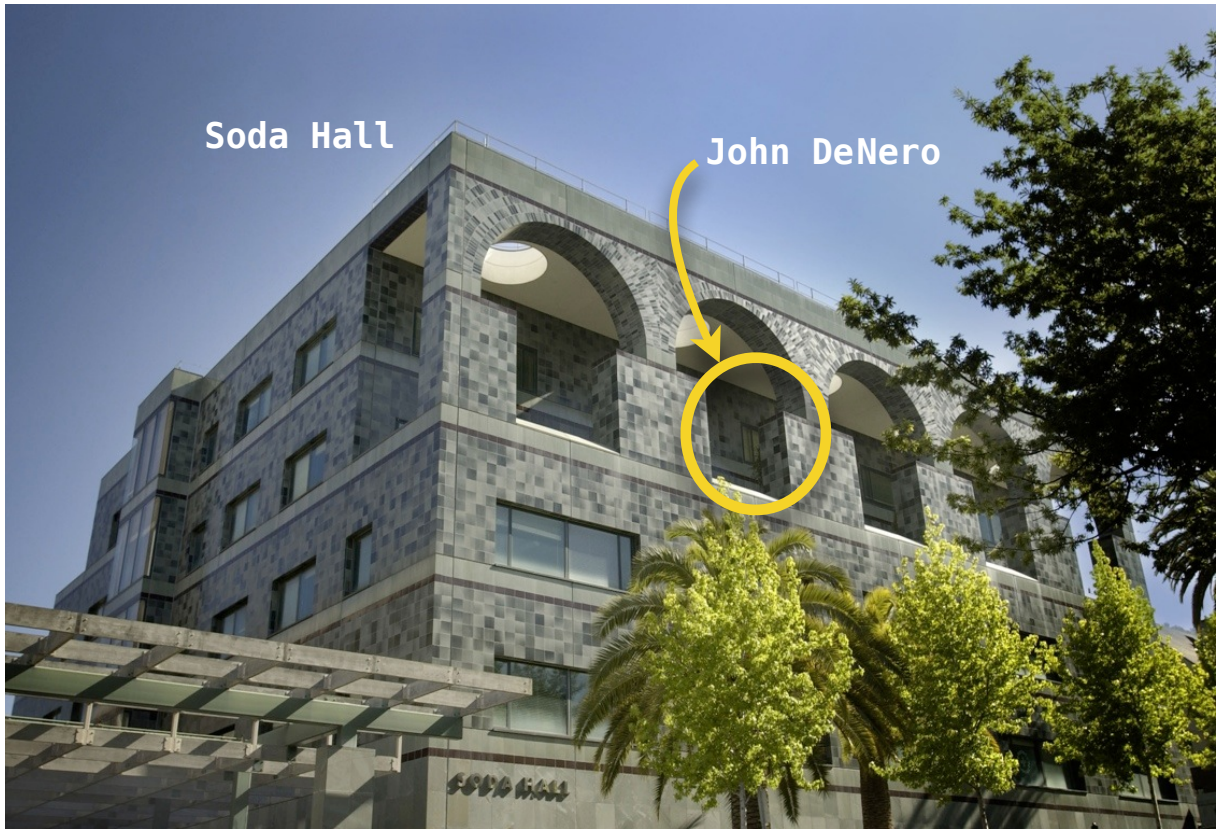

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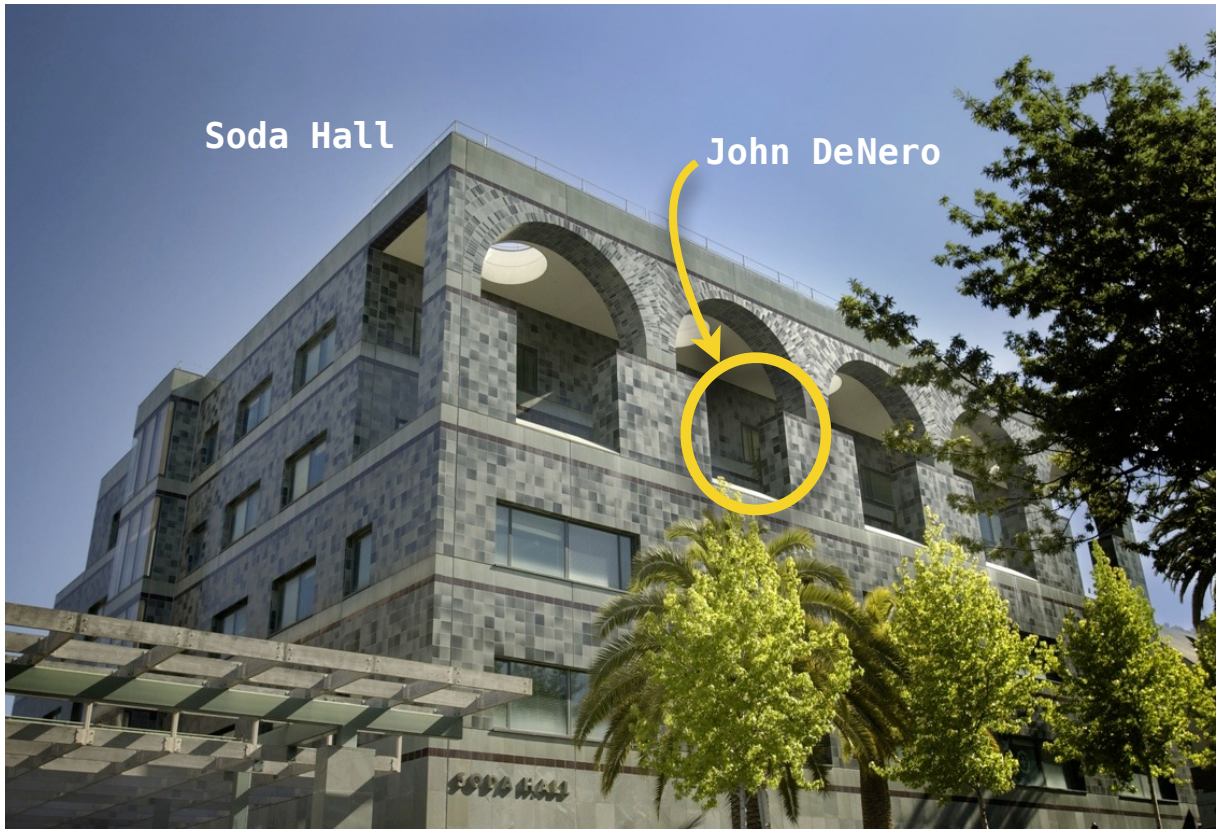

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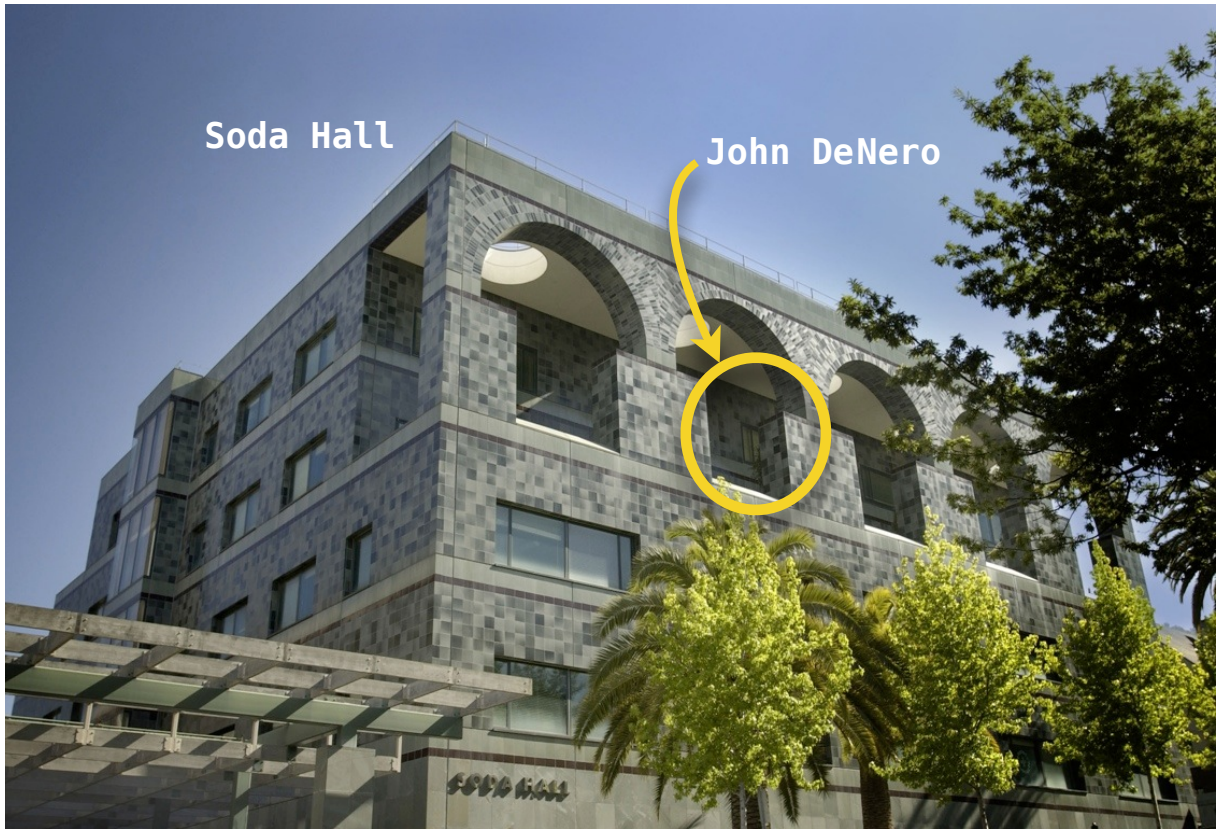

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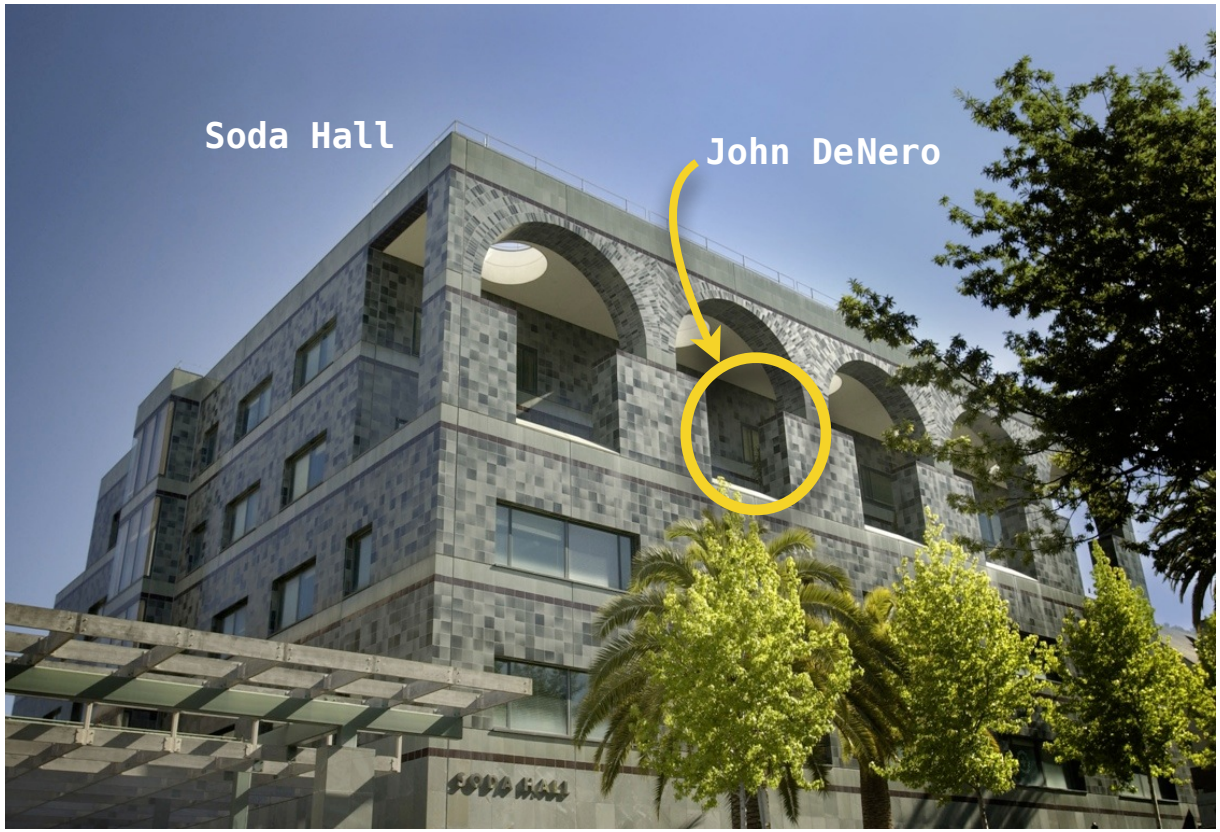

