61A Lecture 26

Announcements

Programming Languages

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To create a new programming language, you either need a:

- **Specification:** A document describe the precise syntax and semantics of the language
- **Canonical Implementation:** An interpreter or compiler for the language

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Reading Scheme Lists

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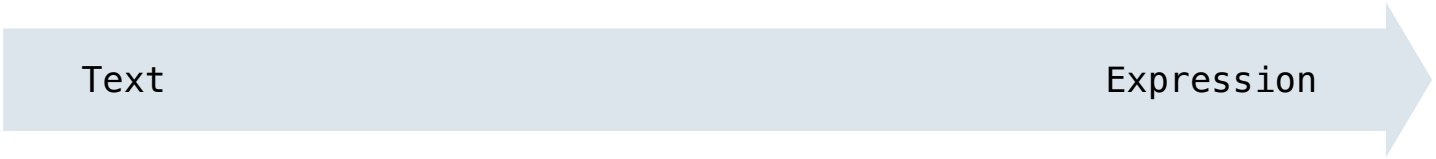

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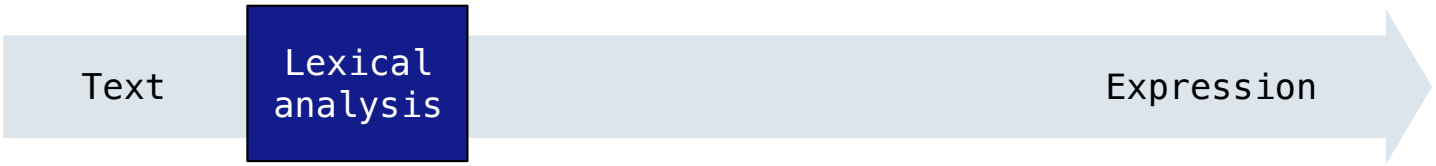

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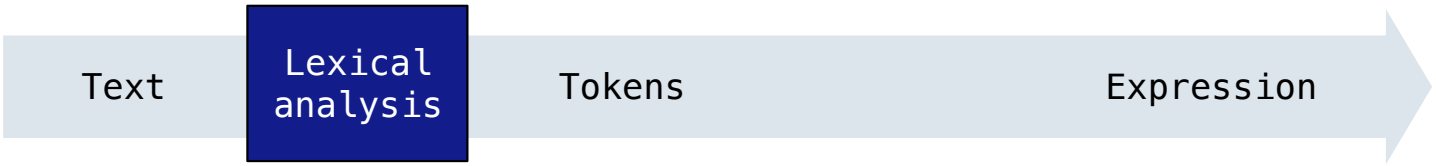

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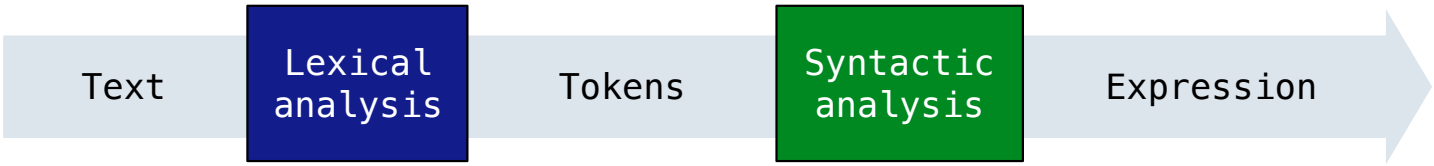


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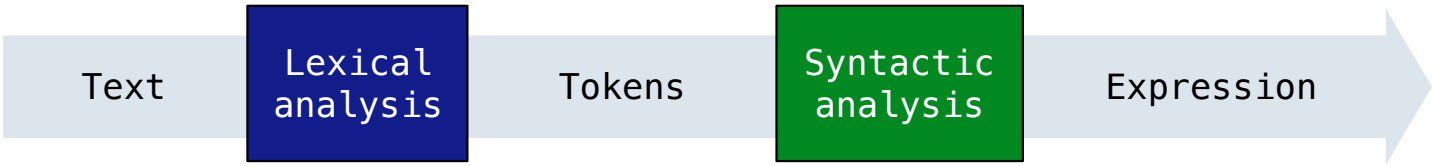


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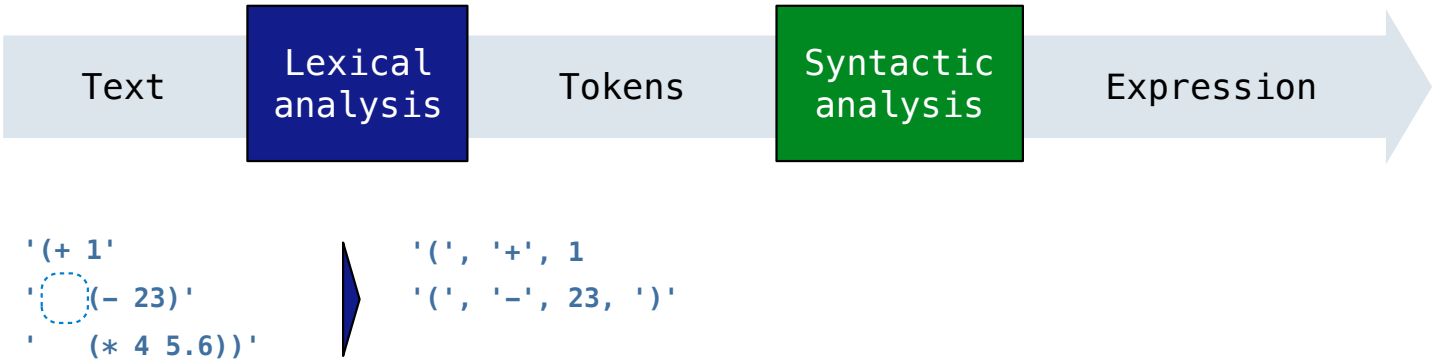

