

# Lista de exercícios nova - Erickson G. Müller

## 0.1 4 - autômatos finitos

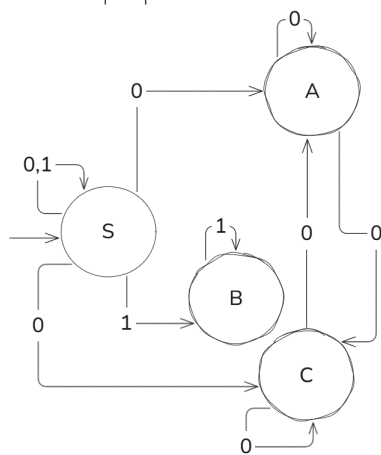
a

$S ::= 0S \mid 1S \mid 0A \mid 0C \mid 1B$

$A ::= 0A \mid 0C \mid 0$

$B ::= 1B \mid 1$

$C ::= 0C \mid 0A \mid 0$



AFND

	0	1
→S	S,A,C	S,B
A	A,C,F	-
B	-	B, F
C	A, C, F	-
*F	-	-

AFD

	0	1
→S	[S, A, C]	[S, B]
[S, A, C]	*[S, A, C, F]	[S, B]
*[S, A, C, F]	*[S, A, C, F]	[S, B]
[S, B]	[S, A, C]	*[S, B, F]
*[S, B, F]	[S, A, C]	*[S, B, F]

**b**

$S ::= aA|aC|bB|bC$

$A ::= aF|a$

$B ::= bF|b$

$C ::= aA|aC|bB|bC$

$F ::= aF|bF|a|b$

**AFND**

	a	b
$\rightarrow S$	$A, C$	$B, C$
$A$	$F, K$	-
$B$	-	$F, K$
$C$	$A, C$	$B, C$
$F$	$F, K$	$F, K$
$*K$	-	-

**AFD**

	a	b
$\rightarrow S$	$[A, C]$	$[B, C]$
$[A, C]$	$*[F, K]$	$[B, C]$
$[B, C]$	$[A, C]$	$*[B, C, F, K]$
$*[F, K]$	$*[F, K]$	$*[F, K]$
$*[B, C, F, K]$	$*[A, C, F, K]$	$*[B, C, F, K]$
$*[A, C, F, K]$	$*[A, C, F, K]$	$*[B, C, F, K]$

**c**

$S ::= aA|bB$   
 $A ::= aS|aC|a$   
 $B ::= bS|bD|b$   
 $C ::= aB$   
 $D ::= bA$

**AFND**

	a	b
$\rightarrow S$	$A$	$B$
$A$	$S, C, F$	-
$B$	-	$S, D, F$
$C$	$B$	-
$D$	-	$A$
$*F$	-	-

**AFD**

	a	b
$\rightarrow S$	$A$	$B$
$A$	$*[S, C, F]$	-
$*[S, C, F]$	$[A, B]$	$B$
$B$	-	$*[S, D, F]$
$[A, B]$	$*[S, C, F]$	$*[S, D, F]$
$*[S, D, F]$	$A$	$[A, B]$

**d**

$S ::= 0 < B > | 1 < A > | 1|\varepsilon$

$A ::= 0 < B > | \varepsilon$

$B ::= 0 < C > | 0 | 1 < D >$

$C ::= 0 < B > | 1 < A > | 1$

$D ::= 1 < C > | 1$

	AFND	
	0	1
$\rightarrow S$	B	A,X
$*X$	-	-
$*A$	B	-
B	C, X	D
C	B	A,X
D	-	C, X

	AFD	
	0	1
$\rightarrow^* S$	B	[AX]
B	[CX]	D
$*[AX]$	B	-
$*[CX]$	B	[AX]
D	-	[CX]

**e**

$S ::= aA|bB|a$

$A ::= aS|bC$

$B ::= aC|bS$

$C ::= aB|bA|b$

**AFND**

	a	b
$\rightarrow S$	$A, F$	$B$
$A$	$S$	$C$
$B$	$C$	$S$
$C$	$B$	$A, F$
$*F$	-	-

**AFD**

	a	b
$\rightarrow S$	$*[A, F]$	$B$
$*[A, F]$	$S$	$C$
$B$	$C$	$S$
$C$	$B$	$*[A, F]$
$*F$	-	-

**f**

$S ::= aA|bB|b|cS|c|\varepsilon$

$A ::= aS|a|bC|cA$

$B ::= aA|cB|cS|c$

$C ::= aS|a|cA|cC$

**AFND**

	a	b	c
$\rightarrow *S$	$A$	$B, F$	$S, F$
$A$	$S, F$	$C$	$A$
$B$	$A$	-	$B, S, F$
$C$	$S, F$	-	$A, C$
$F$	-	-	-

**AFD**

	a	b	c
$\rightarrow *S$	$A$	$[B, F]$	$[S, F]$
$A$	$[S, F]$	$C$	$A$
$[B, F]$	$A$	-	$[B, S, F]$
$[S, F]$	$A$	$[B, F]$	$[S, F]$
$C$	$[S, F]$	-	$[A, C]$
$[B, S, F]$	$A$	$[B, F]$	$[B, S, F]$
$[A, C]$	$[S, F]$	$C$	$[A, C]$