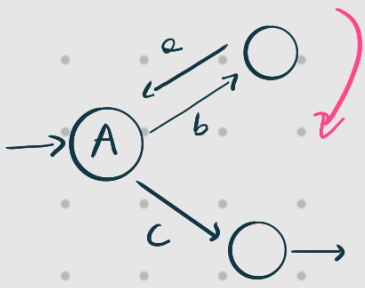
AFND ⇒ AFD → "determinísticos"

↓

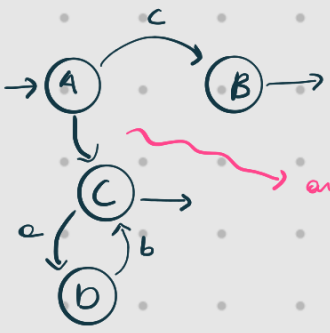
"não - determinísticos"

$L = (ab)^* \cup c$



"Estado!"

"Certo!"



"outra vez"

A linguagem do autómato é a solução mais simples do sistema.

Restrições

$A \supseteq \varepsilon C \cup cB$

$B \supseteq \varepsilon$

$C \supseteq aD \cup \varepsilon$

$D \supseteq bC$

↓ "A solução mais simples é a mesma"

No sol. mais simples:

$A = C \cup cB$

$B = \varepsilon$

$C = aD \cup \varepsilon$

$D = bC$

↕

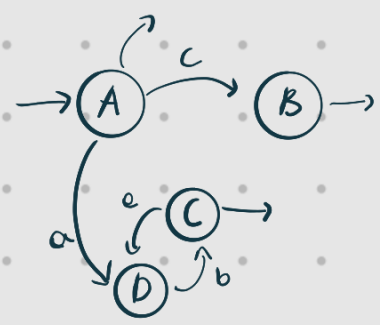
$A = (aD \cup \varepsilon) \cup cB$

$B = \varepsilon$

$C = aD \cup \varepsilon$, $C = abC \cup \varepsilon$

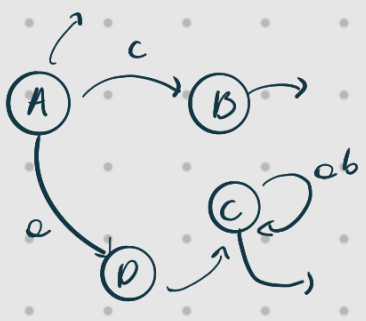
$D = bC$

solução:

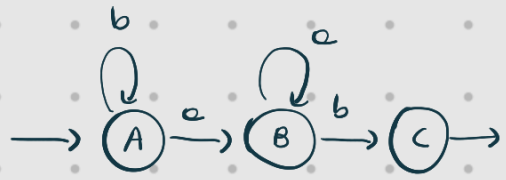


Solução determinística

ou



Exercício - Escreva um autómato que reconhece a linguagem dos palavras que terminam com "ab"
(alfabeto = {a,b})

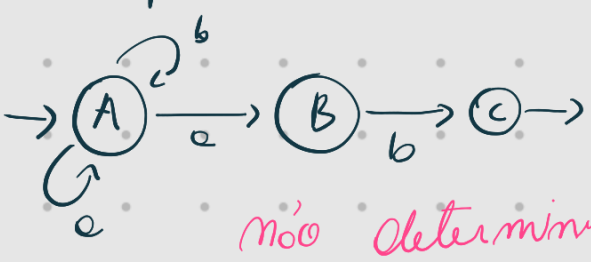


$C \supseteq \varepsilon$

$B \supseteq aB \cup bC$

$A \supseteq bA \cup aB$

Como podíamos resolver:



