

Exercise 1: solution

✓ Write a grammar for generating strings of balanced parenthesis.

E.g. “()”, “()()”, “(())”

$$\langle \text{Balanced} \rangle \rightarrow \epsilon$$

$$\langle \text{Balanced} \rangle \rightarrow (\langle \text{Balanced} \rangle) \langle \text{Balanced} \rangle$$

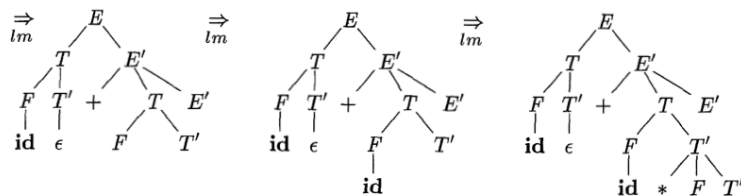
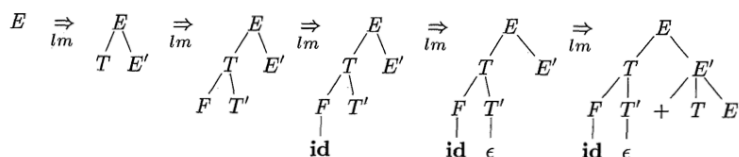
or

$$\langle \text{Balanced}E \rangle \rightarrow \epsilon$$

$$\langle \text{Balanced}E \rangle \rightarrow (\langle \text{Balanced}E \rangle)$$

$$\langle \text{Balanced}E \rangle \rightarrow \langle \text{Balanced}E \rangle \langle \text{Balanced}E \rangle$$

Exercise 2: solution



$$E \Rightarrow_{lm} TE' \Rightarrow_{lm} FT'E' \Rightarrow_{lm} id T'E' \Rightarrow_{lm}$$

$$id E' \Rightarrow_{lm} id + TE' \Rightarrow_{lm} \dots$$

