$L =$
$\{w \in$
$\{a, b, c\}^* \mid$
$2n_a(w) =$
$n_b(w) +$
$n_c(w)\}$
$L =$
$\{a^n b^m \mid$
$n \leq$
$m +$
$3\}$
$L =$
$\{w \in$
$\{a, b\}^* \mid$
$2n_a(w) =$
$n_b(w)\}$
$L =$
$\{\{a, b\}^* \mid$
$\{a, b\}^* aba \{a, b\}^* \notin$
$L\}$

$S \to aTTS \mid TaTS \mid TTaS \mid \varepsilon T \to b \mid c$

$S \to aaaA \mid aaA \mid aA \mid \epsilon A \to aAb \mid BB \to Bb \mid \epsilon$

$S \to SaSaSb \mid SaSbSa \mid SbSaSa \mid \epsilon$

$S \to aA \mid bS \mid \epsilon A \to aA \mid bB \mid \epsilon B \to bS \mid \epsilon$

$S \to AE \mid CA \mid aAa \mid bBb \mid \varepsilon A \to C \mid aB \to C \mid bC \to aE \mid b \mid \varepsilon D \to A \mid B \mid abE \to EC \mid AE$

W
L
W

$S \to CA \mid aAa \mid bBb \mid \epsilon A \to C \mid aB \to C \mid bC \to b \mid \epsilon$

$S' \to S \mid \epsilon S \to CA \mid aAa \mid bBbA \to C \mid aB \to C \mid bC \to b \mid \epsilon$

$S' \to S \mid \epsilon S \to CA \mid aAa \mid bBb \mid AA \to C \mid a \mid \epsilon B \to C \mid b \mid \epsilon C \to b$

$S \to CA \mid aAa \mid bBb \mid A \mid C \mid aa \mid bb \mid \epsilon A \to C \mid aB \to C \mid bC \to b$

$S' \to S \mid \epsilon S \to CA \mid aAa \mid bBb \mid A \mid C \mid aa \mid bbA \to C \mid aB \to C \mid bC \to b$

$\overrightarrow{\Rightarrow}$
$S' \to S \mid \epsilon S \to CA \mid aAa \mid bBb \mid A \mid C \mid aa \mid bbA \to b \mid aB \to bC \to b$
$\overrightarrow{\Rightarrow}$
$S' \to S \mid \epsilon S \to CA \mid aAa \mid bBb \mid a \mid b \mid aa \mid bbA \to b \mid aB \to bC \to b$
$\overrightarrow{S'} \to CA \mid aAa \mid bBb \mid a \mid b \mid aa \mid bb \mid \epsilon S \to CA \mid aAa \mid bBb \mid a \mid b \mid aa \mid bbA \to b \mid aB \to bC \to b$

$S' \to BA \mid aAa \mid bBb \mid a \mid b \mid aa \mid bb \mid \epsilon S \to BA \mid aAa \mid bBb \mid a \mid b \mid aa \mid bbA \to b \mid aB \to b$

$\overrightarrow{BA} \mid$
$A'AA' \mid$
$BBB \mid$
$a \mid$
$b \mid$
$A'A' \mid$
$BB \mid$
ϵ
$S \to$
$BA \mid$
$A'AA' \mid$
$BBB \mid$
$a \mid$
$b \mid$
$A'A' \mid$