Scheme

Announcements

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  –Alan Kay, co-inventor of Smalltalk and OOP (from the user interface video)

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(Demo)

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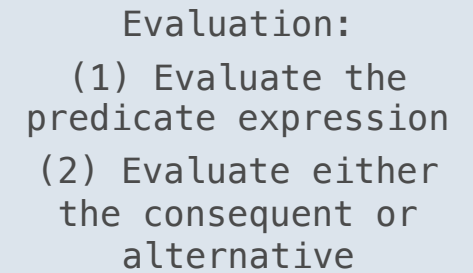
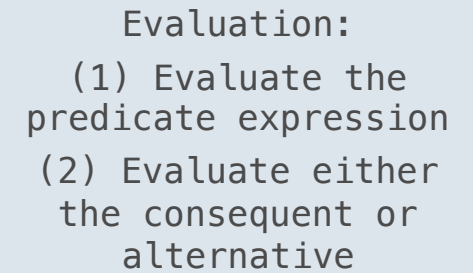- **if** expression: (if \<predicate\> \<consequent\> \<alternative\>)

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Scheme Interpreters

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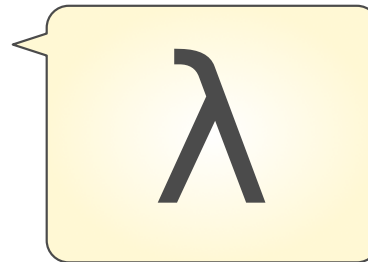
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Two equivalent expressions:

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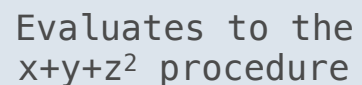
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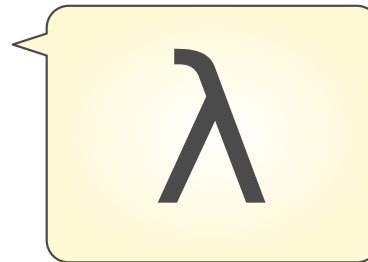
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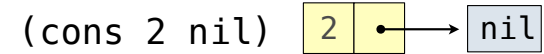
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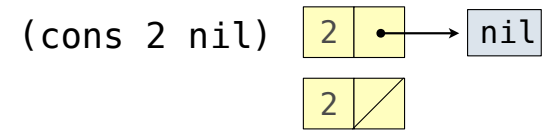In the late 1950s, computer scientists used confusing names

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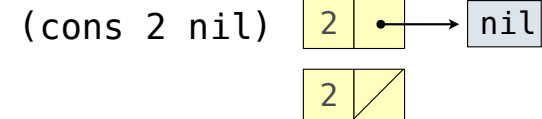In the late 1950s, computer scientists used confusing names

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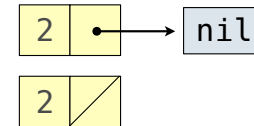- **nil:** The empty list

(cons 2 nil)   `2` `•` → `nil`

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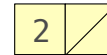In the late 1950s, computer scientists used confusing names

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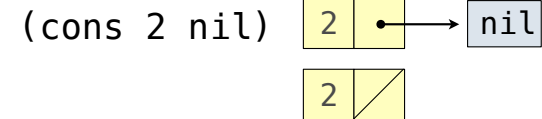
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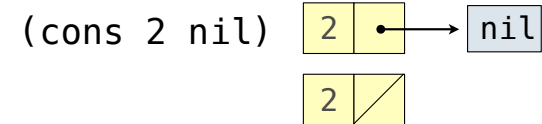**Important! Scheme lists are written in parentheses with elements separated by spaces**