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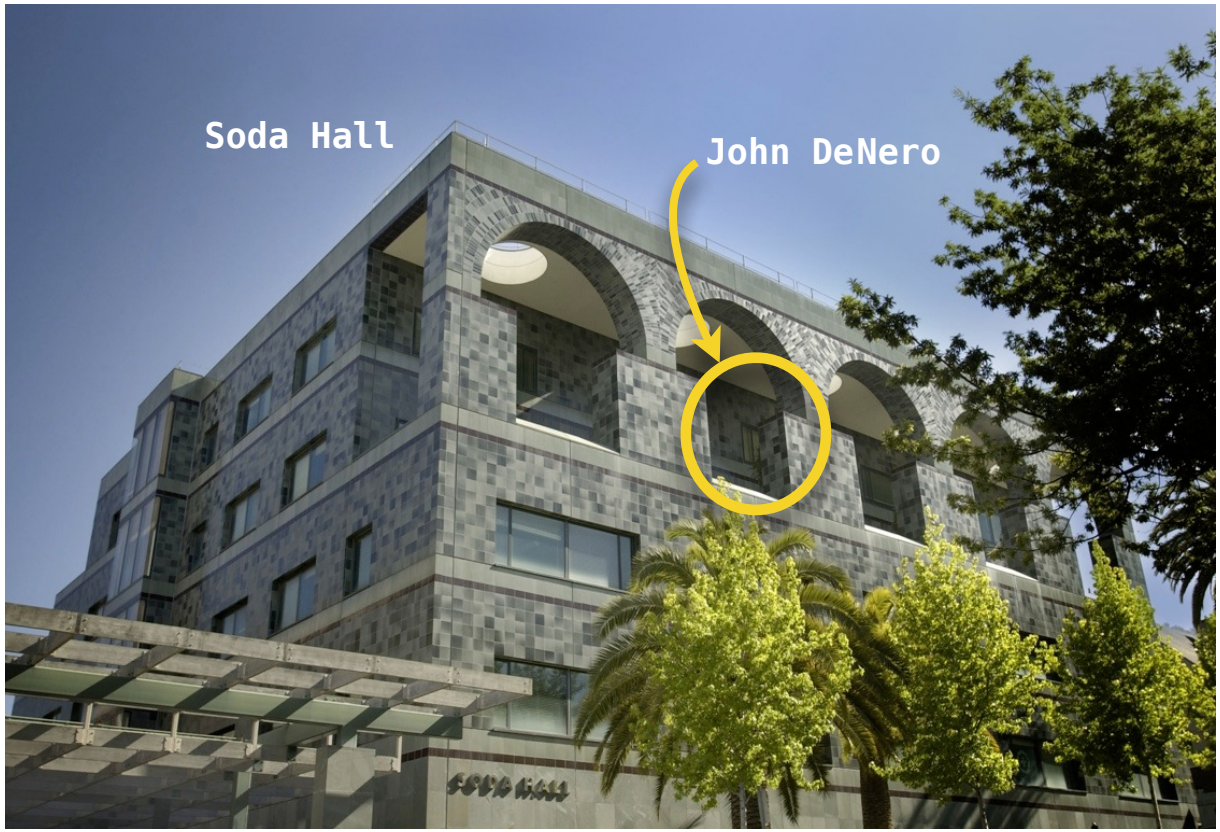

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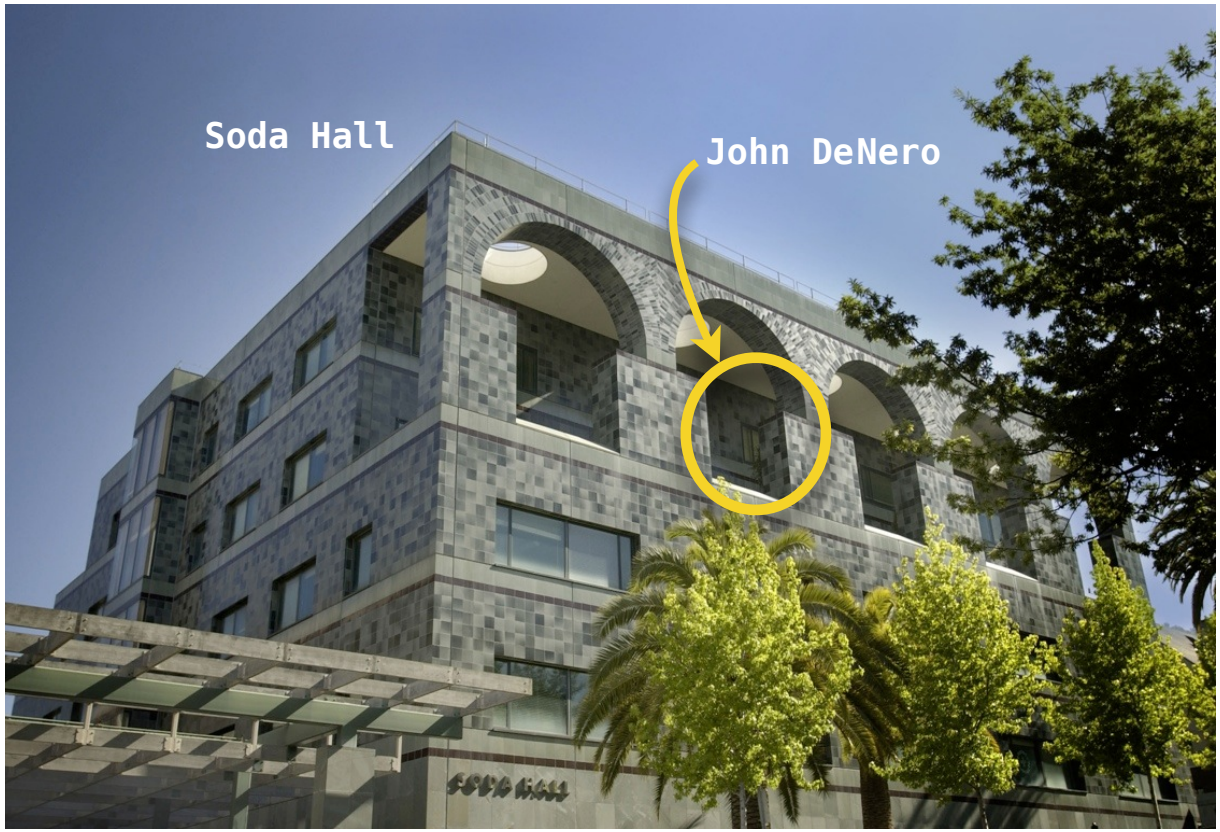

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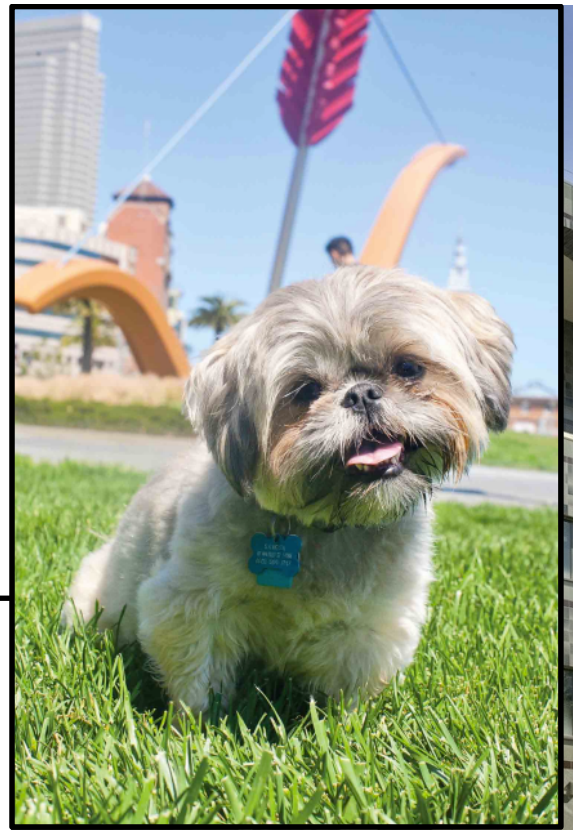

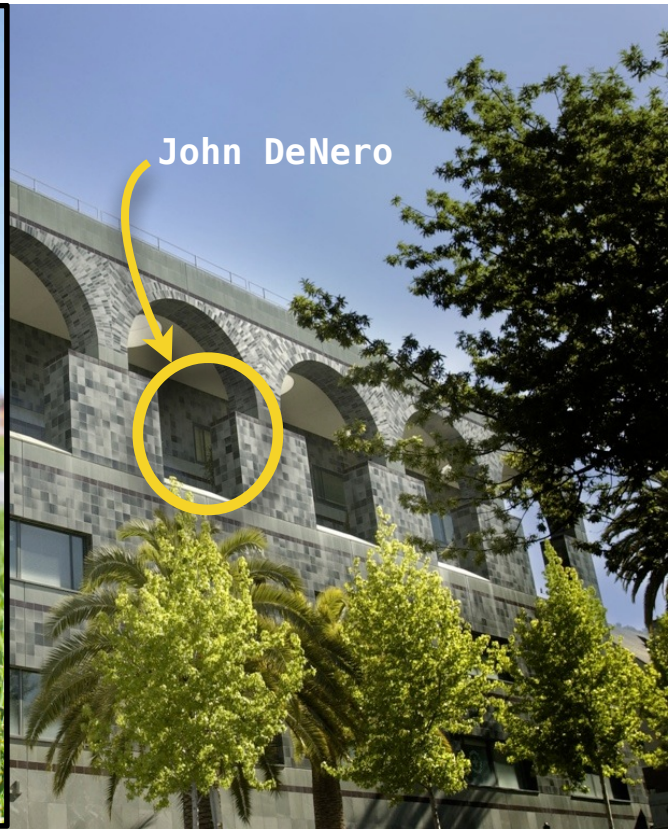

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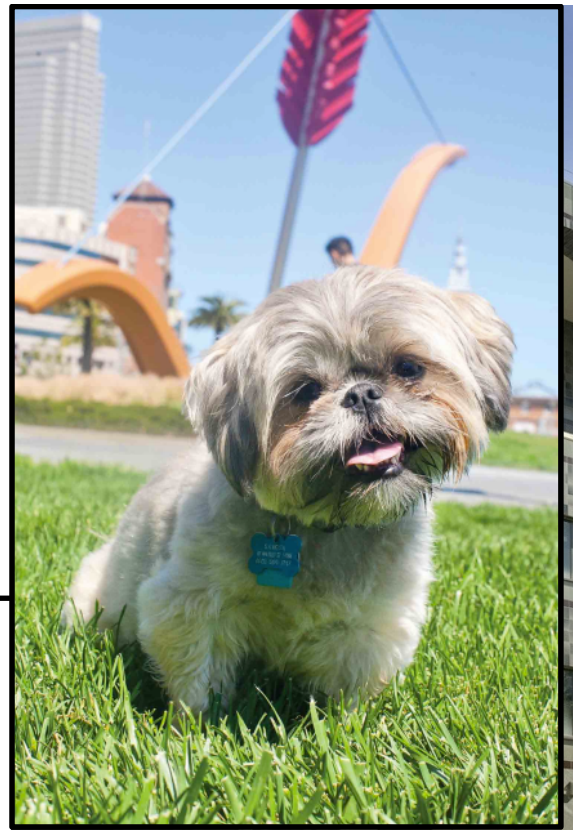

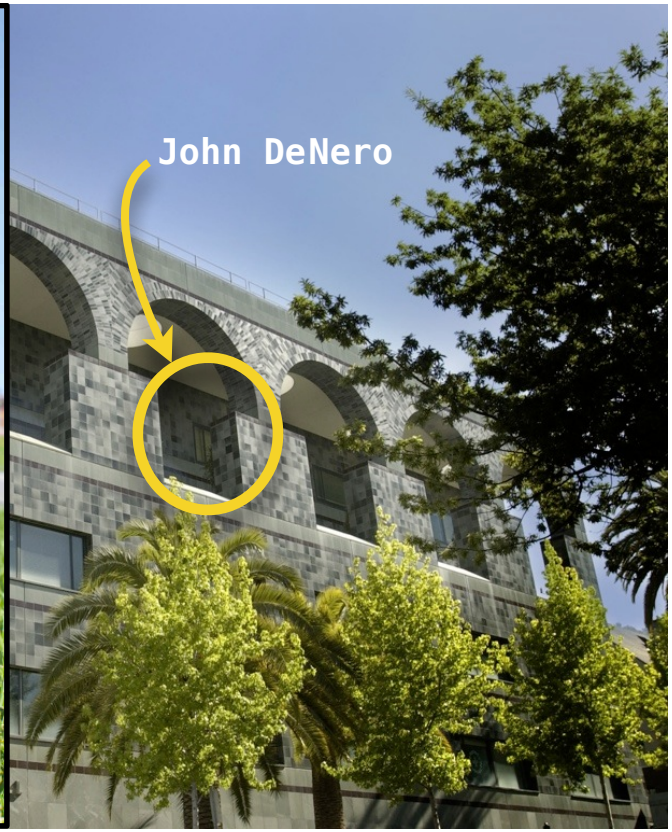

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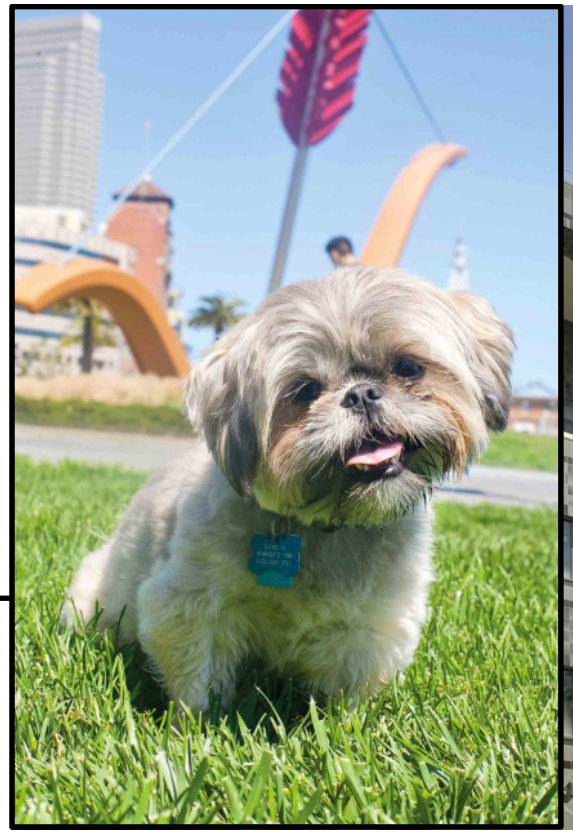

