



Compilers

Introduction to Parsing

- Regular languages
 - The weakest formal languages widely used
 - Many applications

Consider the language:

$$\{(^i)^i \mid i \geq 0 \}$$

What can regular languages express?

- **Input:** sequence of tokens from lexer
- **Output:** parse tree of the program

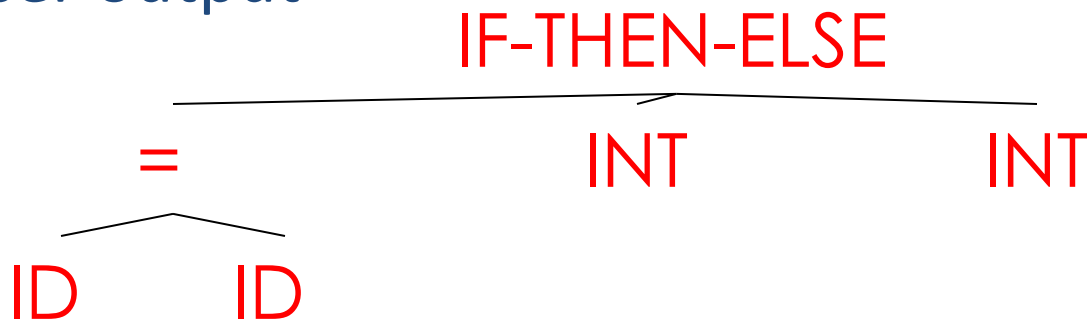
- Cool

if x = y then 1 else 2 fi

- Parser input

IF ID = ID THEN INT ELSE INT FI

- Parser output



| <i>Phase</i> | <i>Input</i> | <i>Output</i> |
|--------------|----------------------|------------------|
| Lexer | String of characters | String of tokens |
| Parser | String of tokens | Parse tree |