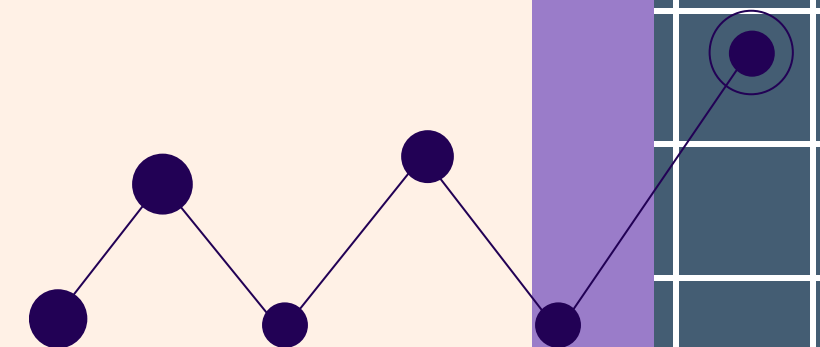
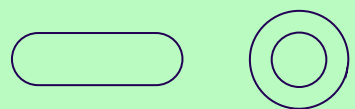


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Lógica Computacional

Circuitos Eletrônicos



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Funções Lógicas

$((\{ \gg 0 \mid \square \square \square \}))$

01

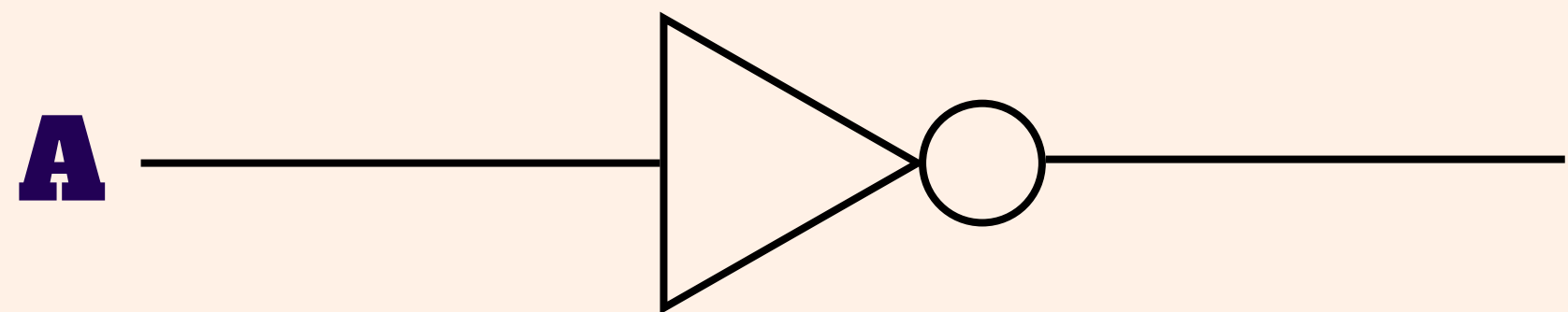
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Funções Lógicas



Função NÃO

A	\bar{A}
1	0
0	1



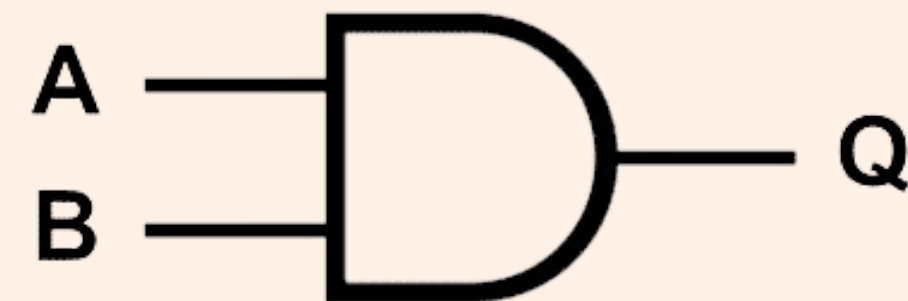
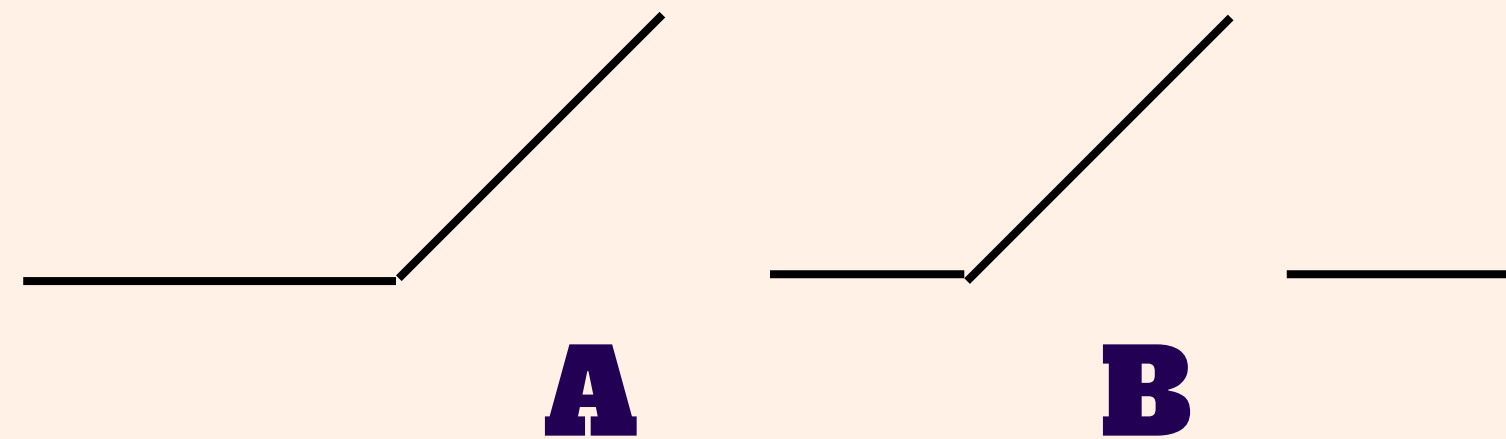
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Funções Lógicas