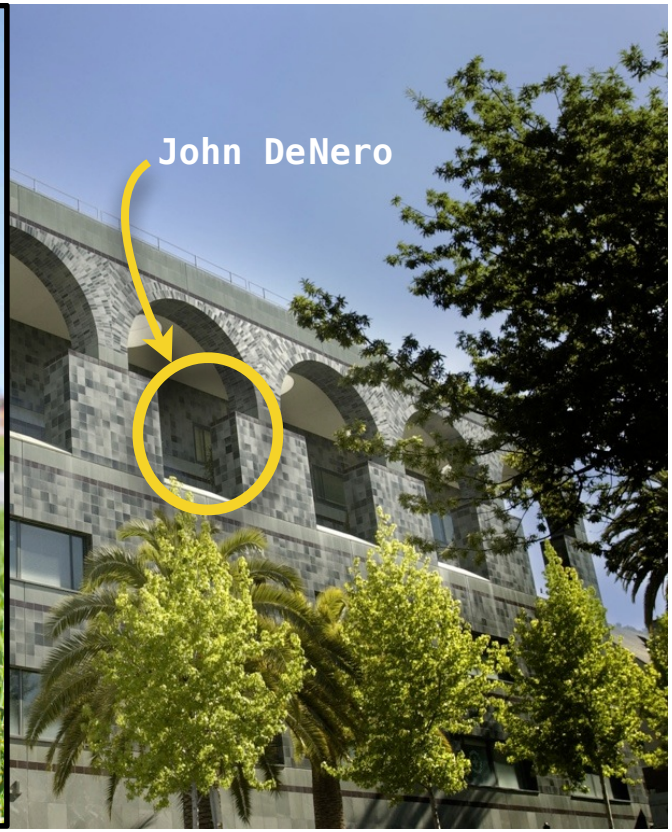

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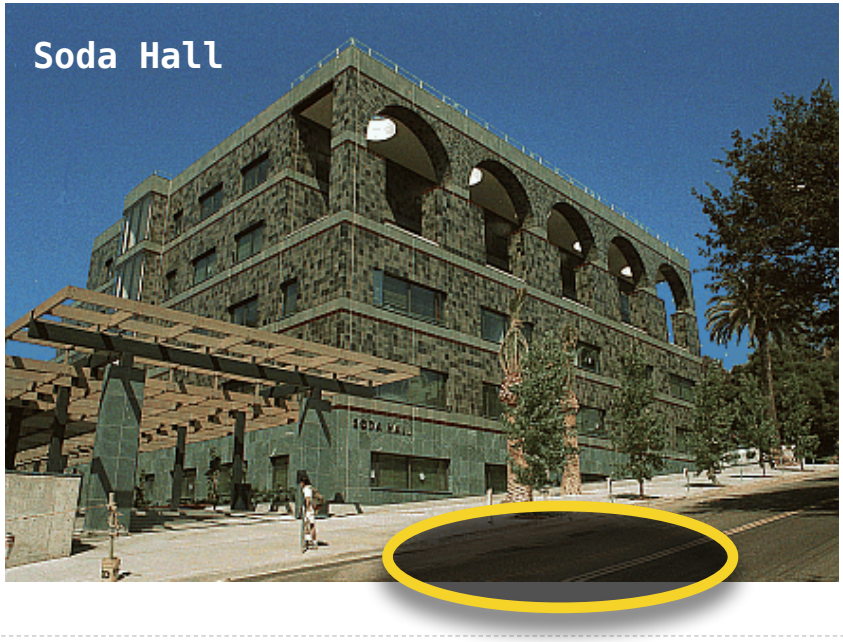

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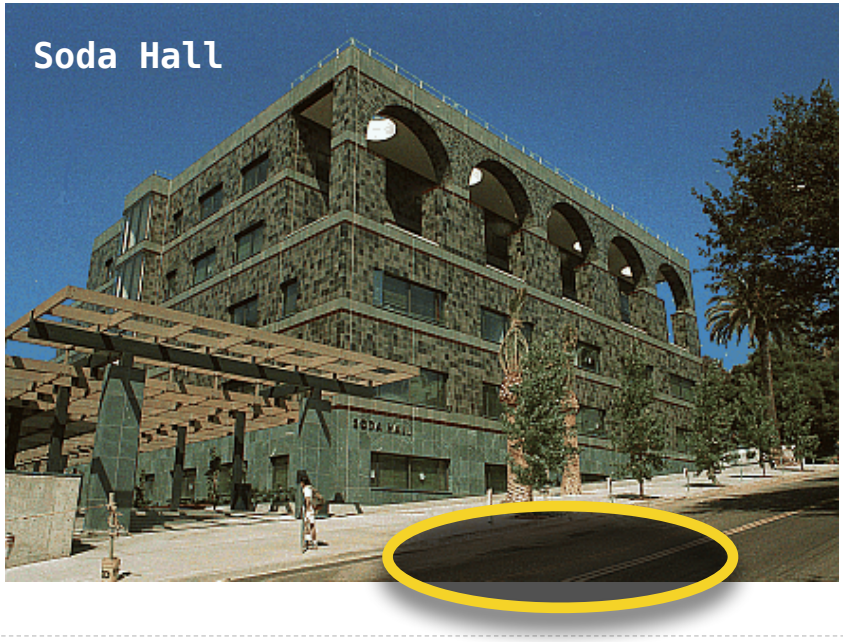

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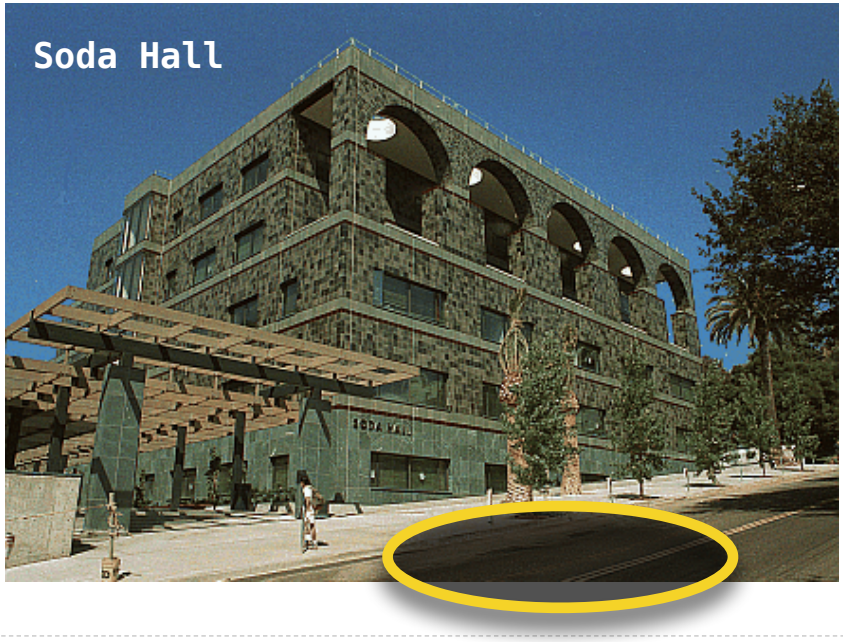

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An Introduction to Computer Science

What is Computer Science?

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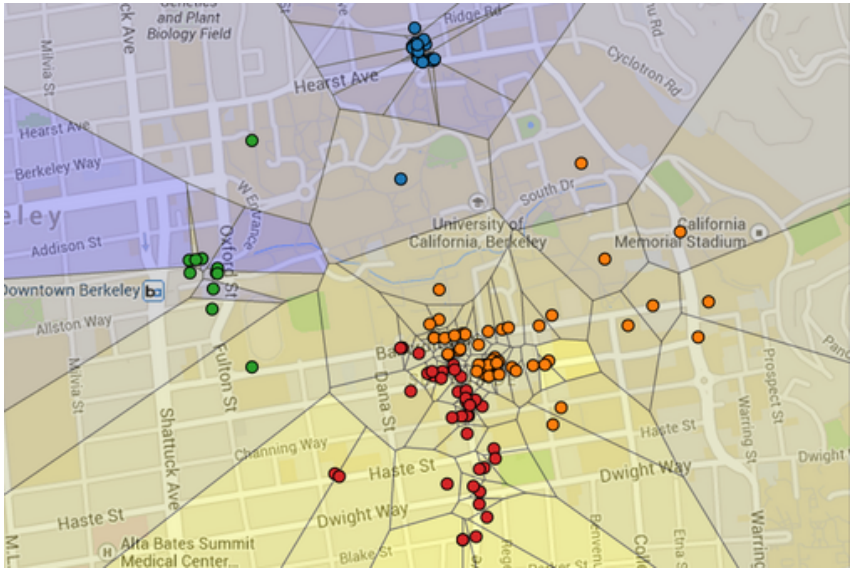

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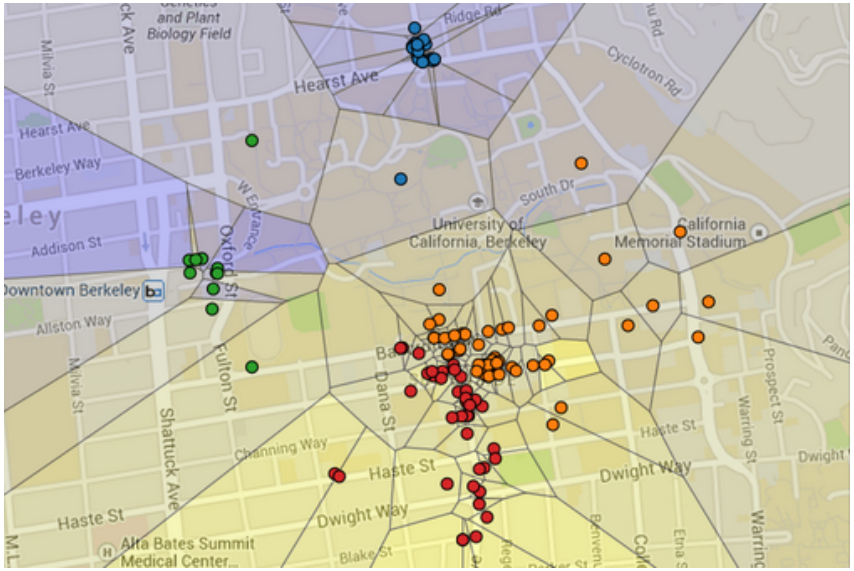

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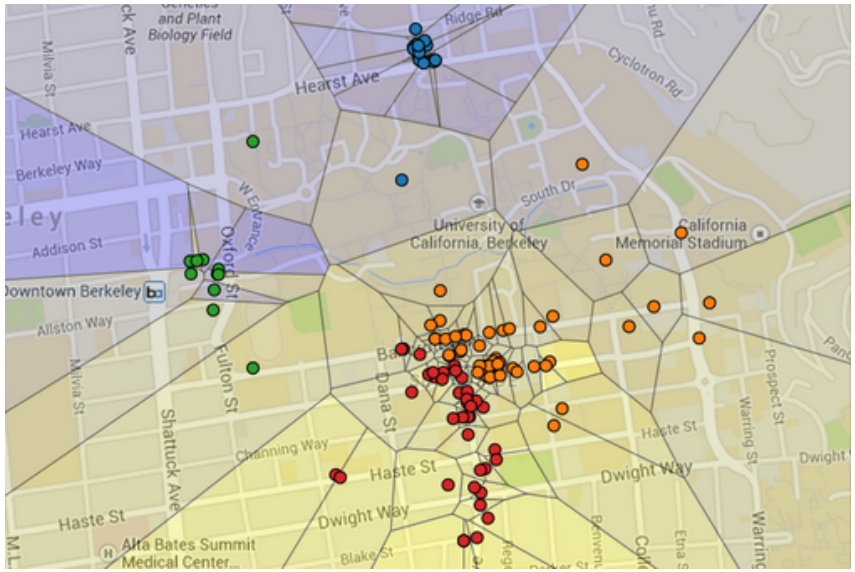

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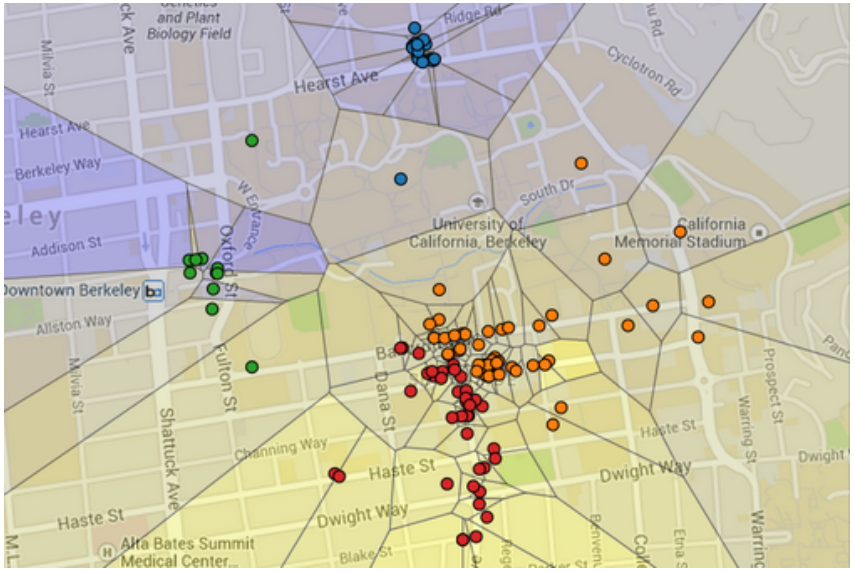