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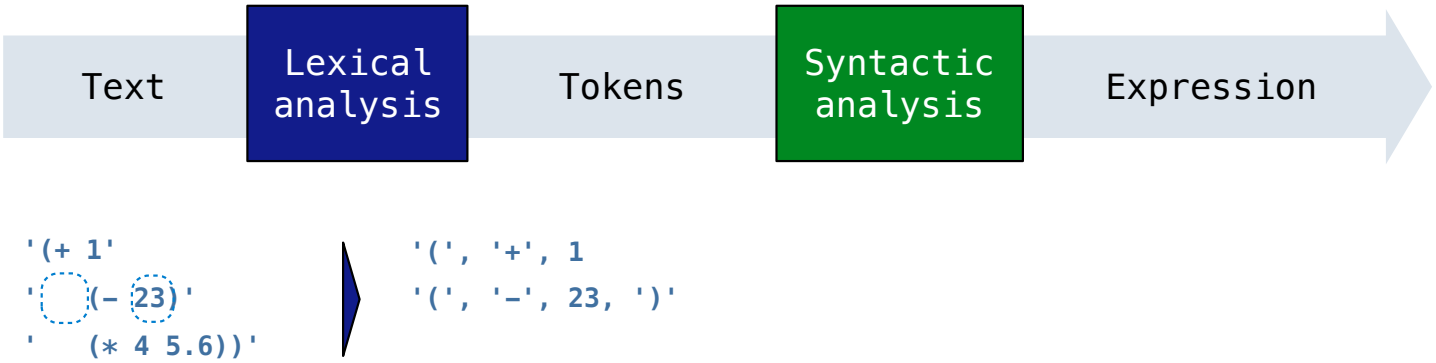

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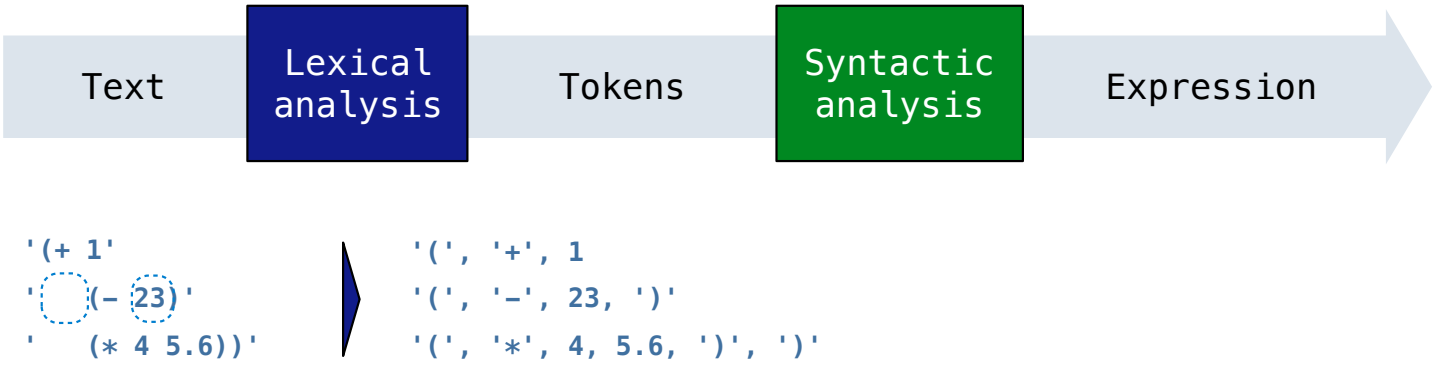

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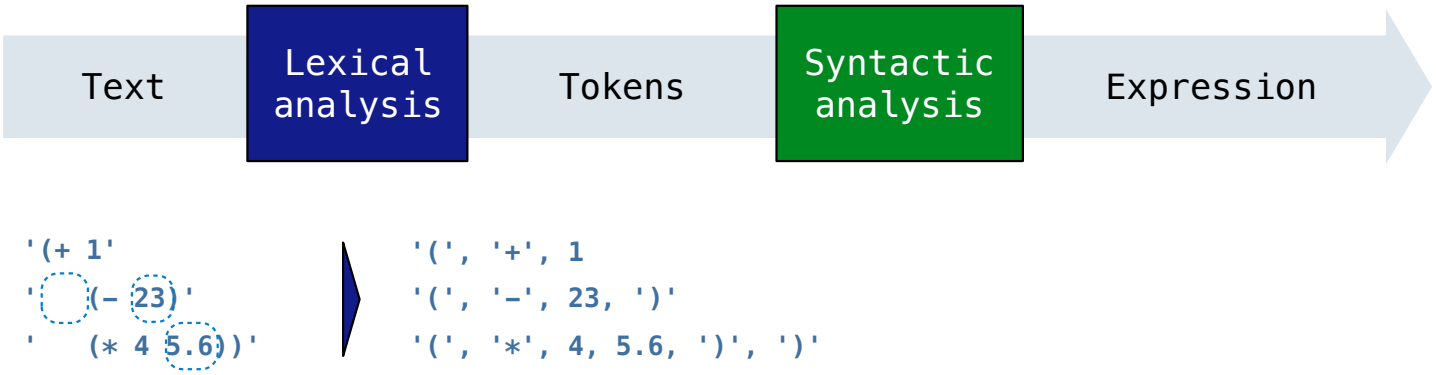

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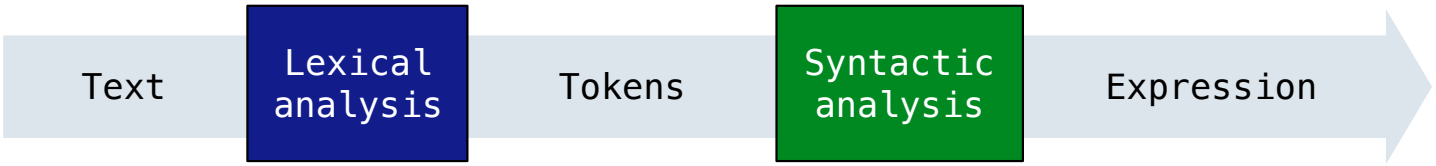


