$L = \{ w \# w \mid w \in L_K \}$

$w = 0^N \# 0^N \in L$ & $\mid 0^N \# 0^N \mid = 2N+1 \geq N$

Partimos de $w = 0^N \# 0^N = 0^i 0^j 0^{N-i-j} \# 0^N = xyz$ con $x = 0^i$
$y = 0^j$
$z = 0^{N-i-j} \# 0^N$

Notamos $\mid y \mid \geq 1 \Rightarrow j \geq 1$ $\mid xy \mid = N \Rightarrow i+j \leq N$

$K = 2$

$0^i 0^{2j} 0^{N-i-j} \# 0^N \Rightarrow 0^{N+j} \# 0^N \notin L$

$N+j \neq N$