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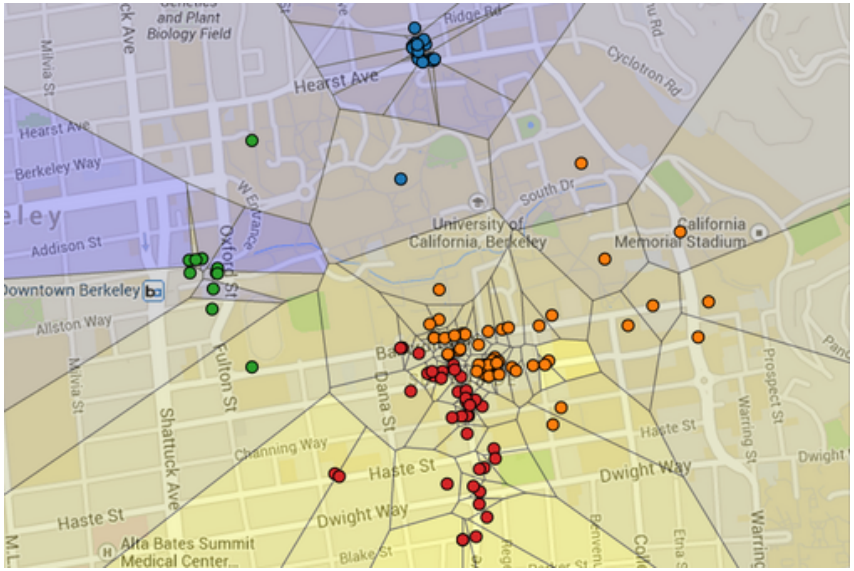

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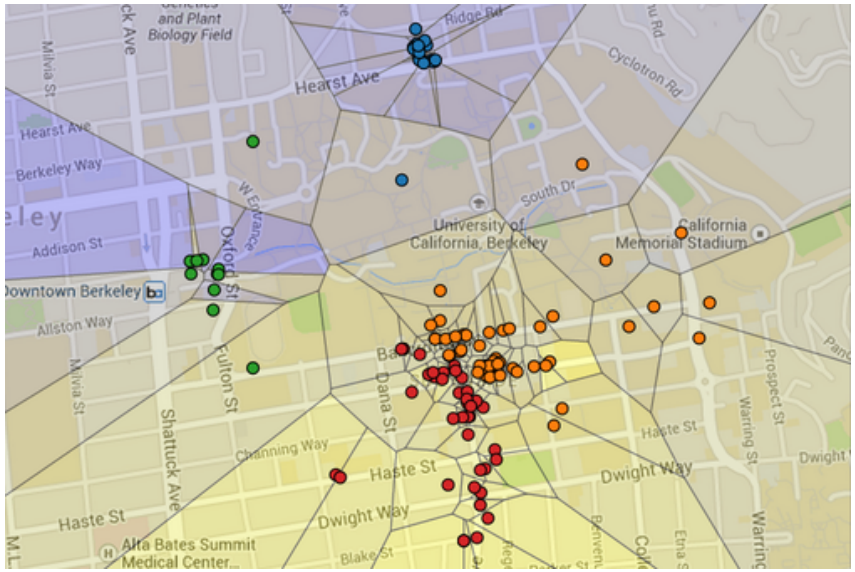
- A challenging course that will demand a lot of you



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Other Courses

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Extra content for people without prior programming experience

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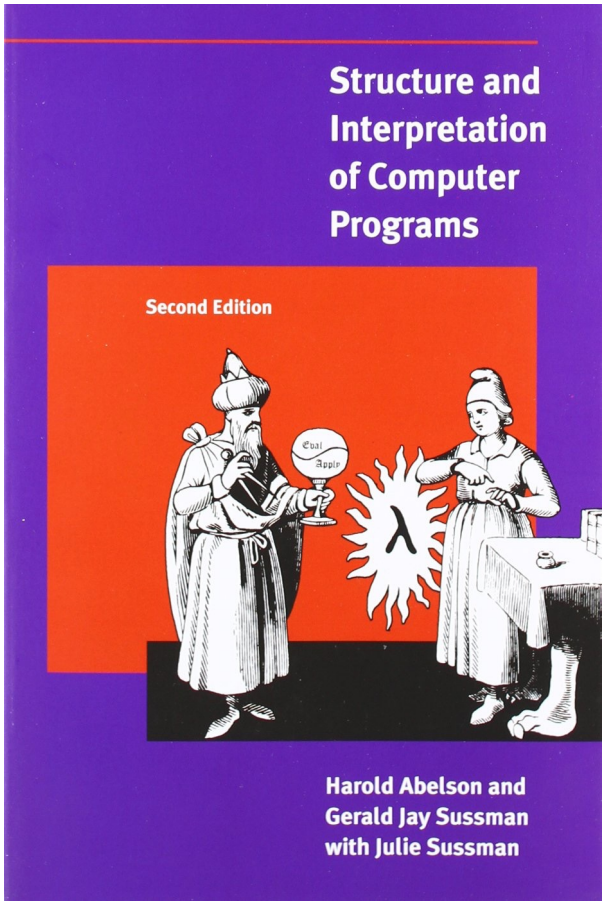

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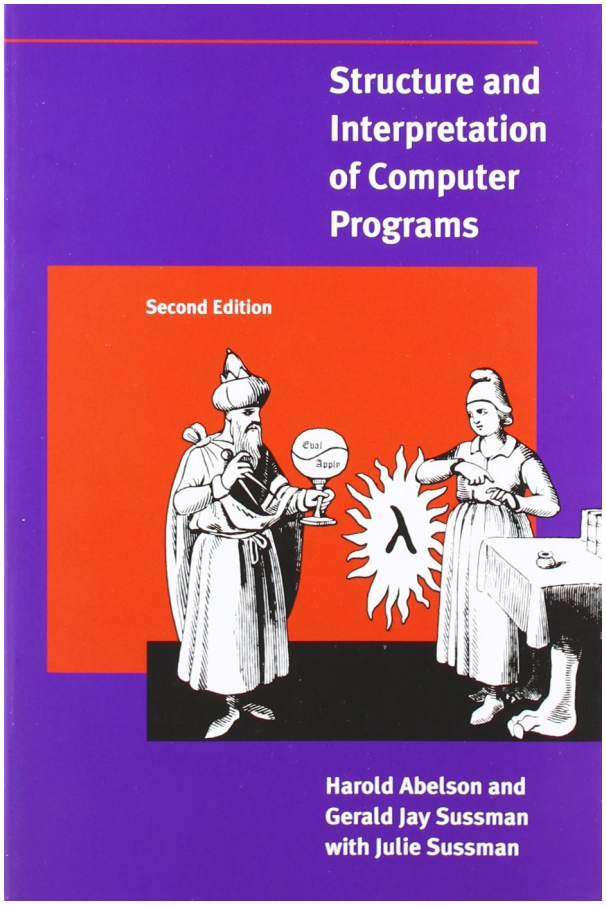

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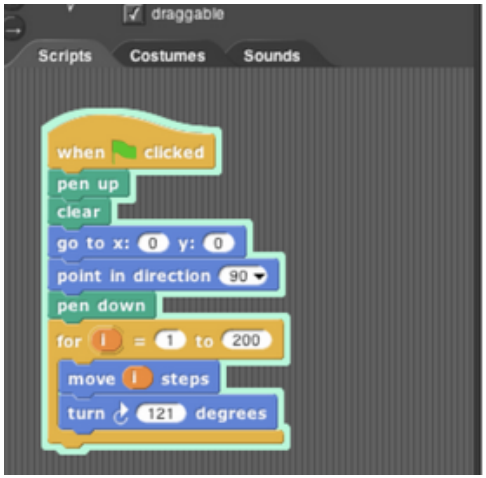

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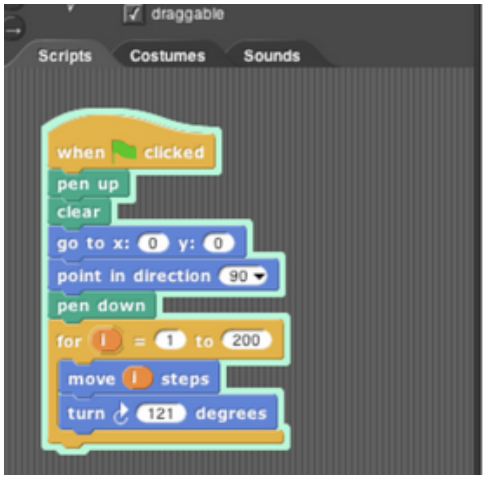

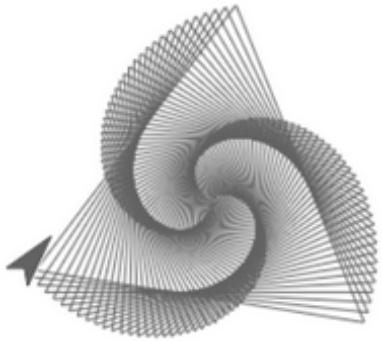

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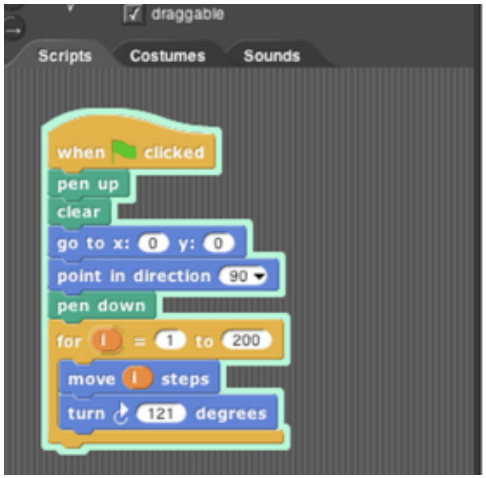

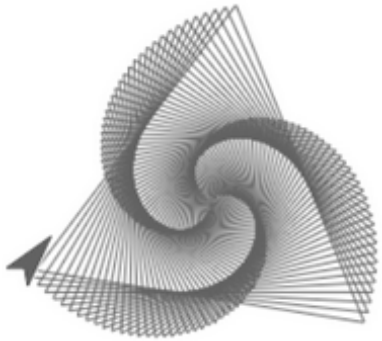

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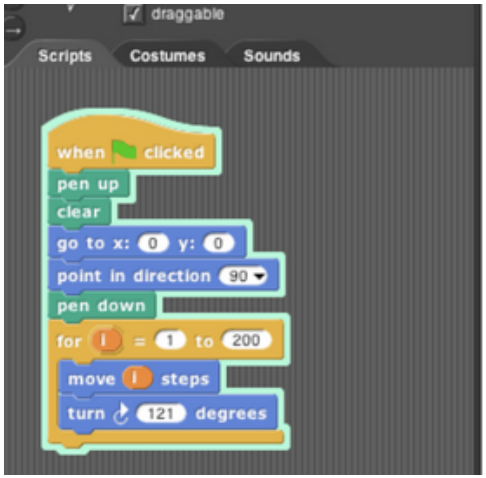