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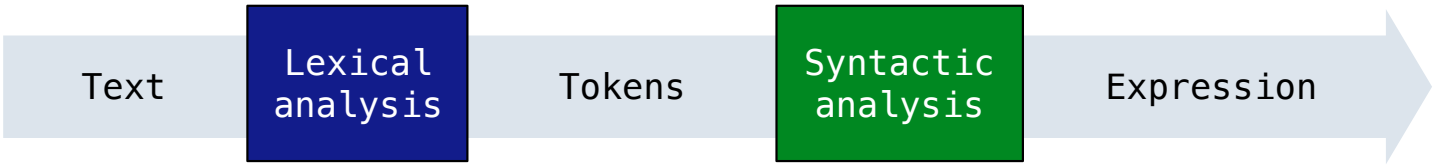


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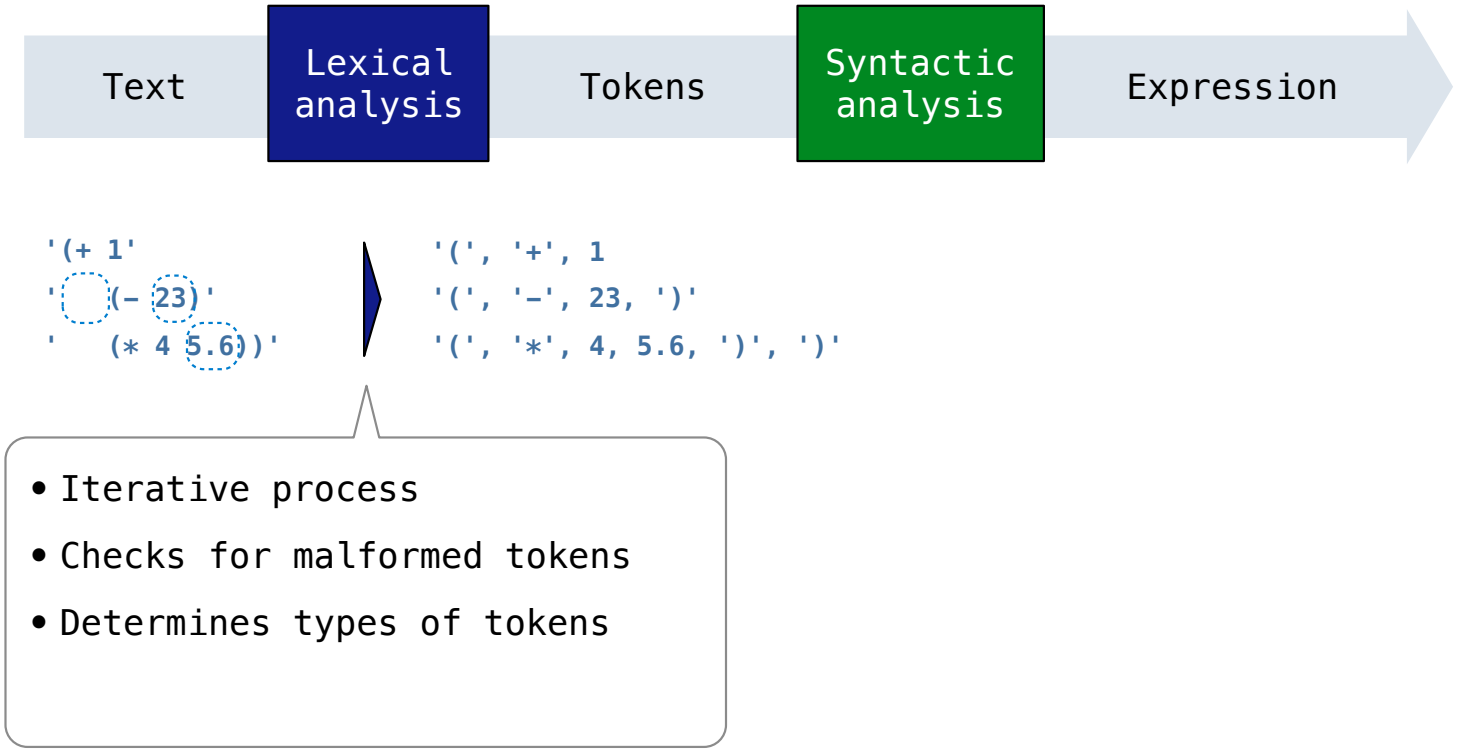

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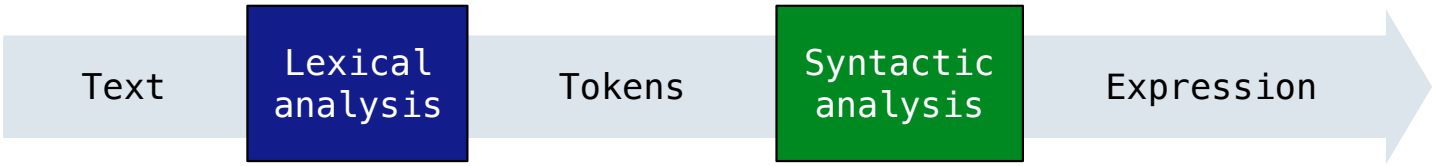


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- Iterative process
- Checks for malformed tokens
- Determines types of tokens
- Processes one line at a time