não determinístico

$A \supseteq aA \cup bA \cup aB$

$B \supseteq bC$

$C \supseteq \varepsilon$

$A \supseteq a(A \cup B) \cup bA$

$B \supseteq bC$

$C \supseteq \varepsilon$

$X \supseteq A \cup B$

$A \supseteq aX \cup bA$

$B \supseteq bC$

$C \supseteq \varepsilon$

$X \supseteq aX \cup bA \cup bC$

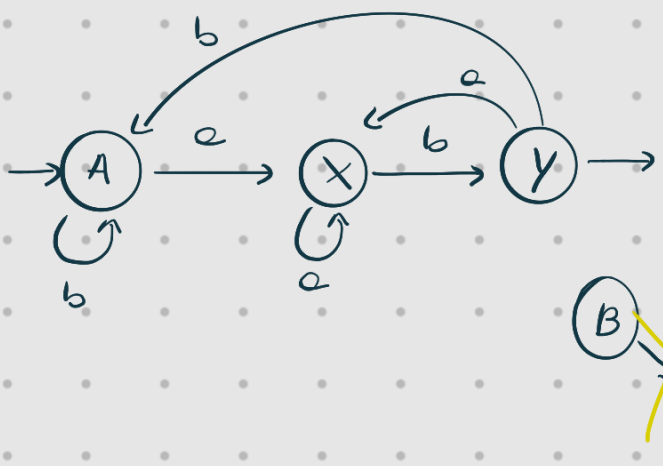
$A \supseteq aX \cup bA$

$B \supseteq bC$

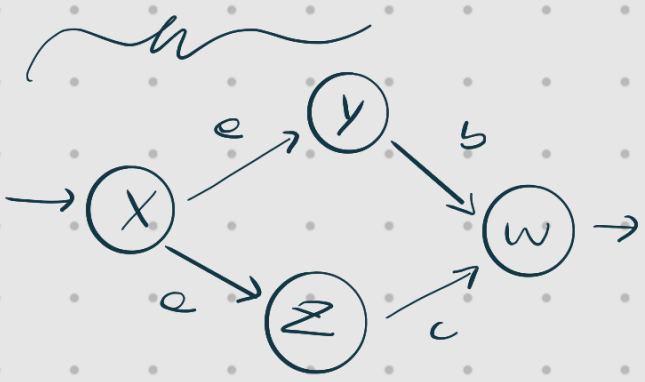
$C \supseteq \varepsilon$

$A \cup B = X \supseteq aX \cup bY$

$A \cup C = Y \supseteq aX \cup bA \cup \varepsilon$



estados inalcançáveis ⇓ podemos cortá-los



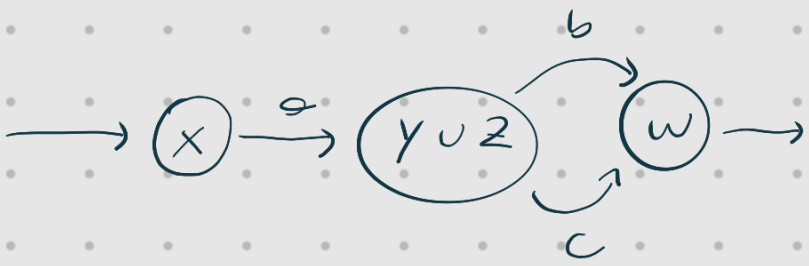
$X \supseteq aY \cup aZ = a(Y \cup Z)$

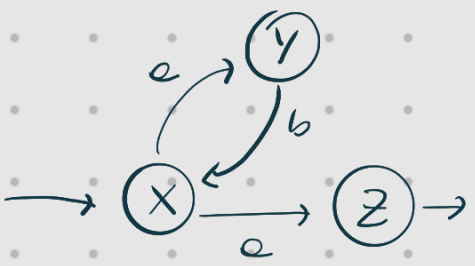
$Y \supseteq bW$

$W \supseteq \varepsilon$

$Z \supseteq cW$

$Y \cup Z \supseteq bW \cup cW$





$$X \supseteq aZ \cup aY = a(Z \cup Y)$$
$$Y \supseteq bX$$
$$Z \supseteq \varepsilon$$
$$Z \cup Y \supseteq \varepsilon \cup bX$$