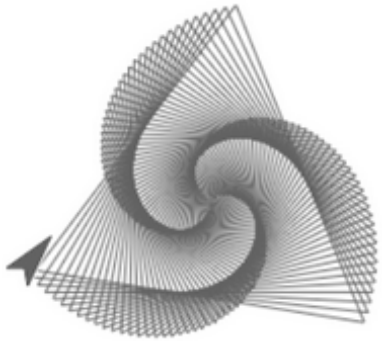

Data Science 8: Foundations of Data Science

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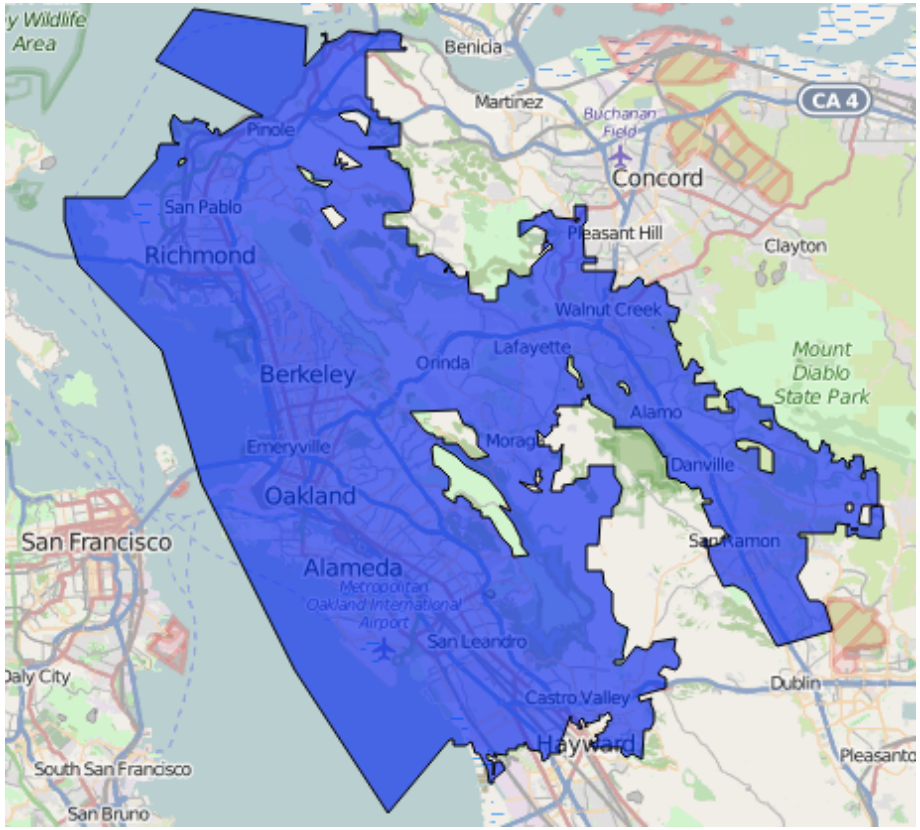
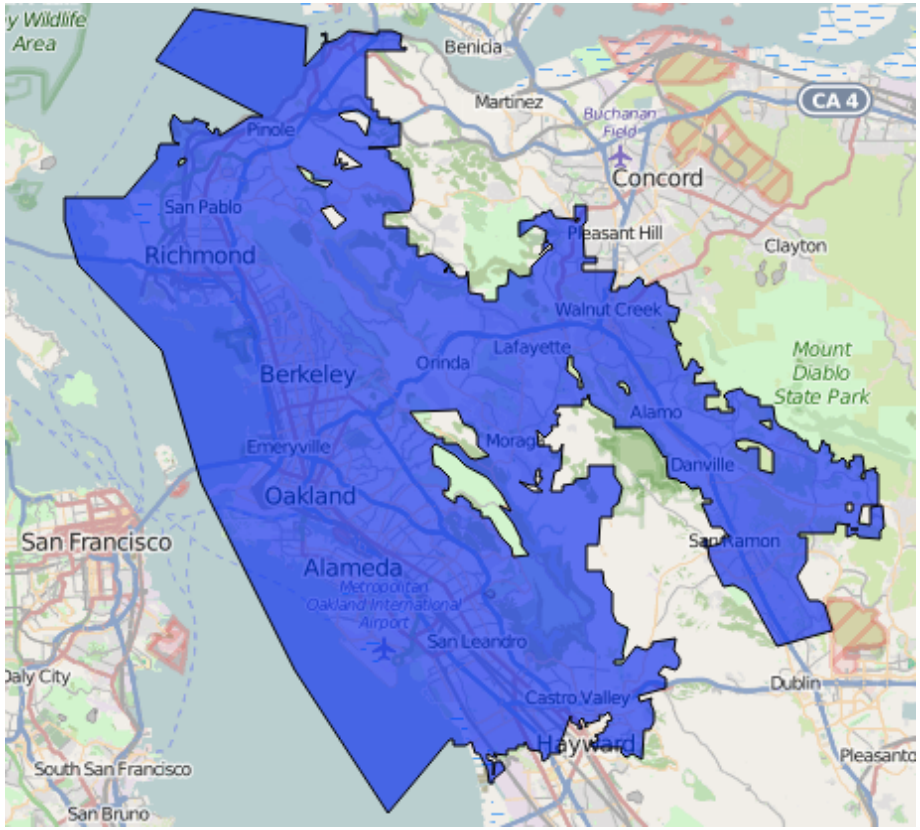


Data Science 8: Foundations of Data Science

Fundamentals of computing and inference applied to real-world data

Great programming practice for CS 61A



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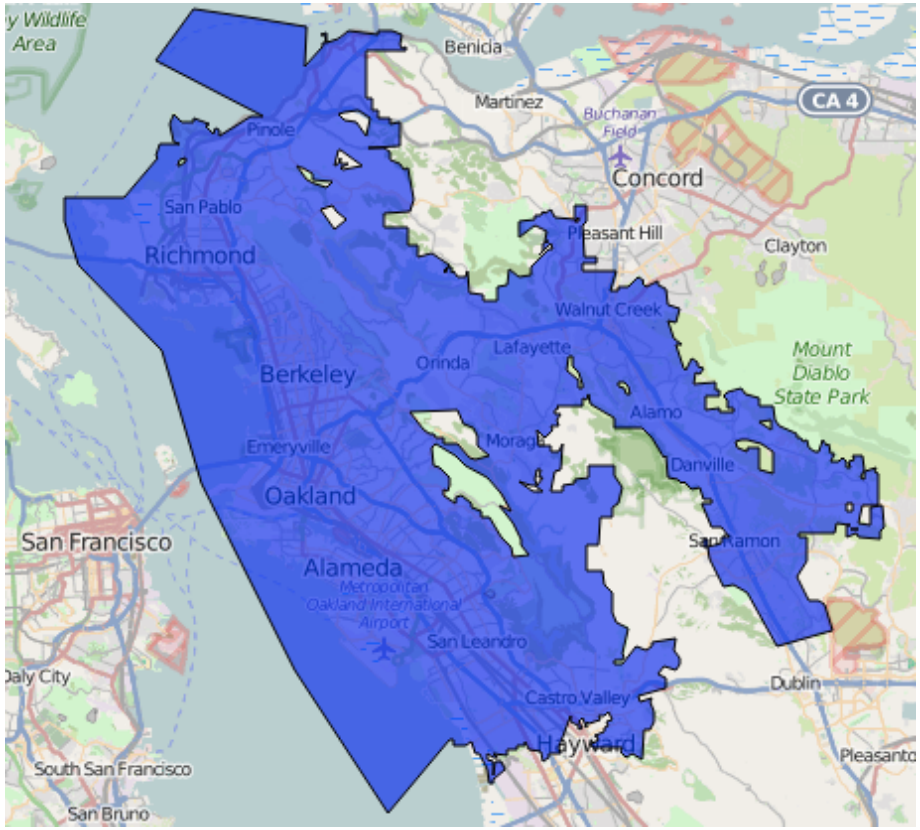
In Fall 2015, piloted as Stat 94 (CCN: 87470)



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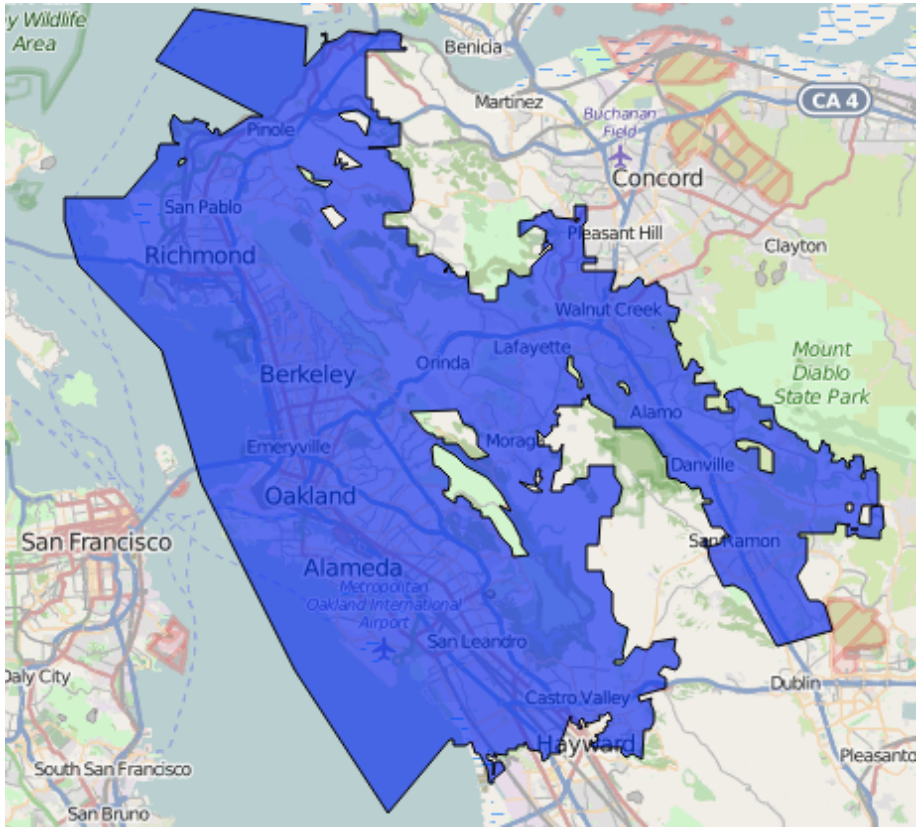
More info: data8.org & databears.berkeley.edu



Course Policies

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Community

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Details...

http://cs61a.org/about.html

Collaboration

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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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$$18 + 69$$

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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

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

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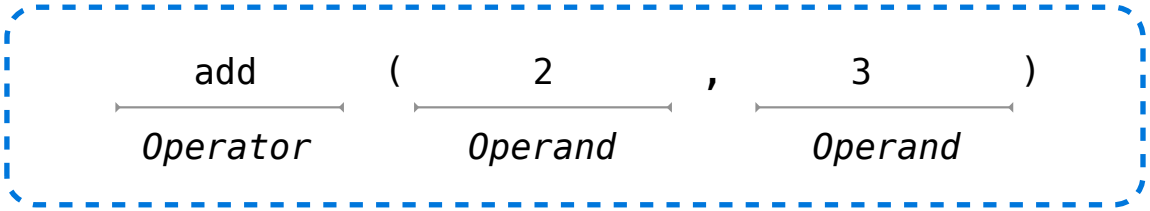
```
add ( 2 , 3 )
```

Operator

Anatomy of a Call Expression



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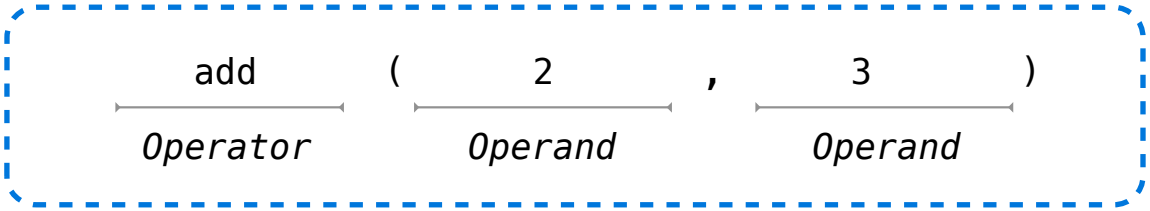
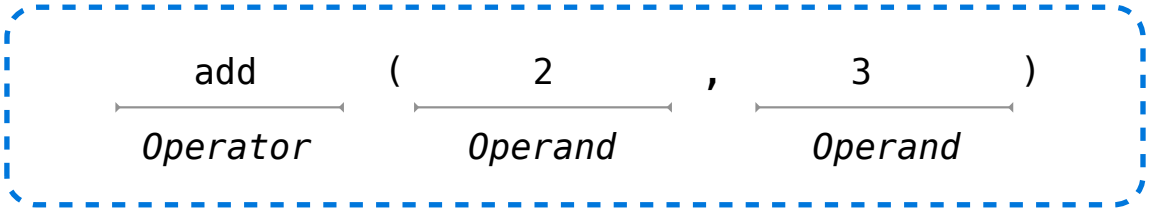


Operators and operands are also expressions

Anatomy of a Call Expression



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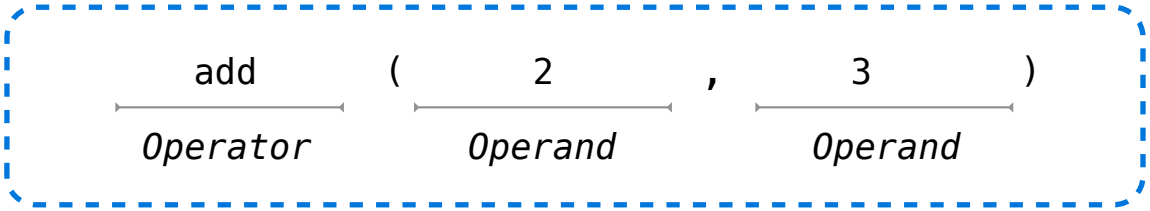

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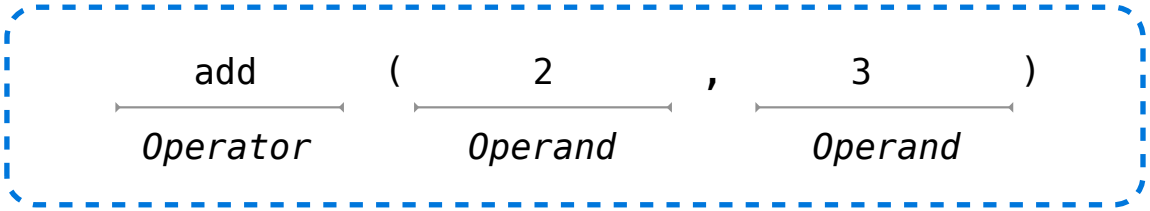
Evaluation procedure for call expressions:

Anatomy of a Call Expression



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1. Evaluate the operator and then the operand subexpressions

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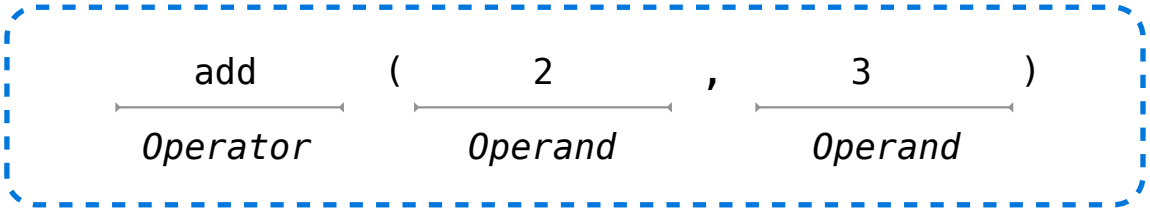