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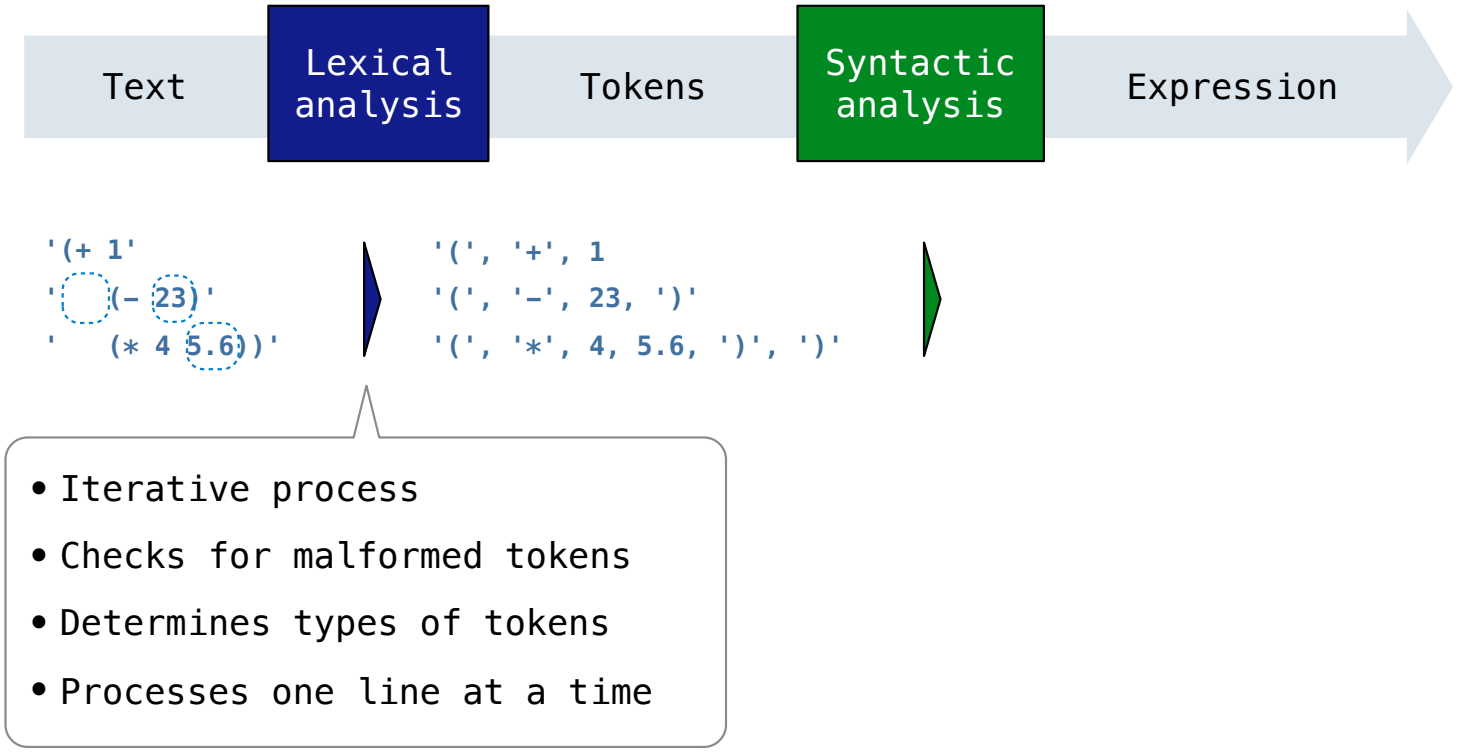

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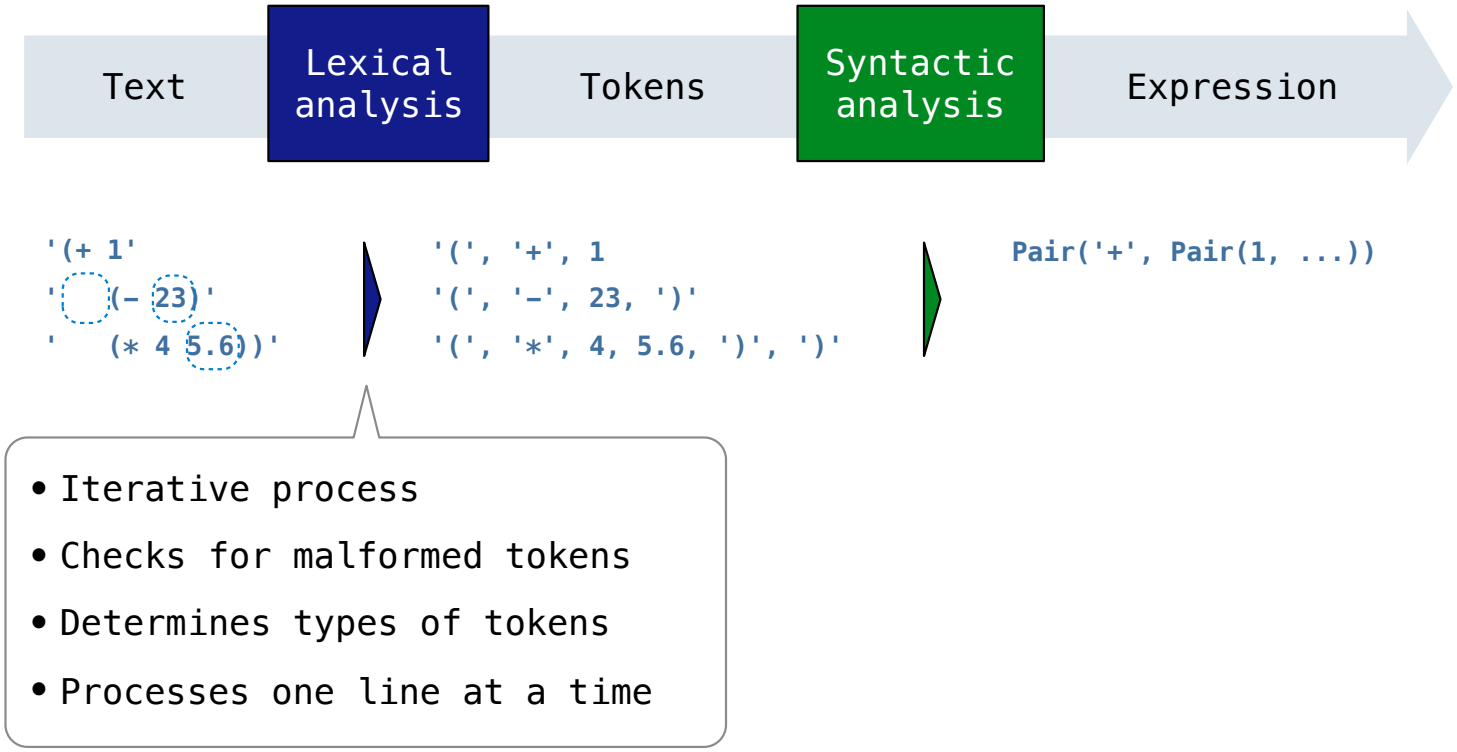

