

Laboratorio 7

1)

$S \rightarrow 0AO \mid 1B1 \mid BB$

$A \rightarrow C$

$B \rightarrow SA$

$C \rightarrow S \mid \epsilon$

a)

$C \rightarrow \epsilon \Rightarrow C$

$A \rightarrow C \Rightarrow A$

$B \rightarrow A \Rightarrow B$

$S \rightarrow BB \Rightarrow S$

$\{S, A, B, C\}$

b)

$S \rightarrow 0AO \mid 00 \mid 1B1 \mid 11 \mid BB \mid \epsilon$

$S \rightarrow 0AO \mid 00 \mid 1B1 \mid 11 \mid BB$

$A \rightarrow 0AO \mid 00 \mid 1B1 \mid 11 \mid BB$

$B \rightarrow 0AO \mid 00 \mid 1B1 \mid 11 \mid BB$

$C \rightarrow 0AO \mid 00 \mid 1B1 \mid 11 \mid BB$

c)

S_0, S, A, B, C

1)

$$T_0 \rightarrow 0$$

$$T_1 \rightarrow 1$$

$$OAO \rightarrow T_0 A T_0$$

$$1B1 \rightarrow T_1 B T_1$$

$$00 \rightarrow T_0 T_0$$

$$11 \rightarrow T_1 T_1$$

$$S_0 \rightarrow T_0 X_{\{AO\}}$$

$$S_0 \rightarrow T_0 T_0$$

$$S_0 \rightarrow T_1 X_{\{B1\}}$$

$$S_0 \rightarrow T_1 T_1$$

$$S_0 \rightarrow B B$$

$$S_0 \rightarrow \epsilon$$

2)

$$S \rightarrow aAa | bBb | \epsilon$$

$$A \rightarrow C | a$$

$$B \rightarrow C | b$$

$$C \rightarrow CDE | \epsilon$$

$$D \rightarrow A | B | ab$$

3) $C \rightarrow \epsilon \Rightarrow C$

$$A \rightarrow C \Rightarrow A$$

$$B \rightarrow C \Rightarrow B$$

$$D \rightarrow A | B | ab \Rightarrow D$$

$$S \rightarrow \epsilon \Rightarrow S$$

b

$SO \rightarrow \epsilon$

$S \rightarrow aAa \mid aa \mid bBb \mid bb$

$A \rightarrow a$

$B \rightarrow b$

$D \rightarrow ab$

$C \rightarrow \epsilon$

c

$SO \rightarrow S \mid \epsilon$

$S \rightarrow aAa \mid aa \mid bBb \mid bb$

$A \rightarrow a$

$B \rightarrow b$

d

$T_a \rightarrow a$

$T_b \rightarrow b$

$(A \rightarrow BC):$

$SO \rightarrow S$

$SO \rightarrow \epsilon$

$S \rightarrow T_a X_1$

$S \rightarrow T_a T_a$

$S \rightarrow T_b X_2$

$S \rightarrow T_b T_b$

$A \rightarrow T_a$

$B \rightarrow T_b$

$X_1 \rightarrow A T_a$

$X_2 \rightarrow B T_b$

3)

$$S \rightarrow ASA | aB$$

$$A \rightarrow B | S$$

$$B \rightarrow b | \epsilon$$

4)

$$S \rightarrow ASA | SA | AS | S | aB | a$$

$$A \rightarrow B | S$$

$$B \rightarrow b$$

5)

$$S \rightarrow ASA | SA | AS | aB | a$$

$$A \rightarrow b | ASA | SA | AS | aB | a$$

$$B \rightarrow b$$

6)

$$B \rightarrow b \Rightarrow B$$

$$A \rightarrow b \Rightarrow A$$

$$S \rightarrow a \Rightarrow S$$

7)

$$T _ a \rightarrow a$$

$$T _ b \rightarrow b$$

$$S \rightarrow A X_1$$

$$S \rightarrow S A$$

$$S \rightarrow A S$$

$$S \rightarrow T _ a B$$

$$\Delta \rightarrow A X_1$$

$$A \rightarrow SA$$

$$A \rightarrow AS$$

$$A \rightarrow T_a B$$

$$A \rightarrow T_a$$

$$B \rightarrow T_b$$

$$X_1 \rightarrow SA$$