

PZ.EJ2.d

$$\begin{cases} L_0 = 1L_0 \mid 0L_1 \mid \lambda \\ L_1 = 1L_0 \mid 0L_2 \mid \lambda \\ L_2 = 1L_0 \mid 0L_3 \mid \lambda \\ L_3 = 1L_3 \mid 0L_3 \mid \emptyset \end{cases}$$

$$L_3 = 1L_3 \mid 0L_3 \mid \emptyset = \underbrace{(1 \mid 0)}_{\alpha} L_3 \mid \underbrace{\emptyset}_{\beta} \xrightarrow{\text{ARDEN}} L_3 = (1 \mid 0)^* \overset{\text{absorbente}}{\downarrow} \emptyset = \emptyset$$

$\lambda \notin L(\alpha)$

$$\begin{aligned} L_0 &= 1L_0 \mid 0L_1 \mid \lambda = 1L_0 \mid 0(1L_0 \mid 0L_2 \mid \lambda) \mid \lambda \\ &= 1L_0 \mid 0(1L_0 \mid 0(1L_0 \mid 0L_3 \mid \lambda) \mid \lambda) \mid \lambda \\ &= 1L_0 \mid 0(1L_0 \mid 0(1L_0 \mid 0\emptyset \mid \lambda) \mid \lambda) \mid \lambda \\ &= 1L_0 \mid 0(1L_0 \mid 0(1L_0 \mid \lambda) \mid \lambda) \mid \lambda \\ &= 1L_0 \mid 0(1L_0 \mid 01L_0 \mid 0 \mid \lambda) \mid \lambda \\ &= 1L_0 \mid 01L_0 \mid 001L_0 \mid 00 \mid 0 \mid \lambda \\ &= \underbrace{(1 \mid 01 \mid 001)}_{\alpha} L_0 \underbrace{(00 \mid 0 \mid \lambda)}_{\beta} \end{aligned}$$

$\lambda \notin L(\alpha)$

$$\xrightarrow{\text{ARDEN}} L_0 = (1 \mid 01 \mid 001)^* (00 \mid 0 \mid \lambda)$$