

# TEST 1

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## Example

Given the grammar

$$E \rightarrow M$$

$$E \rightarrow E + M$$

$$M \rightarrow F$$

$$M \rightarrow M * F$$

$$F \rightarrow x$$

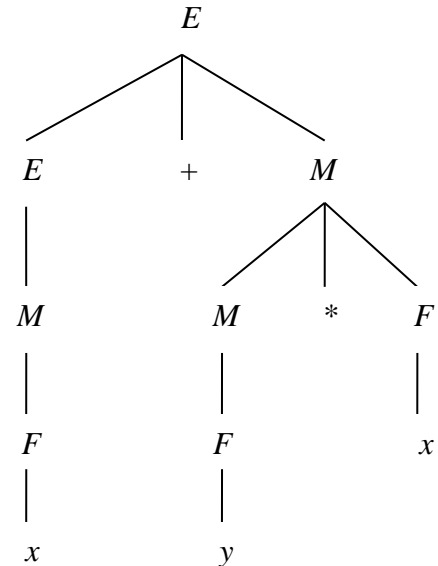
$$F \rightarrow y$$

$$F \rightarrow ( E )$$

and the string (5 tokens)

$$x + y * x$$

The parse tree is:



$\langle e \rangle ::= \langle e \rangle '*' 'id'$

$\langle e \rangle ::= 'id'$

$\langle e \rangle ::= '*' 'id'$

$\langle e \rangle ::= '(' \langle e \rangle ')'$

$\langle e \rangle ::= '(' 'id' ')' \langle e \rangle$

1. Is this grammar ambiguous?
2. Draw the parse tree(s) for the string

**(list)\*list**

where **list** is a token with lexical type **'id'**