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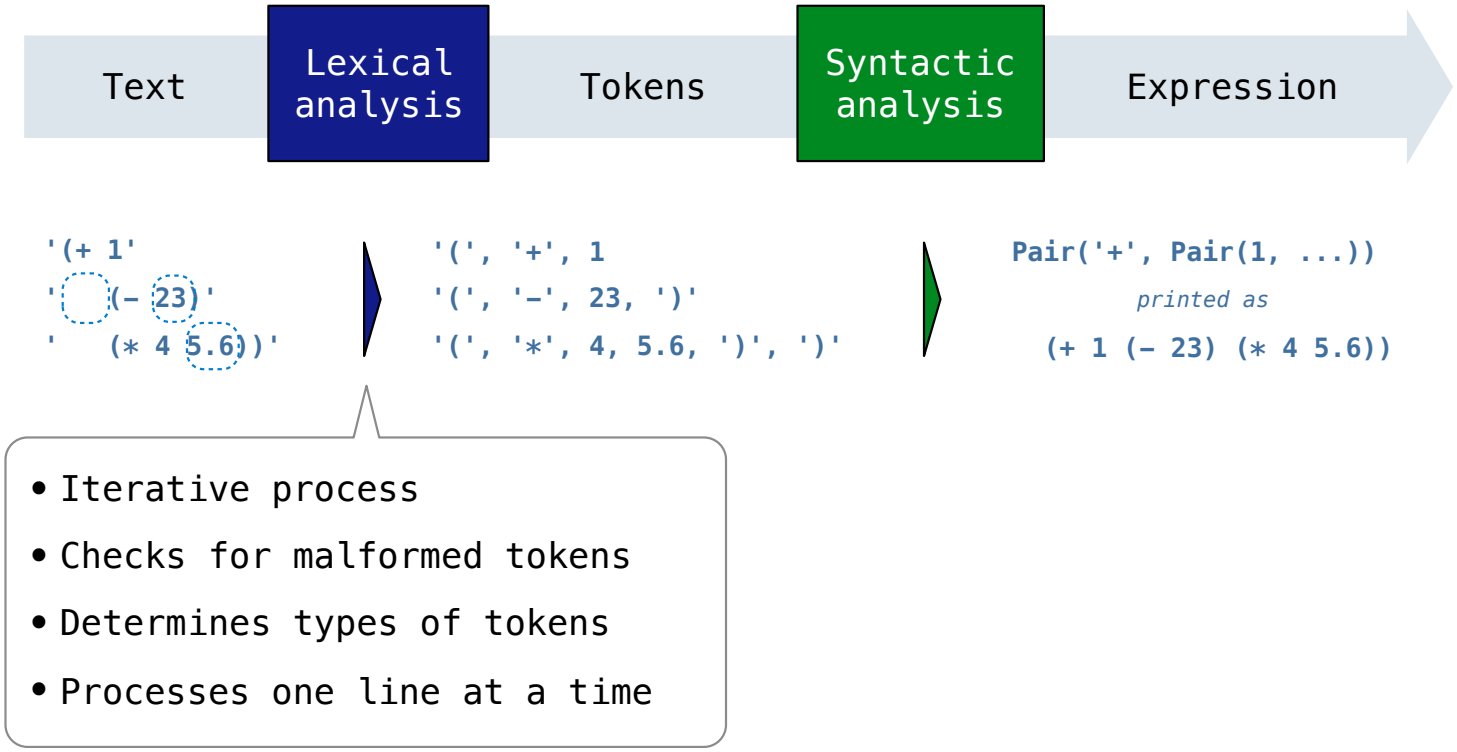