Função E

A	B	$A \cdot B$
0	0	0
0	1	0
1	0	0
1	1	1

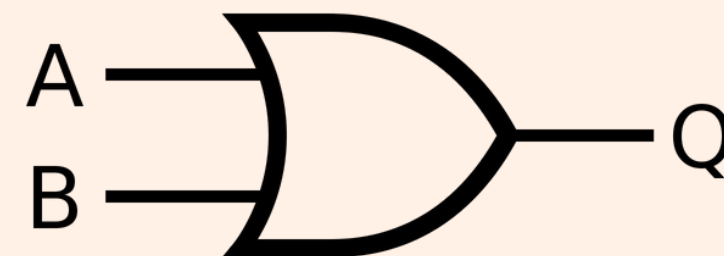
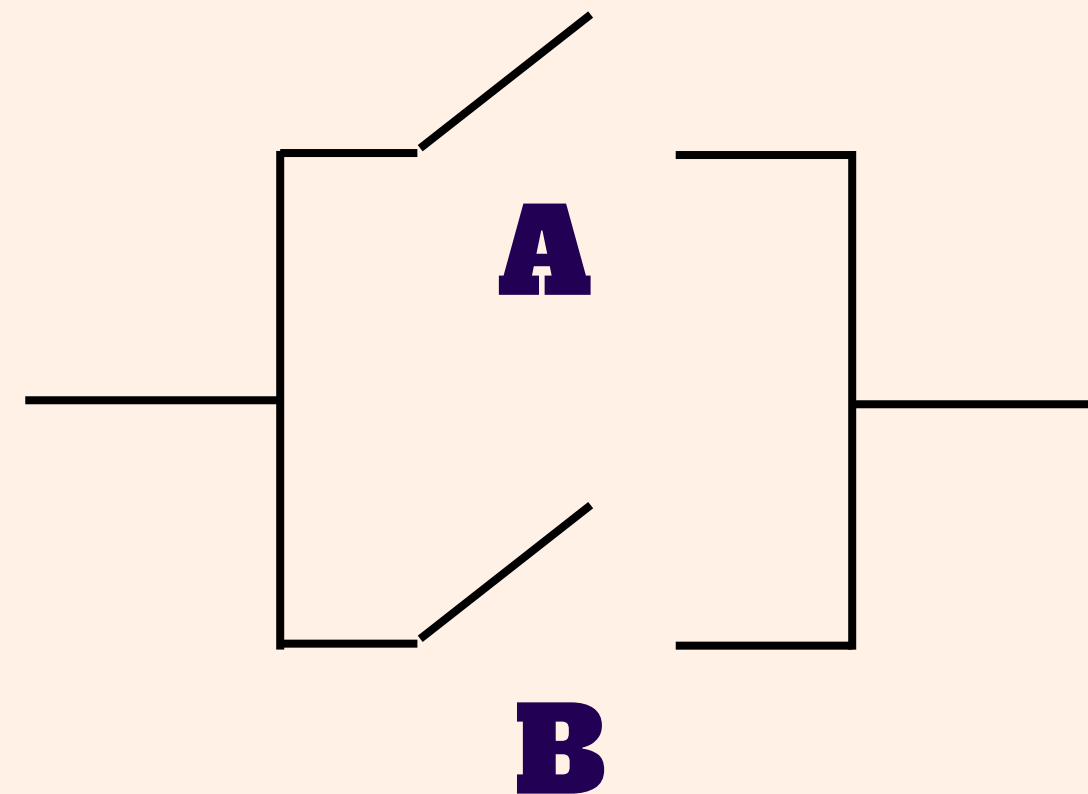


