

Linguagens Formais e Autômatos

Ciência da Computação

UFFS

Atividade orientada semana 12

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Objetivo: Compreender teoremas de simplificação de GLC (Fatoração).

Enunciado Fatore as GLCs a seguir:

a)

$$S ::= \cancel{1A0} + \cancel{1B1}$$

$$A ::= \cancel{1A0} + \cancel{100}$$

$$B ::= \cancel{C10} + \cancel{C01}$$

$$C ::= \cancel{11C} + \cancel{11D}$$

$$D ::= \cancel{10} + \cancel{11}$$

$$S ::= 1S'$$

$$\cancel{S'} ::= \cancel{A0} + \cancel{B1}$$

$$A ::= 1A'$$

$$A' ::= A0 \quad | \quad 00$$

$$B ::= CB'$$

$$B ::= 10 \quad | \quad 01$$

$$C ::= 11C'$$

$$\cancel{C'} ::= \cancel{C} + \cancel{D}$$

$$D ::= 1D'$$

$$D' ::= 0 \quad | \quad 1$$

$$S ::= 1S'$$

$$\cancel{S'} ::= \cancel{1A'0} + \cancel{CB'1}$$

$$S' ::= \cancel{1A'0} + \cancel{11C'B'1}$$

$$S' ::= 1S''$$

$$S'' ::= A'0 \quad | \quad 1C'B'1$$

$$\cancel{C'} ::= \cancel{11C'} + \cancel{1D^2}$$

$$C' ::= 1C''$$

$$C'' ::= 1C' \quad | \quad D'$$

b)

$$S ::= \cancel{10D} + \cancel{11C} + 0B$$

$$B ::= \cancel{1CD} + \cancel{101B} + 01$$

$$C ::= \cancel{101C} + \cancel{1B0} + 00$$

$$D ::= \cancel{00B} + \cancel{011D} + 110$$

$$S ::= 0B \quad | \quad 1S'$$

$$S' ::= 0D \quad | \quad 1C$$

$$B ::= 01 \quad | \quad 1B'$$

$$B' ::= \cancel{CD} + 01B$$

$$\cancel{B'} ::= \cancel{1C'D} + \cancel{00D} + \cancel{01B}$$

$$B' ::= 1C'D \quad | \quad 0B''$$

$$B'' ::= 0D \quad | \quad 1B$$

$$C ::= 1C' \quad | \quad 00$$

$$\cancel{C'} ::= \cancel{01C} + \cancel{B0}$$

$$C' ::= \cancel{01C} + \cancel{010} + 1B'0$$

$$C' ::= 01C'' \quad | \quad 1B'0$$

$$\cancel{C''} ::= \cancel{C} + 0$$

$$C'' ::= \cancel{1C'} + \cancel{00} + 0$$

$C'' ::= 1C' \mid 0C''$

$C'' ::= 0 \mid \varepsilon$

$D ::= 0D' \mid 110$

$D' ::= 0B \mid 11D$