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So they evaluate to values

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))
```

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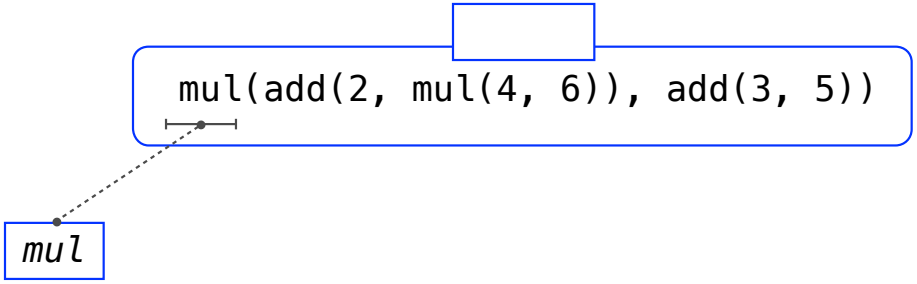

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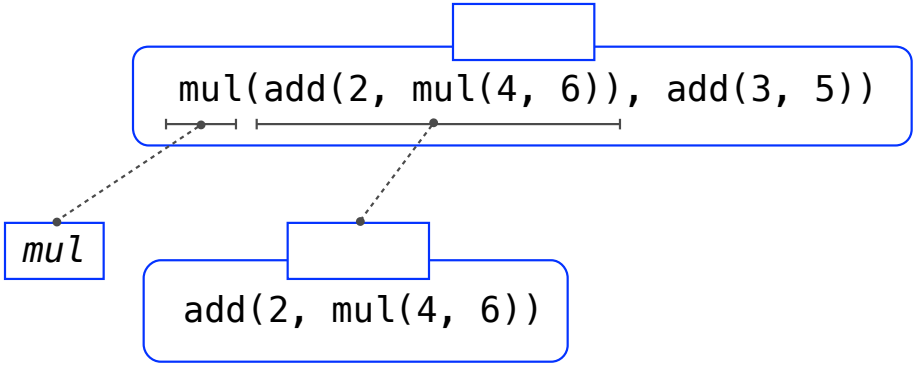

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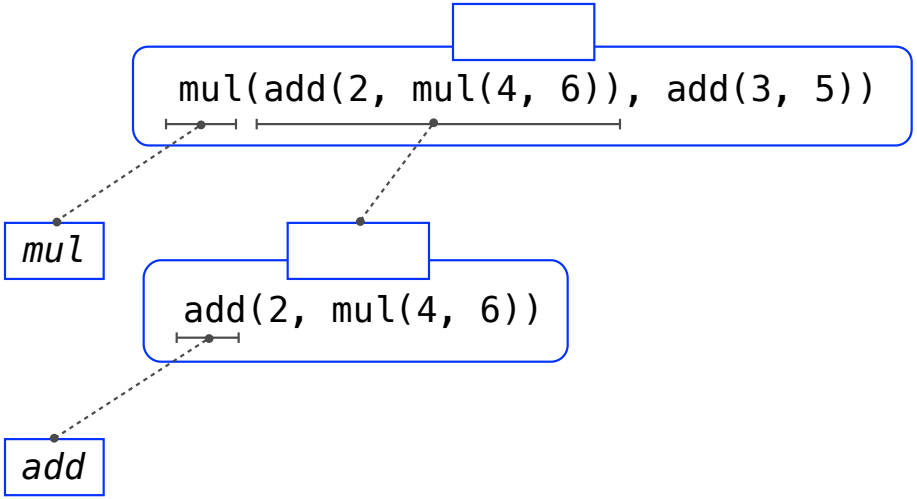

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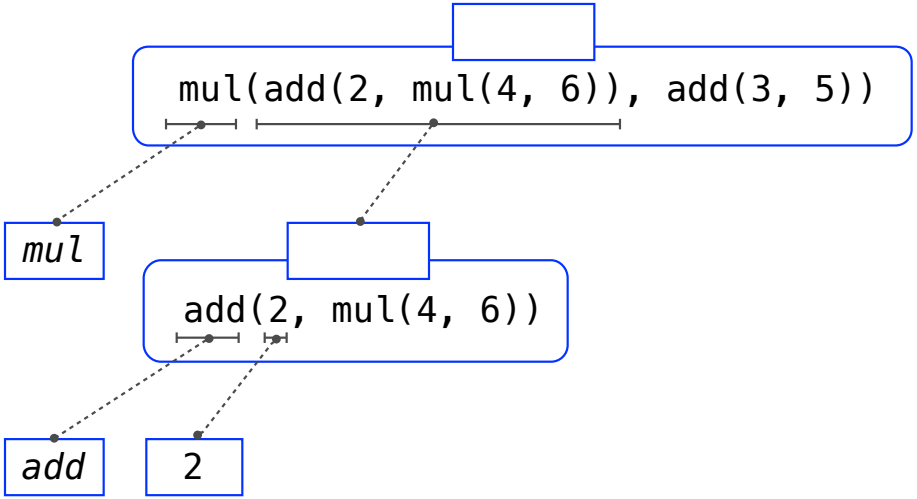

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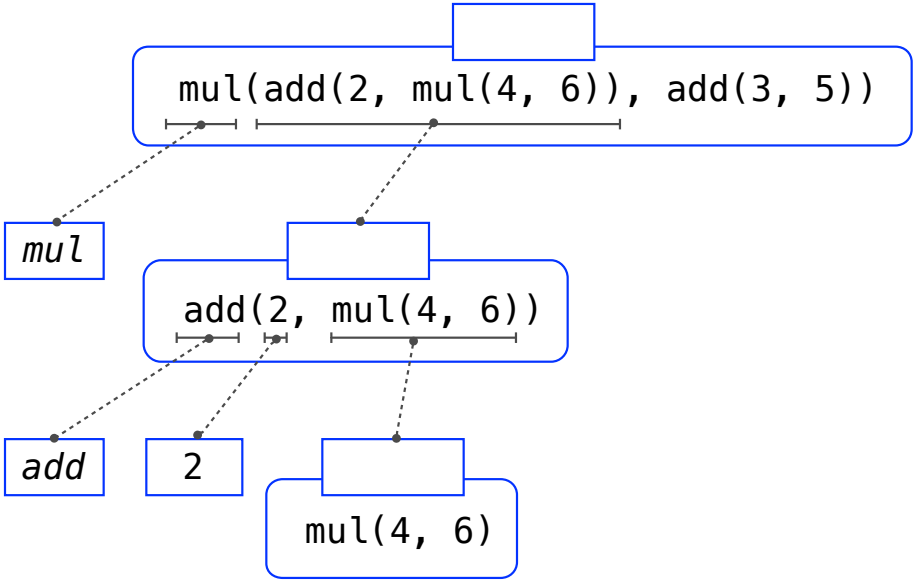

