Shift-reduce example 1

- $L \rightarrow L \; ; \; E \mid E$
  $E \rightarrow id$

  Input: x; y

Shift-reduce example 2

- $$\begin{aligned} E &\rightarrow E + T \mid T \\ T &\rightarrow T * P \mid P \\ P &\rightarrow id \mid int \end{aligned}$$

  Input: x + 10 * y

Shift-reduce example 3

- **Grammar:** $E \rightarrow E + E \mid E * E \mid id$
  Input: `x + y + z`

  Show a parse tree, and corresponding s/r parse, that represents left-associativity of addition.

Shift-reduce example 3 (cont.)

- **Grammar:** $E \rightarrow E + E \mid E * E \mid id$
  Input: `x + y + z`

  Show a parse tree, and corresponding s/r parse, that represents right-associativity of addition.

Dealing with ambiguity (cont.)

- **For `x*y*z`, consider where the two stack configurations that can occur for the two parse trees differ. What is the correct decision?**

- **Do the same for `x+y*z`:**

- **and for `x*y+z`:**

More examples of $SC(G)$

$\mathsf{E} \rightarrow \mathsf{E} + \mathsf{T} \mid \mathsf{T}$
$\mathsf{T} \rightarrow \mathsf{id}$

$\mathsf{E} \rightarrow \mathsf{T} + \mathsf{E} \mid \mathsf{T}$
$\mathsf{T} \rightarrow \mathsf{id}$