

Lista de Exercícios 7

a) $G = (V, T, P, S)$

$$V = \{E\}$$

$$T = \{a, b\}$$

$$P = \{E \rightarrow aEb\}$$

$$S = \{E\} \quad \{E \rightarrow ab\}$$

b) $G = (V, T, P, S)$

$$V = \{E, I\}$$

$$T = \{0, 1\}$$

$$S = \{E\}$$

$$P = \{E \rightarrow I I I \mid 0 I 0 \mid \epsilon \mid 1 \mid 0\}$$

$$P = \{I \rightarrow (I \mid 0 I \mid \epsilon) \mid\}$$

c) $G = (V, T, P, S) \quad V = \{E, S, Q, T, I, A, B, C, R, M\}$

$$P = \left\{ \begin{array}{l} E \rightarrow S \mid Q \\ S \rightarrow T I \\ T \rightarrow A \mid B \mid A T B \\ I \rightarrow C \mid \epsilon \\ Q \rightarrow R M \\ R \rightarrow A \mid \epsilon \\ M \rightarrow B \mid C \mid B M C \\ A \rightarrow a \mid a A \\ B \rightarrow b \mid b B \\ C \rightarrow c \mid c C \end{array} \right\}$$

d) $G = (V, T, P, S)$

$$V = \{E\}$$

$$T = \{(\mid)\}$$

$$S = \{E\}$$

$$P = \{E \rightarrow (\mid E) \mid E \rightarrow \epsilon \mid (E) E\}$$

$$e) G = (V, T, P, S)$$

$$V = \{E\}$$

$$T = \{ (,), [,] \}$$

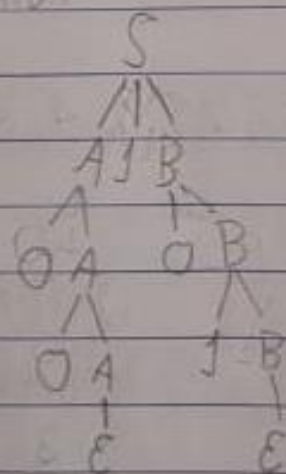
$$S = \{E\}$$

$$P = \{ E \rightarrow E \mid (E)E \mid [E]E \}$$

$$2) a) L_m: S \rightarrow A|B \rightarrow 0A|B \rightarrow 00A|B \rightarrow 00|B \rightarrow 00|0B \rightarrow 00|0|B \rightarrow 00|0|$$

$$r_m: S \rightarrow A|B \rightarrow A|0B \rightarrow A|0|B \rightarrow A|0| \rightarrow 0A|0| \rightarrow 00A|0| \rightarrow 00|0|$$

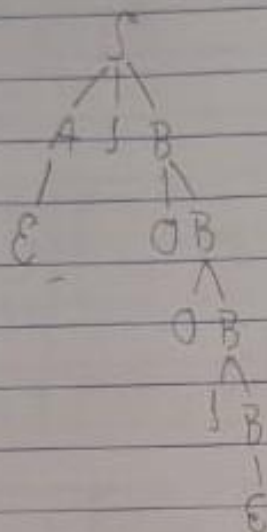
Árvore Sintática:



b) $L_m \rightarrow S \rightarrow A|B \rightarrow |B \rightarrow |0B \rightarrow |00B \rightarrow |00|B \rightarrow |00|$

$R_m \rightarrow S \rightarrow A|B \rightarrow A|0B \rightarrow A|00B \rightarrow A|00|B \rightarrow A|00| \rightarrow |00|$

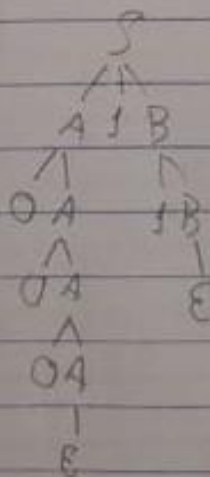
Árvore Sintática:

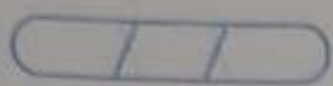


e) $L_m \rightarrow S \rightarrow A|B \rightarrow \cancel{0}A|B \rightarrow \cancel{00}A|B \rightarrow \cancel{000}A|B \rightarrow \cancel{000}|B \rightarrow \cancel{000}| \rightarrow \cancel{000}|$

$R_m \rightarrow S \rightarrow A|B \rightarrow A||B \rightarrow A|| \rightarrow \cancel{0}A|| \rightarrow \cancel{00}A|| \rightarrow \cancel{000}A|| \rightarrow \cancel{000}|$

Árvore Sintática:

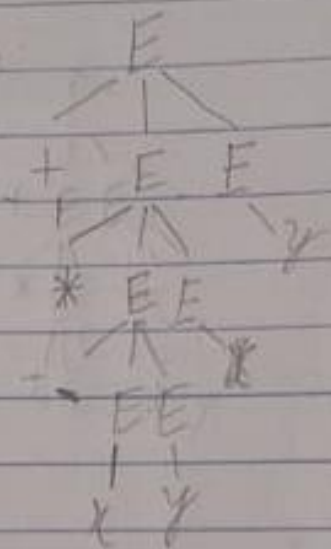




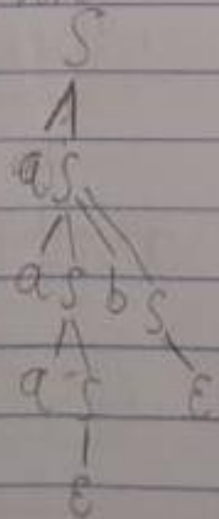
3) Lm: $E \rightarrow +EE \rightarrow +*EEE \rightarrow +*-EEEE \rightarrow +*-xyEEE \rightarrow +*-xyxE \rightarrow +*-xyxy$

Rm: $E \rightarrow +EE \rightarrow +E-EE \rightarrow +E-Ey \rightarrow +E-xy \rightarrow +*EExy \rightarrow +*Eyxxy \rightarrow +*-xyxy$

Árvore Sintática:



4) a) 1ª árvore:



b) $f^0(m:s) \rightarrow as \rightarrow oasb \xrightarrow{f^0(m:s)} asbs \rightarrow oasbs \rightarrow oabs \rightarrow$
 $\rightarrow oabss \rightarrow oab$

c) $\{^1r_m: S \rightarrow aS \rightarrow aaSbS \rightarrow \dots\}$ $\{^2r_m: S \rightarrow aSbS \rightarrow aSb \rightarrow aaSb \rightarrow \dots\}$
 $\rightarrow aaSb \rightarrow aab$ $\rightarrow aab$

5) $S \rightarrow aE b S / \epsilon / E$
 $E \rightarrow a E / \epsilon$

6) $E \rightarrow T \mid E+T \mid E-T$

$T \rightarrow F \mid T * F \mid T / F$

$$F \Rightarrow I \mid (F)$$
$$I \rightarrow a/b \mid I_0 \mid I_b \mid I_0 \mid I/$$

$$z_0 = a + (b - a) / a_0 - b_0$$

