

L1:  $S \rightarrow CAACA \mid A \mid \epsilon$   
 $A \rightarrow aAa \mid \epsilon$   
 $C \rightarrow \epsilon \mid aC$

L2:  $S \rightarrow \epsilon \mid SS \mid (S) \mid T$   
 $T \rightarrow (T)T \mid \epsilon$

L3:  $S \rightarrow \epsilon \mid 0S1 \mid 01$

L4:  $S \rightarrow ASA \mid A$   
 $A \rightarrow aBba \mid \epsilon$   
 $B \rightarrow bBb \mid \epsilon$