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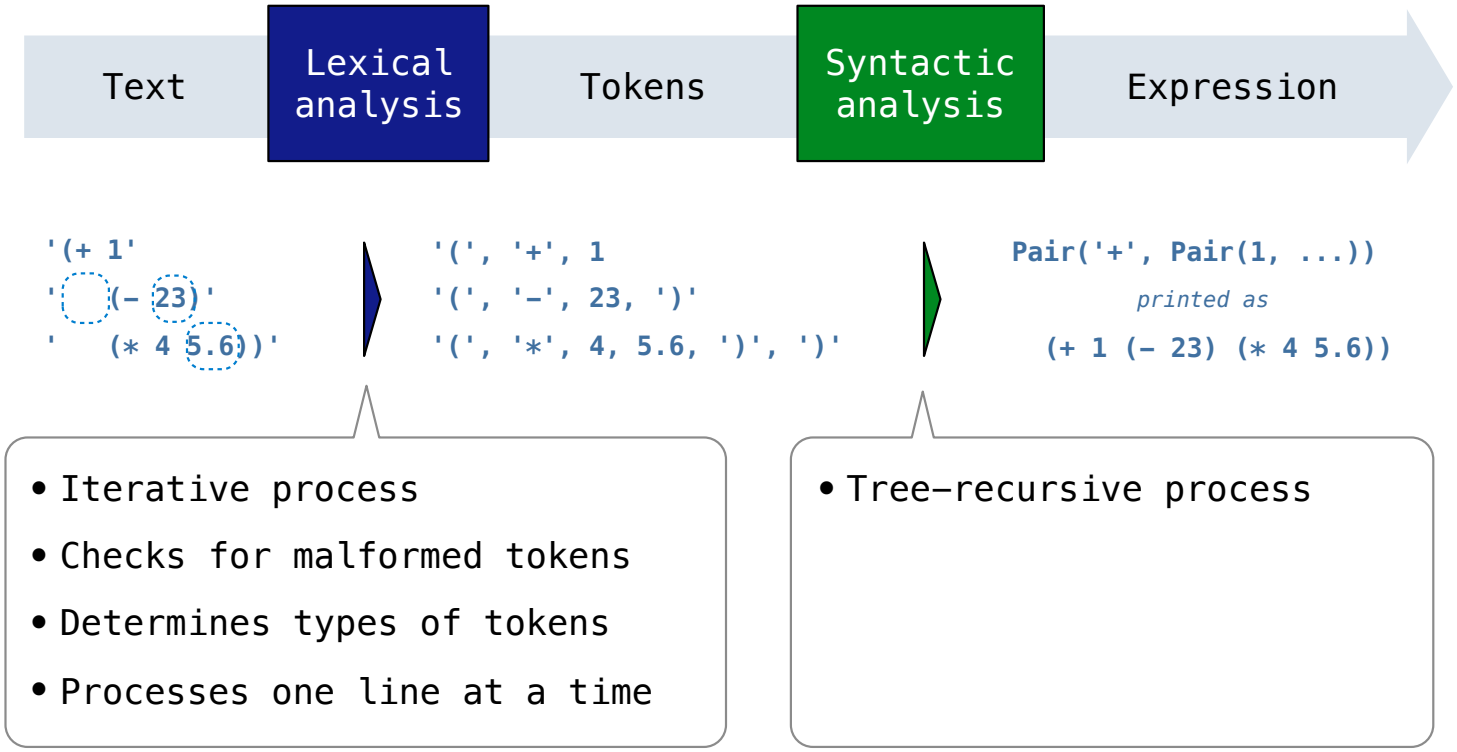

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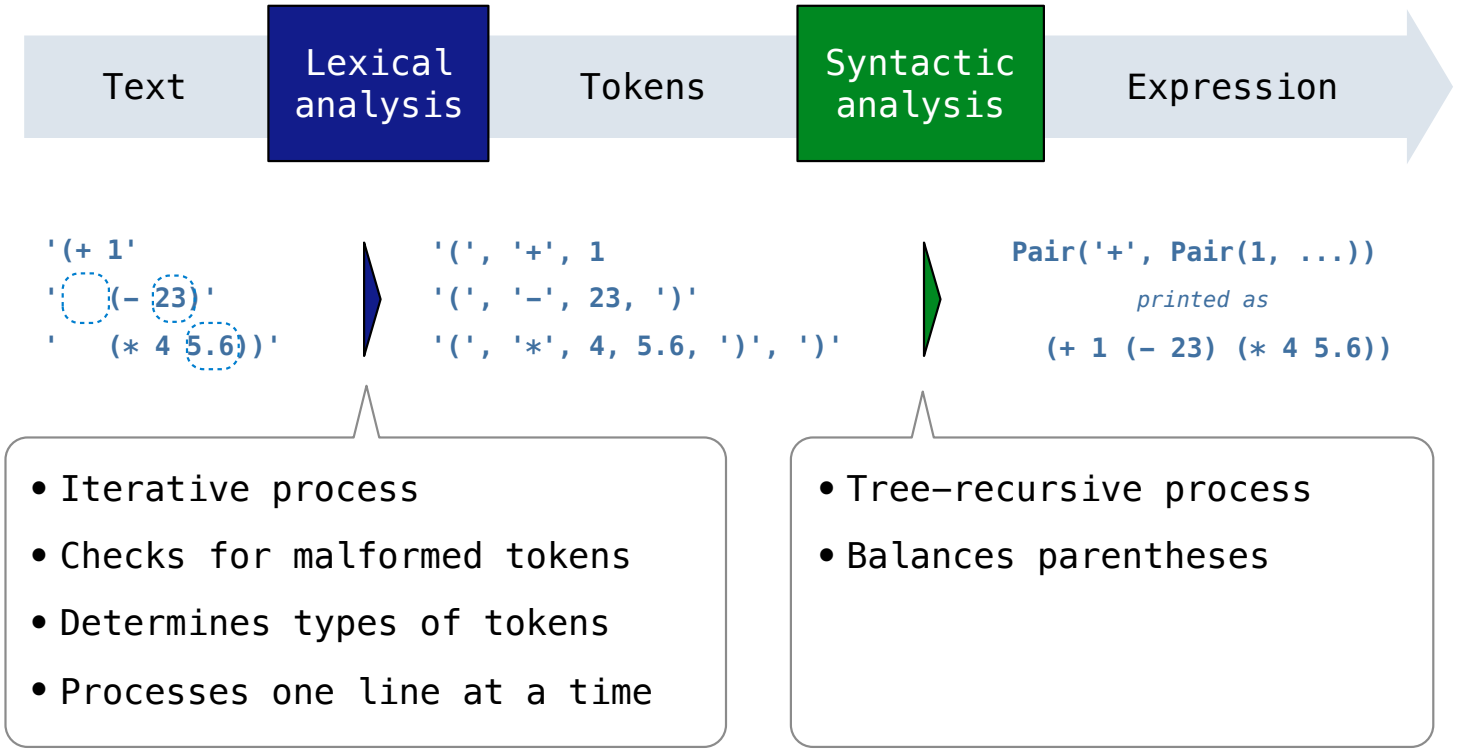

