

Abstract Syntax and Parsing

CS 350

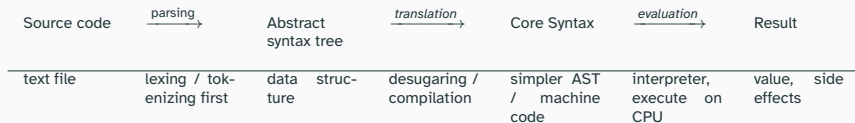
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Last updated: July 4, 2024

The Big Picture

Life of a program

- The Language Pipeline:



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- E.g. plait vs shplait

Describing Syntax

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- Generative
 - Gives a process for generating valid strings in the language
 - String is valid if and only if it's generated by the grammar

Example

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    | "{" "*" <expr> <expr> "  
    | number
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- number is a literal number e.g. some sequence of digits

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 - `-> { * {+ 5 100000} -3 }`

Parsing and Abstract Syntax

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 - What if the string isn't generated by the grammar?

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 - Use quoting to write s-expressions directly
 - Does the hard work of figuring out nested brackets

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- Otherwise, fail
- Uses the `s-exp-match?` function
 - Don't need to memorize how it works, we'll give you the parsers for the most part