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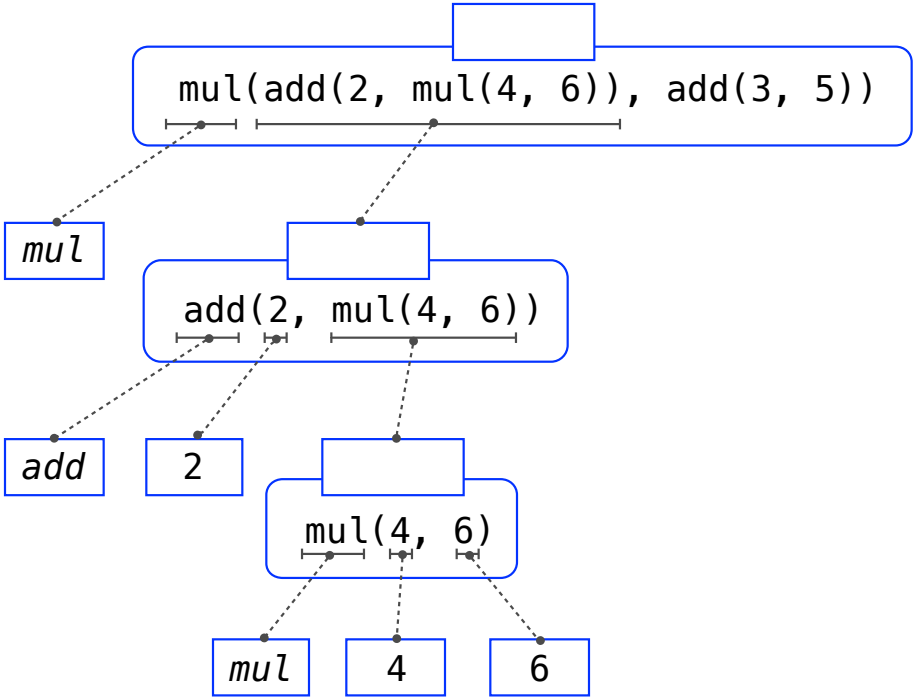

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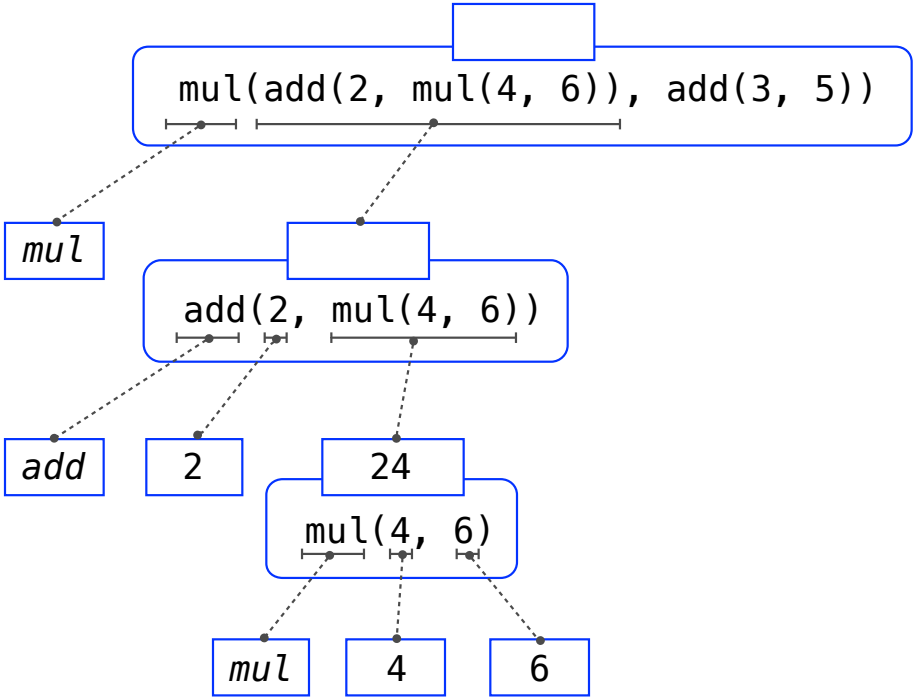

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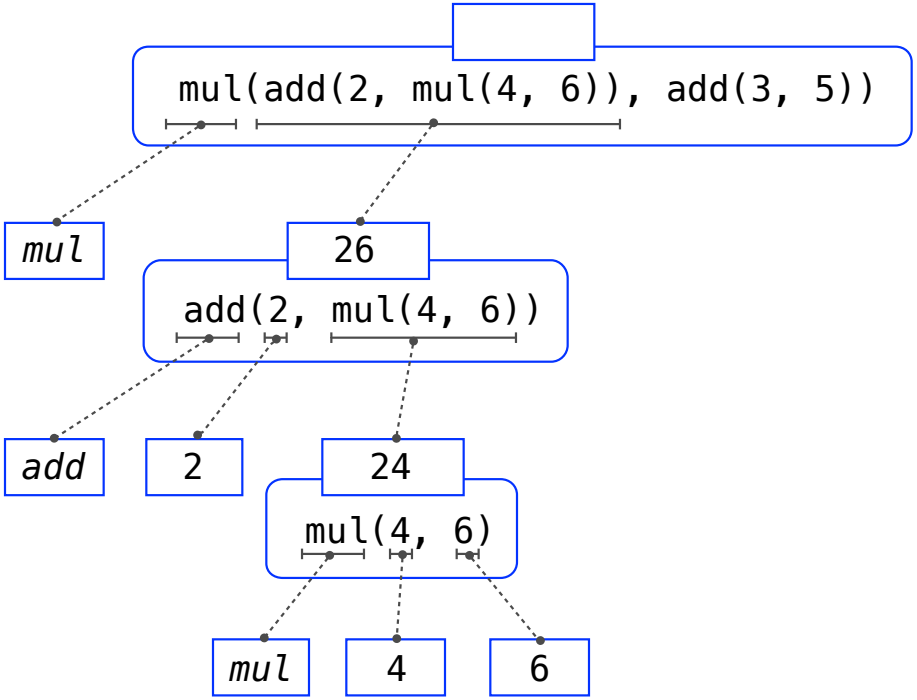

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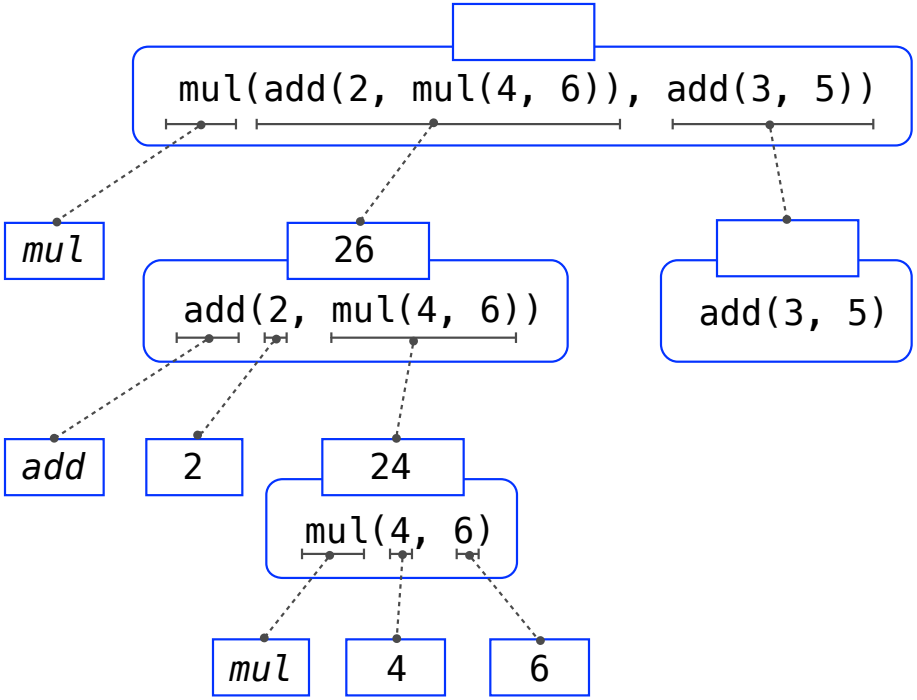

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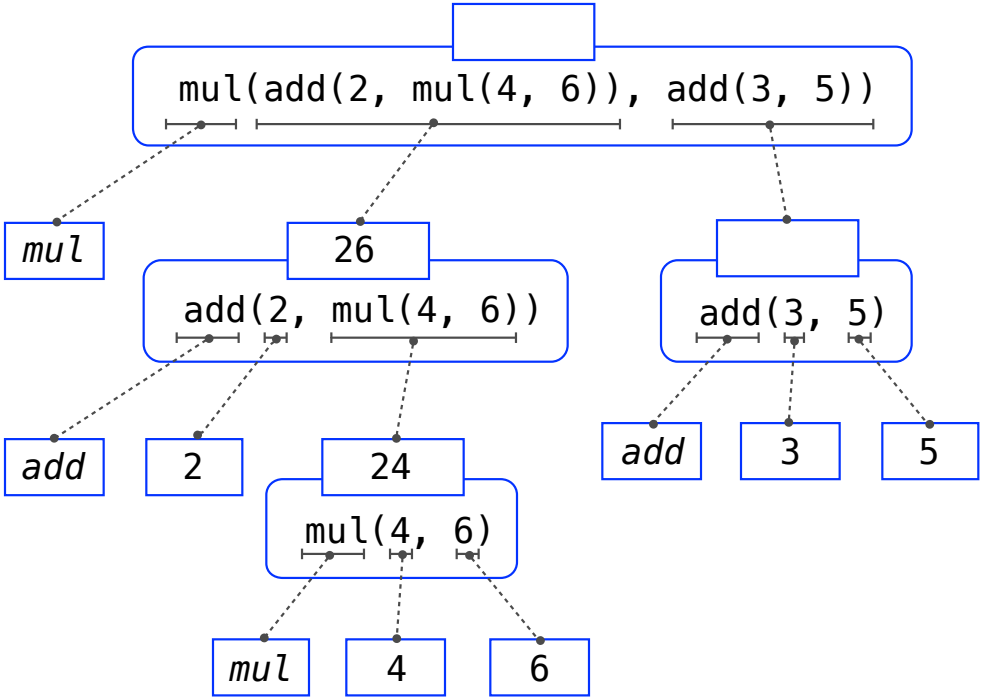

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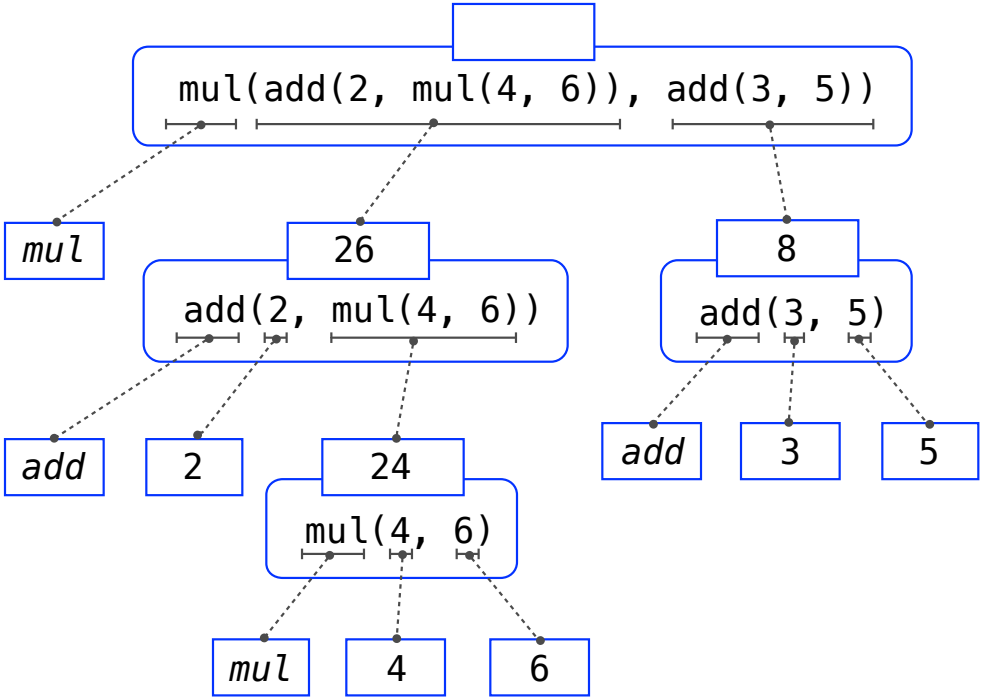

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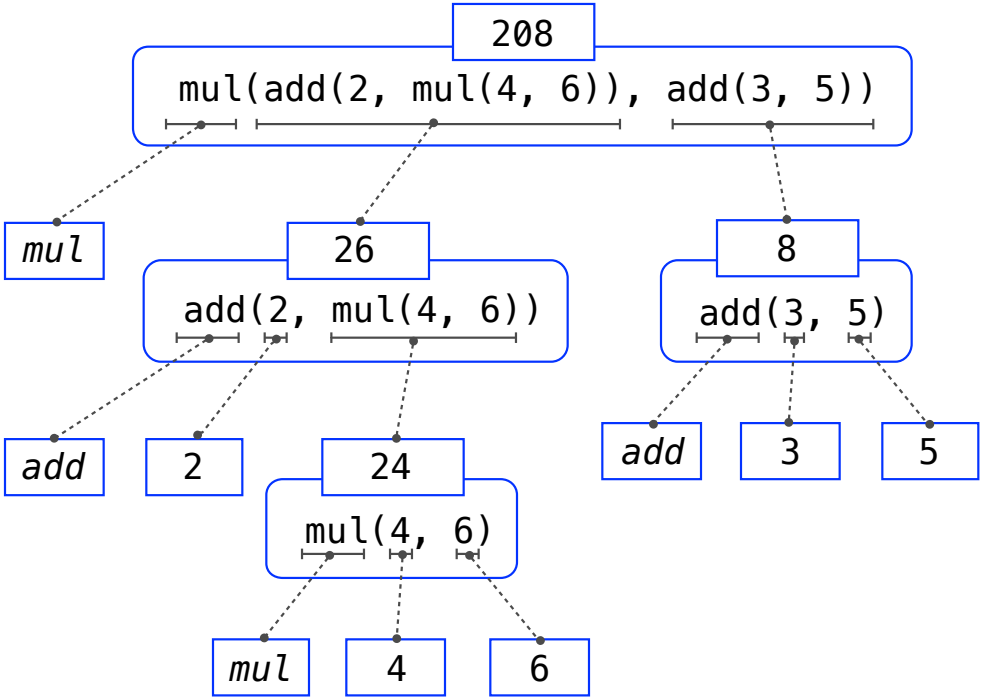