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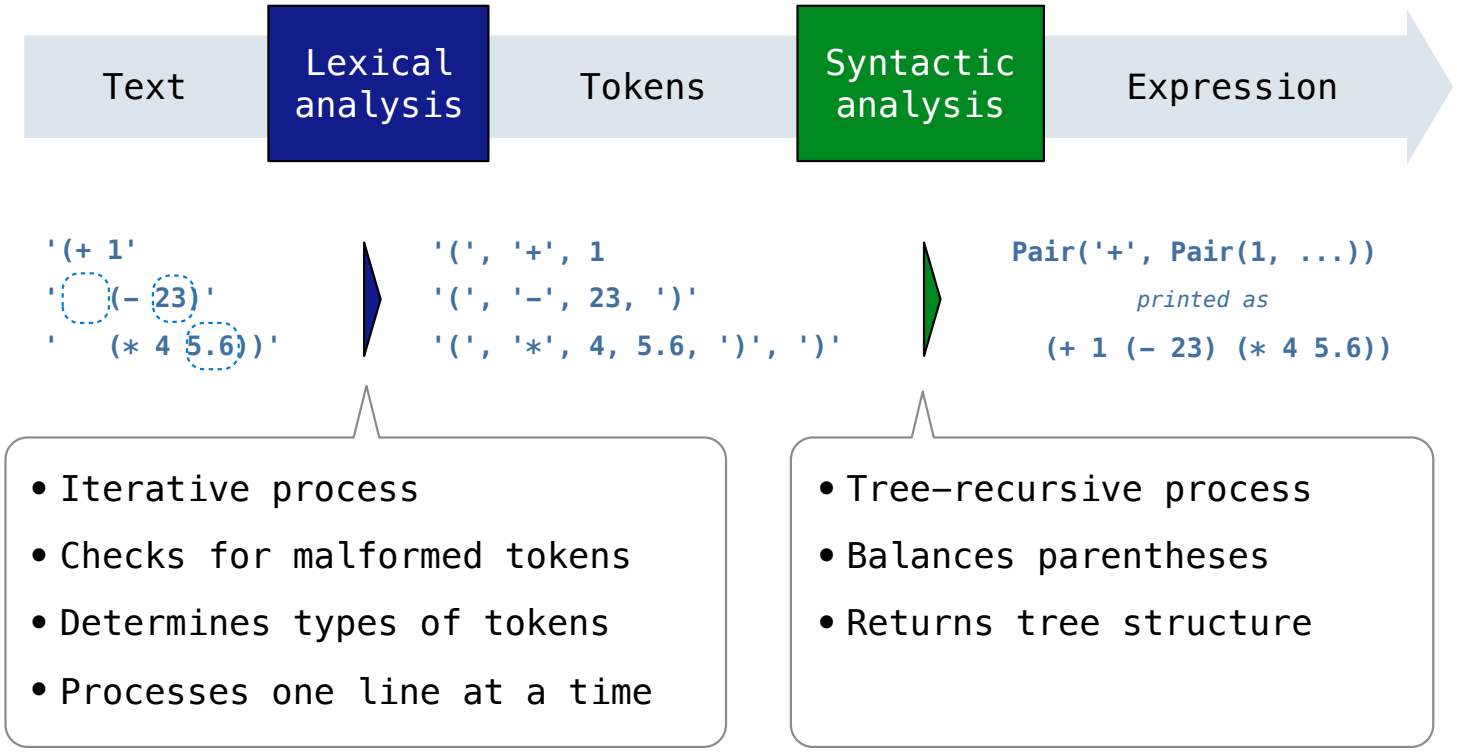

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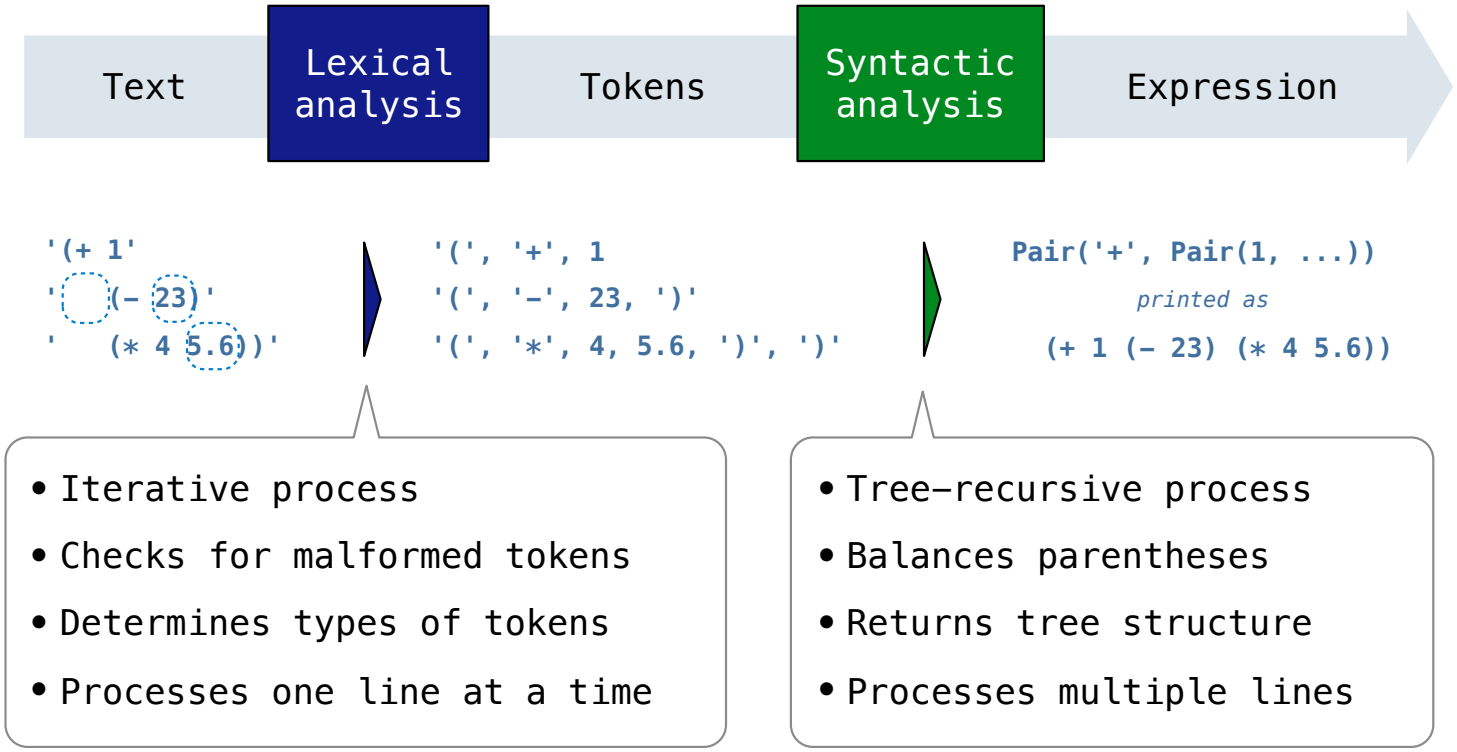

