$$\begin{split} E &\rightarrow 1 \\ N &\rightarrow 0 \\ A &\rightarrow EC \mid NS' \mid 0 \\ B &\rightarrow ES' \mid ND \mid 1 \\ S &\rightarrow \epsilon \mid EA \mid NB \\ C &\rightarrow AA \\ S' &\rightarrow EA \mid NB \\ D &\rightarrow BB \end{split}$$



