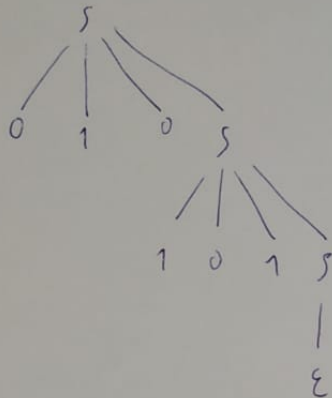
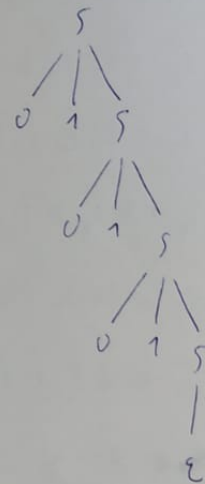


1) • Vamos a probar la cadena 010101

árbol 1



árbol 2



árbol 1 \neq árbol 2 ¡La gramática es ambigua!

Una posible gramática regular para el lenguaje:

$$L = \{(01 + 10 + 11 + 00)^* (010 + 101 + \epsilon)\}$$

$$S \rightarrow \emptyset A \mid \emptyset B \mid 1A \mid 1B \mid C \mid \epsilon$$

$$A \rightarrow \emptyset S$$

$$B \rightarrow 1S$$

$$C \rightarrow \emptyset D \mid 1F$$

$$D \rightarrow 1E$$

$$E \rightarrow \emptyset$$

$$F \rightarrow \emptyset G$$

$$G \rightarrow 1$$

No he encontrado una gramática regular que genere el mismo lenguaje sin ambigüedad.

2) 1^{er} pass Posons a forme normal de Chomsky

$$S \rightarrow S_1 | S_2 S_3 A | A S_4 C D | S_5 S_4 S_6$$

$$S_1 \rightarrow A S_1 B | C$$

$$S_2 \rightarrow S_1 S_4 | S_5 S_3 D | S_2 D | \epsilon$$

$$S_3 \rightarrow S_3 C | S_2 B | S_1 A S_5 | C$$

$$S_4 \rightarrow A S_4 D | S_4 D | \epsilon$$

$$S_5 \rightarrow A A S_5 S_2 | S_5 S_6$$

$$S_6 \rightarrow A S_6 D | D$$

$$A \rightarrow a \quad B \rightarrow b$$

$$C \rightarrow c \quad D \rightarrow d$$

3)

$$A) \delta(q_1, \emptyset, R) = \{(q_1, \emptyset)\}$$

$$\delta(q_1, \emptyset, \emptyset) = \{(q_1, \emptyset)\}$$

$$\delta(q_1, 1, \emptyset) = \{(q_1, 1)\}$$

$$\delta(q_1, 1, 1) = \{(q_1, 1)\}$$

$$\delta(q_1, 2, 1) = \{(q_1, 2)\}$$

$$\delta(q_1, 2, 2) = \{(q_1, 2)\}$$

$$\delta(q_2, 3, 2) = \{(q_2, \epsilon)\}$$

$$\delta(q_2, 7, 1) = \{(q_2, \epsilon)\}$$

$$\delta(q_2, 7, \emptyset) = \{(q_2, \epsilon)\}$$

$$\delta(q_2, 7, R) = \{(q_2, \epsilon)\}$$

B) La même que en A) pero
le état final :

$$\delta(q_3, 4, \epsilon) = \{(q_3, \epsilon)\}$$