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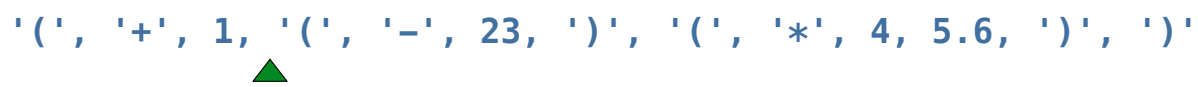

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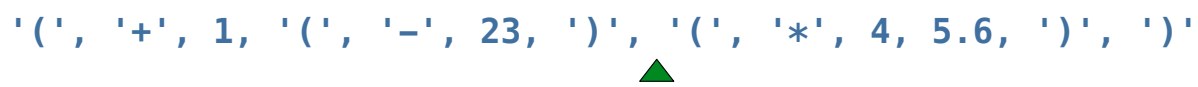

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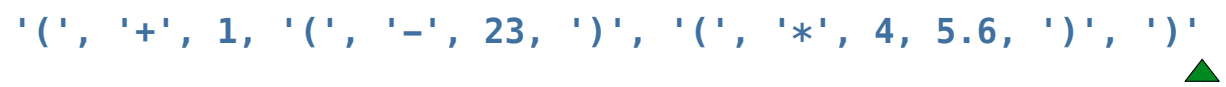

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(Demo)

Calculator

(Demo)

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>>> s = Pair(1, Pair(2, Pair(3, nil)))
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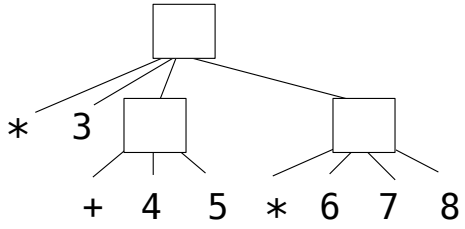

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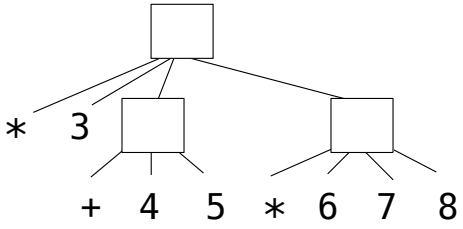
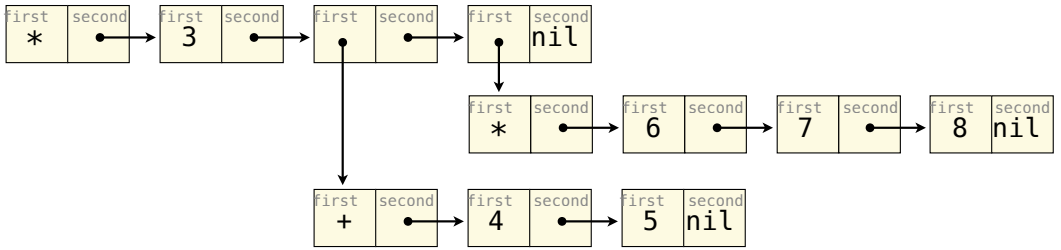


Representation as Pairs



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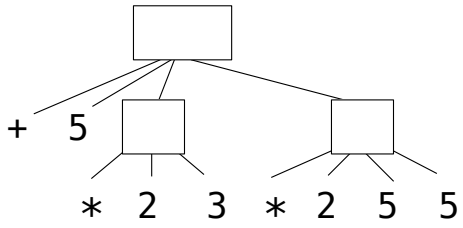

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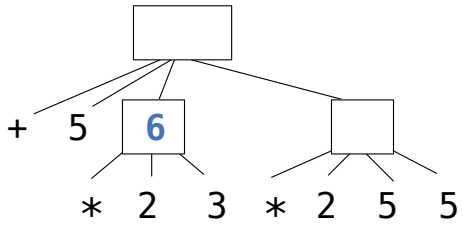

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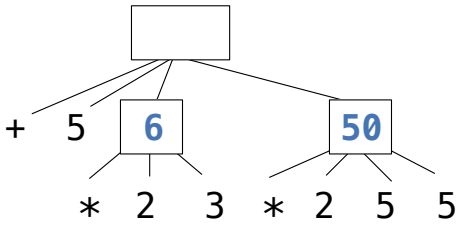

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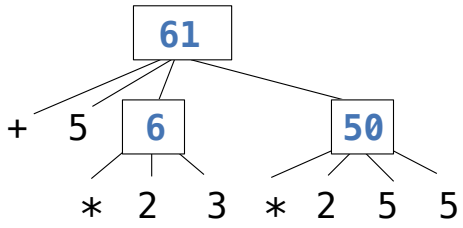

Evaluation

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(Demo)

Interactive Interpreters

Read-Eval-Print Loop

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