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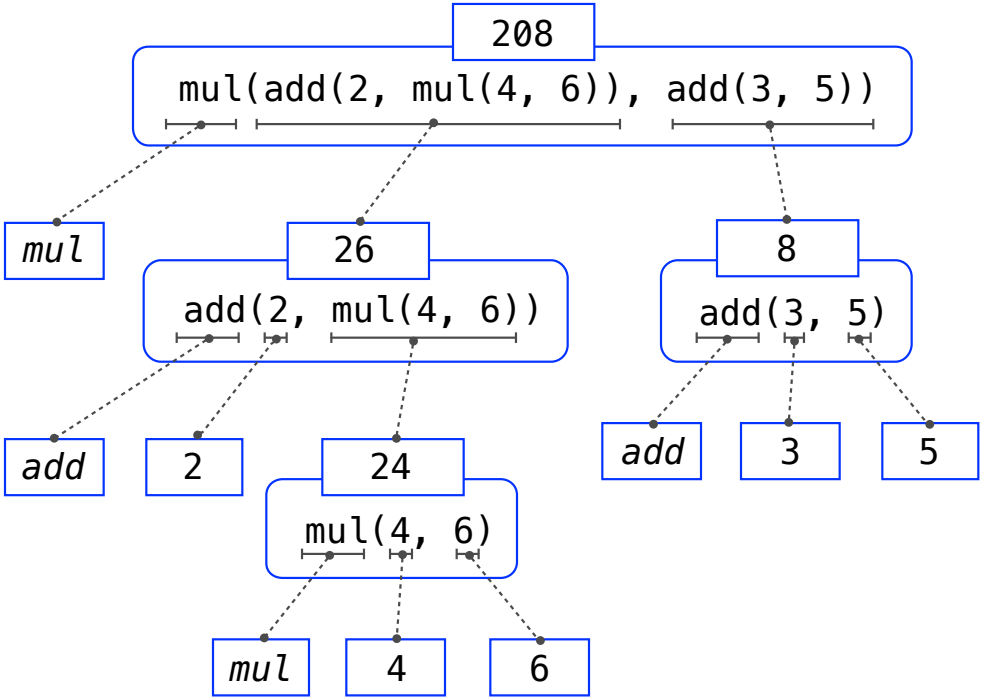

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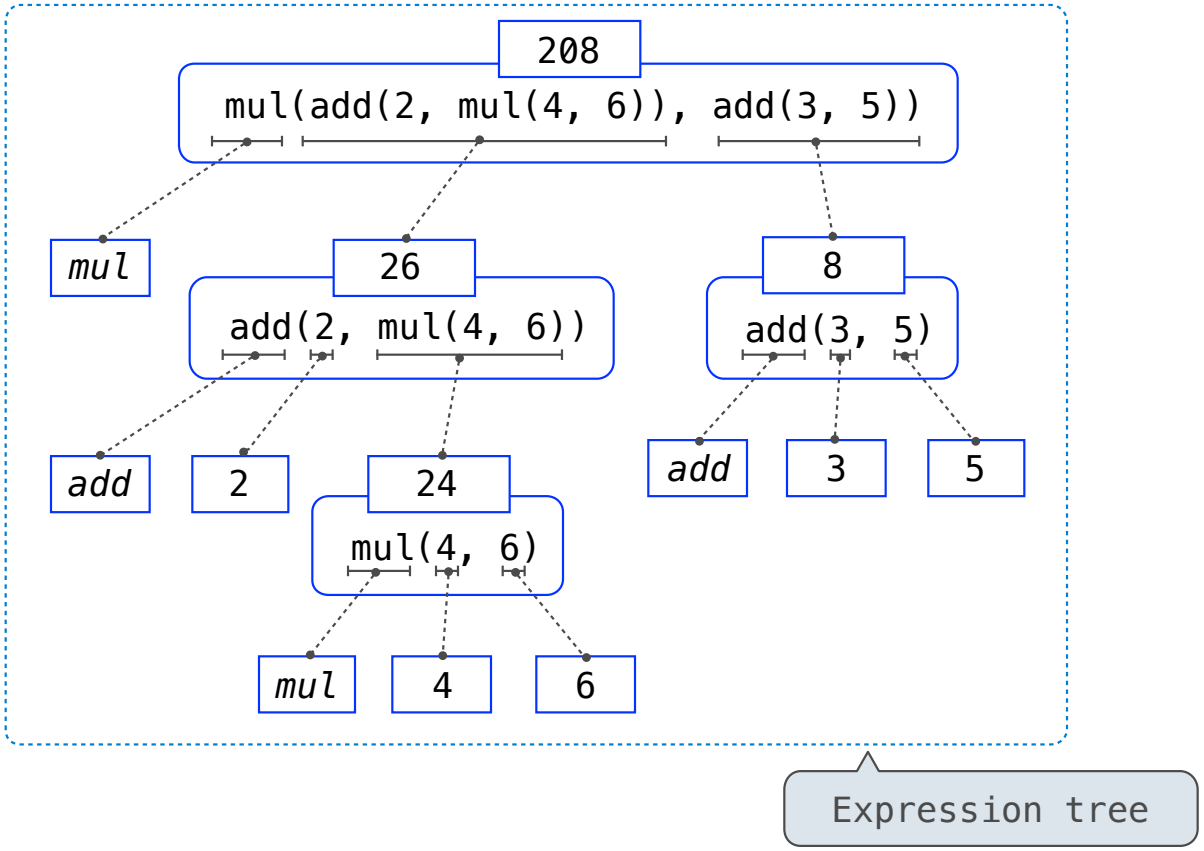

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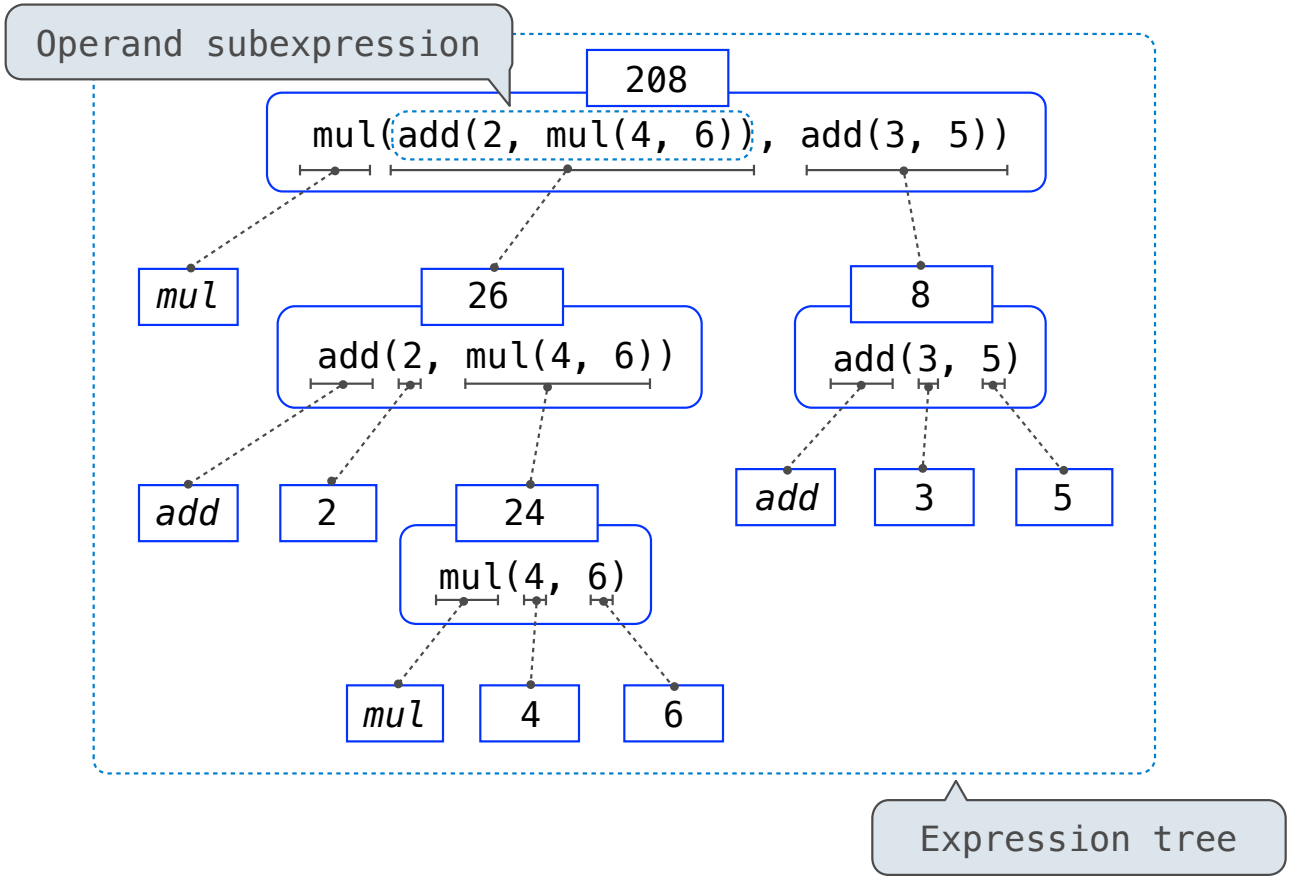

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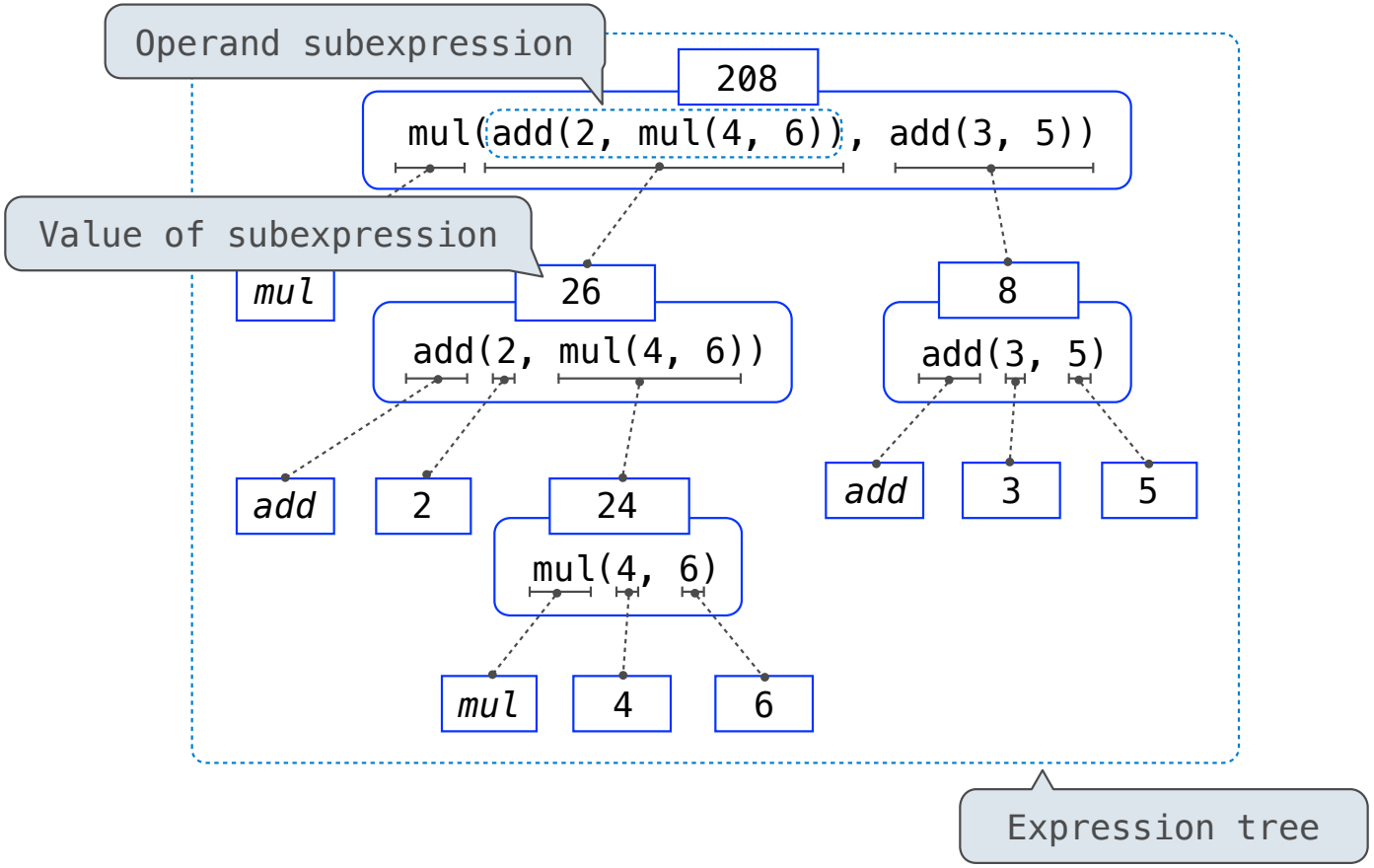

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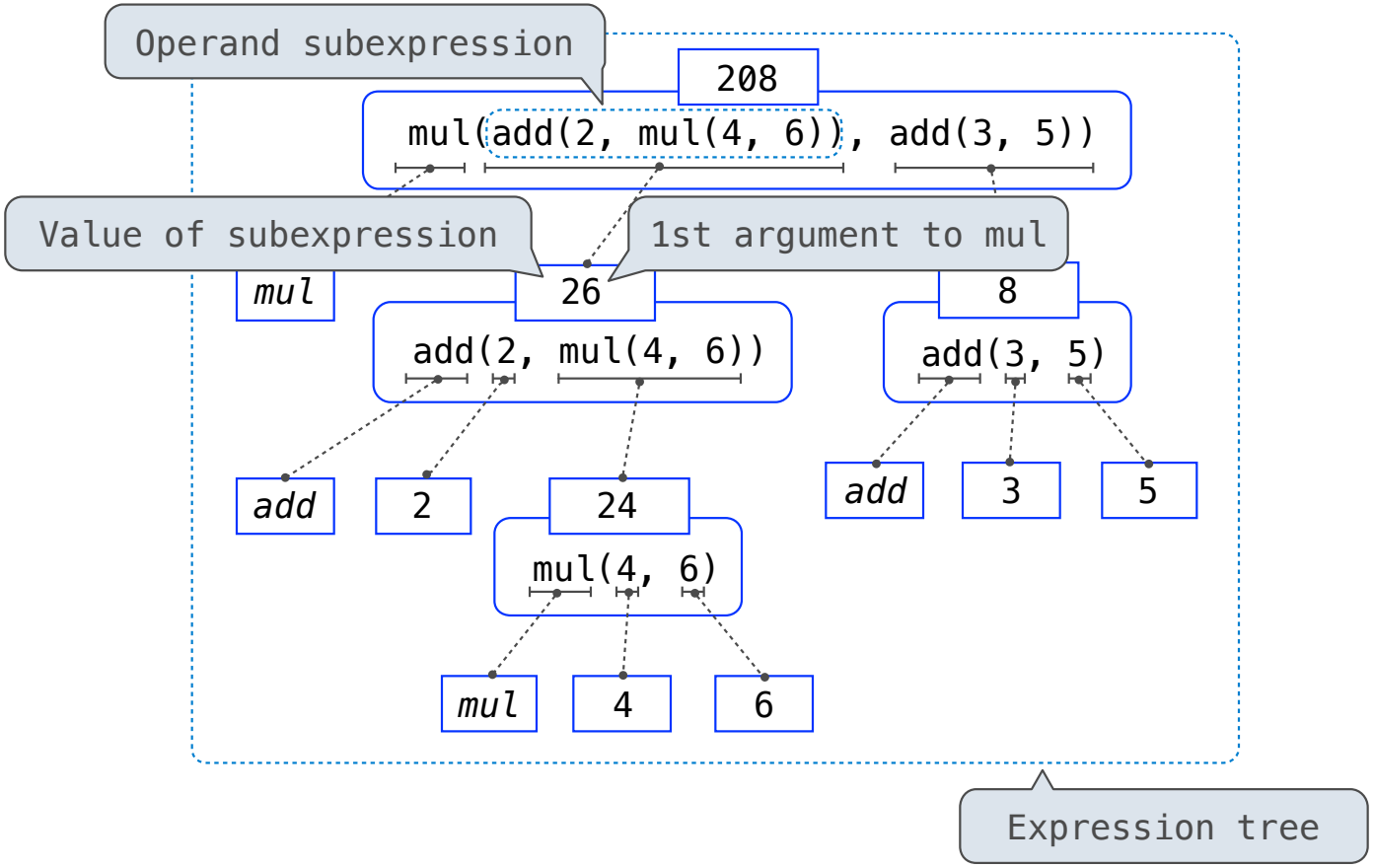

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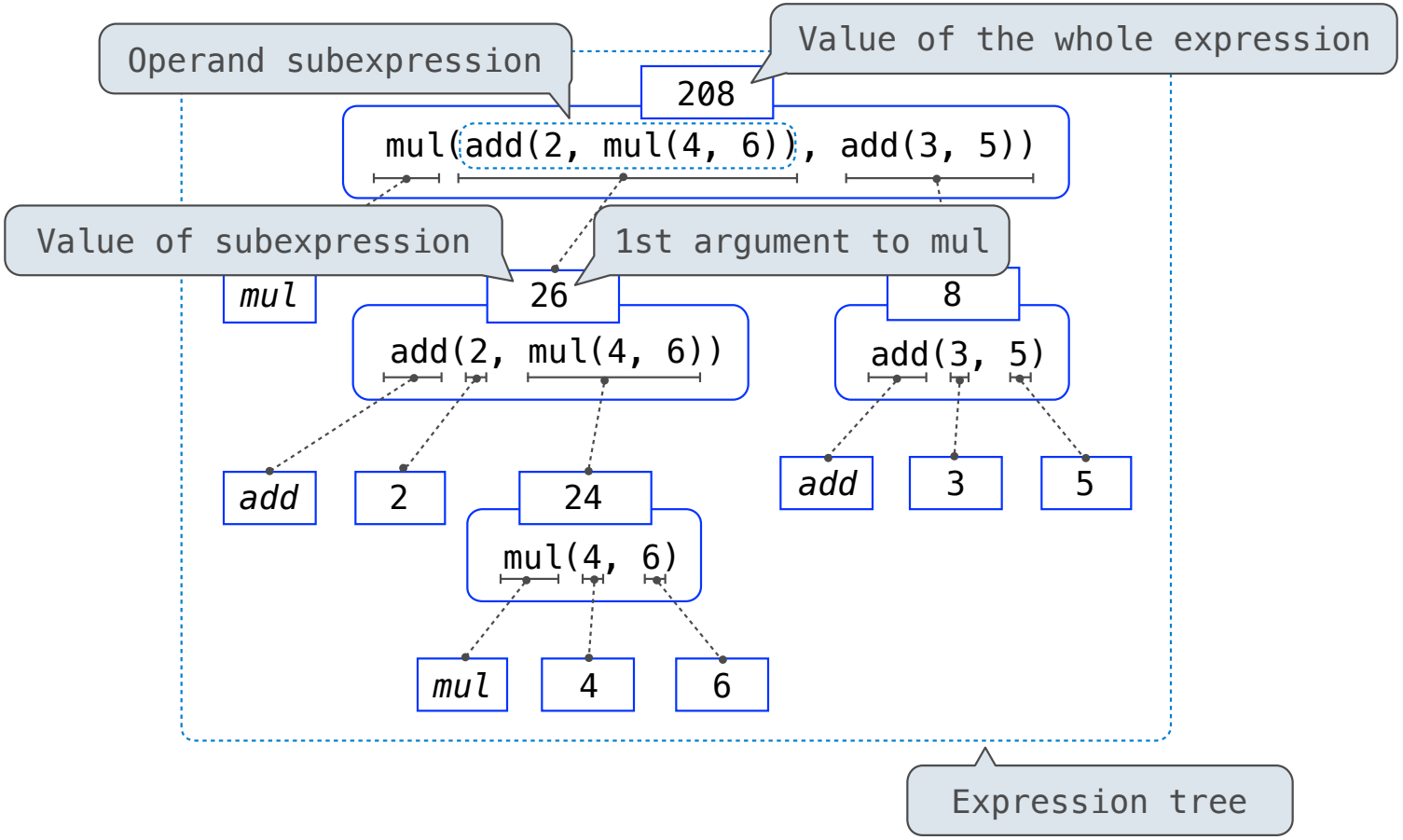

Functions, Objects, and Interpreters

(Demo)