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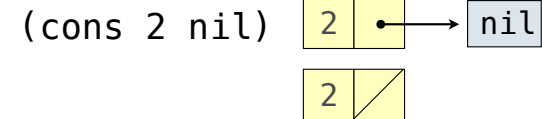
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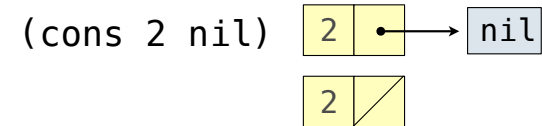
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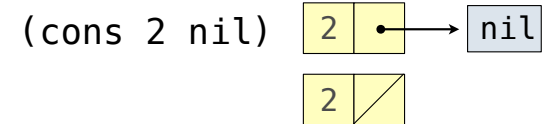
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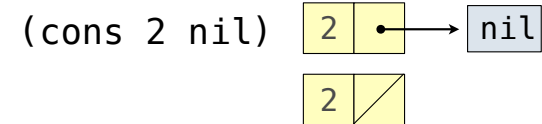
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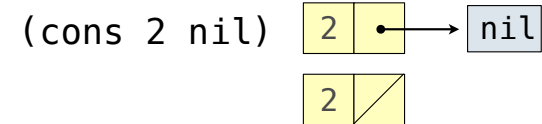
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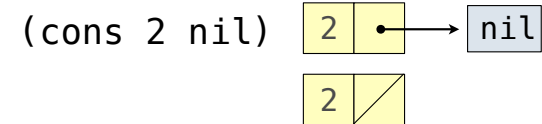
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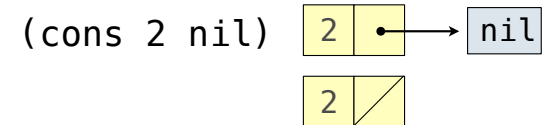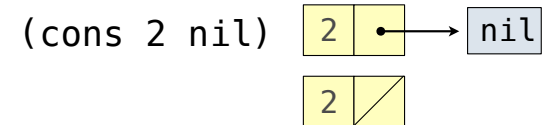
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In the late 1950s, computer scientists used confusing names

- **cons:** Two-argument procedure that creates a linked list
- **car:** Procedure that returns the first element of a list
- **cdr:** Procedure that returns the rest of a list
- **nil:** The empty list

(cons 2 nil)

Important! Scheme lists are written in parentheses with elements separated by spaces

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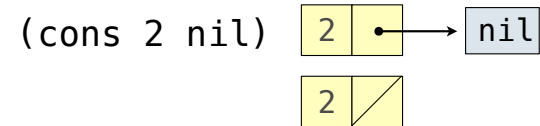**Important! Scheme lists are written in parentheses with elements separated by spaces**

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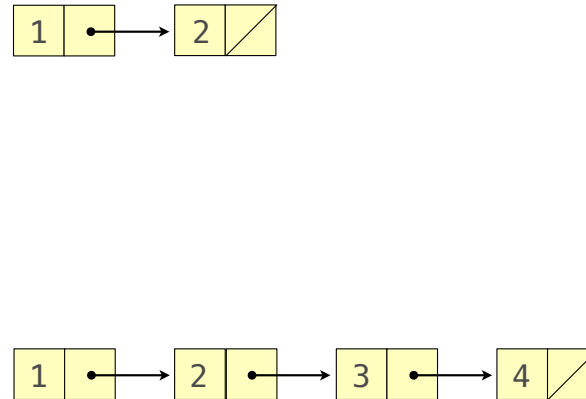
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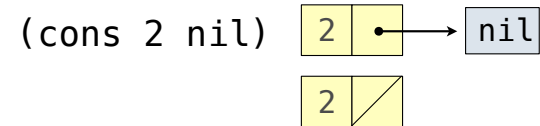
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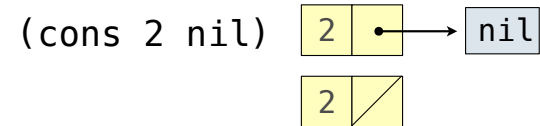**Important! Scheme lists are written in parentheses with elements separated by spaces**

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(Demo)

Symbolic Programming

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Symbols normally refer to values; how do we refer to symbols?
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