Case II: Similar Argument.

This is not applicable.

By definition, if \( L \) has exactly 1/4 of its symbols are c's, but 2/5 of its symbols are c's, and so there must be at least \( |x| > 0 \).

So, \( |x| > 0 \)

Case I: \( \{ y \in \{ 0, 1 \}^* \mid y \text{ has no c's} \} \)

Case II: \( \{ y \in \{ 0, 1 \}^* \mid y \text{ has no c's or it has no c's} \} \)

Observe: \( |x| \geq m \) implies that either \( \forall y \in \text{CFL} \)

\[ n \text{ is not cfl} \]

\( \left| \begin{array}{c} \text{Step 1: } \text{We choose } \varepsilon = 0 \text{ and claim } \varepsilon \in L \text{ and } |x| > 0 \text{ and } y', y'' \in \text{CFL} \text{ such that } z = \text{CFL} \text{ and } \exists \text{CFL} \text{ and } m \text{ and } \exists \text{CFL} \\ \text{Step 2: Choose } z = \text{CFL} \text{ and apply } \text{CFL} \text{ and hence } \exists \text{CFL} \\ \text{Step 3: Get constant } m > 0 \text{ and } \exists \text{CFL} \text{ and apply for } L \text{ and } \exists \text{CFL} \text{ are not cfl} \text{ and } L_3 \text{ is cfl} \text{ because } L_3 \text{ is cfl}. \end{array} \right. \]

Application: We will show \( L_3 \) is not cfl.