Plan for Today

Parsing: The Big Picture
- The lexer breaks the stream into tokens
- The parse is responsible for ...
  - determining if the string of tokens belongs to the language (syntactical analysis)
  - DO something when parts of the language are recognized
    - render pictures, generate code, build an AST ...

Types of parsers
- Universal, top-down, and bottom-up

Making grammars LL(1)
- if then else grammar
- expression grammar

Making a Grammar LL(1)

Why?
- Because then we can create a predictive parser for it.

Remove ambiguity
- grammar should only generate one parse tree per string

Remove left recursion
- why? attempt a predictive parser for $X \rightarrow X \ b$

Left factor
- why? attempt a predictive parser for $Y \rightarrow i \ A \ j \ | \ i \ A \ k$