Funções Lógicas



Função OU

A	B	$A + B$
0	0	0
0	1	1
1	0	1
1	1	1



Propriedades de lógica digital

02

$((\{ \gg 0 \mid \square \square \square \}))$

$\square \square 0 \triangle // \triangle / \square \square) <$

Propriedades de Lógica Digital

$$0 + A = A$$

$$1 + A = 1$$

$$A + A = A$$

$$A + \bar{A} = 1$$

$$A + B = B + A$$

$$A + (B + C) = (A + B) + C$$

$$1 \cdot A = A$$

$$0 \cdot A = 0$$

$$A \cdot A = A$$

$$A \cdot \bar{A} = 0$$

$$A \cdot B = B \cdot A$$

$$A \cdot (B + C) = A \cdot B + A \cdot C$$

$$A + (B \cdot C) = (A + B) \cdot (A + C)$$

$$\overline{A + B} = \bar{A} \cdot \bar{B}$$

$$\overline{A \cdot B} = \bar{A} + \bar{B}$$

Circuitos Lógicos

$((\{ \gg 0 \mid \square \square \square \}))$

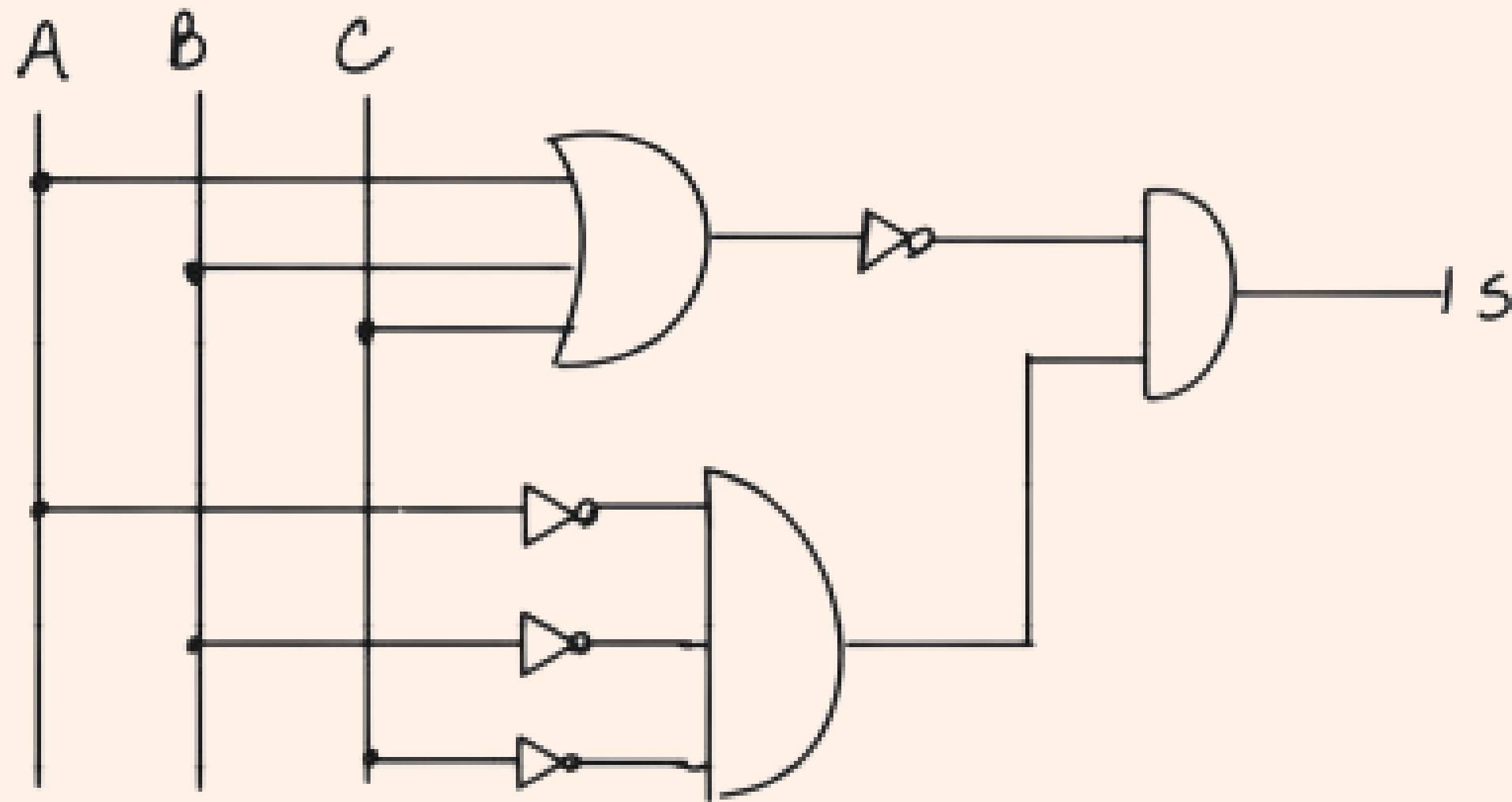
03

$\square \square 0 \triangle // \triangle / \square \square) <$

Circuitos Lógicos



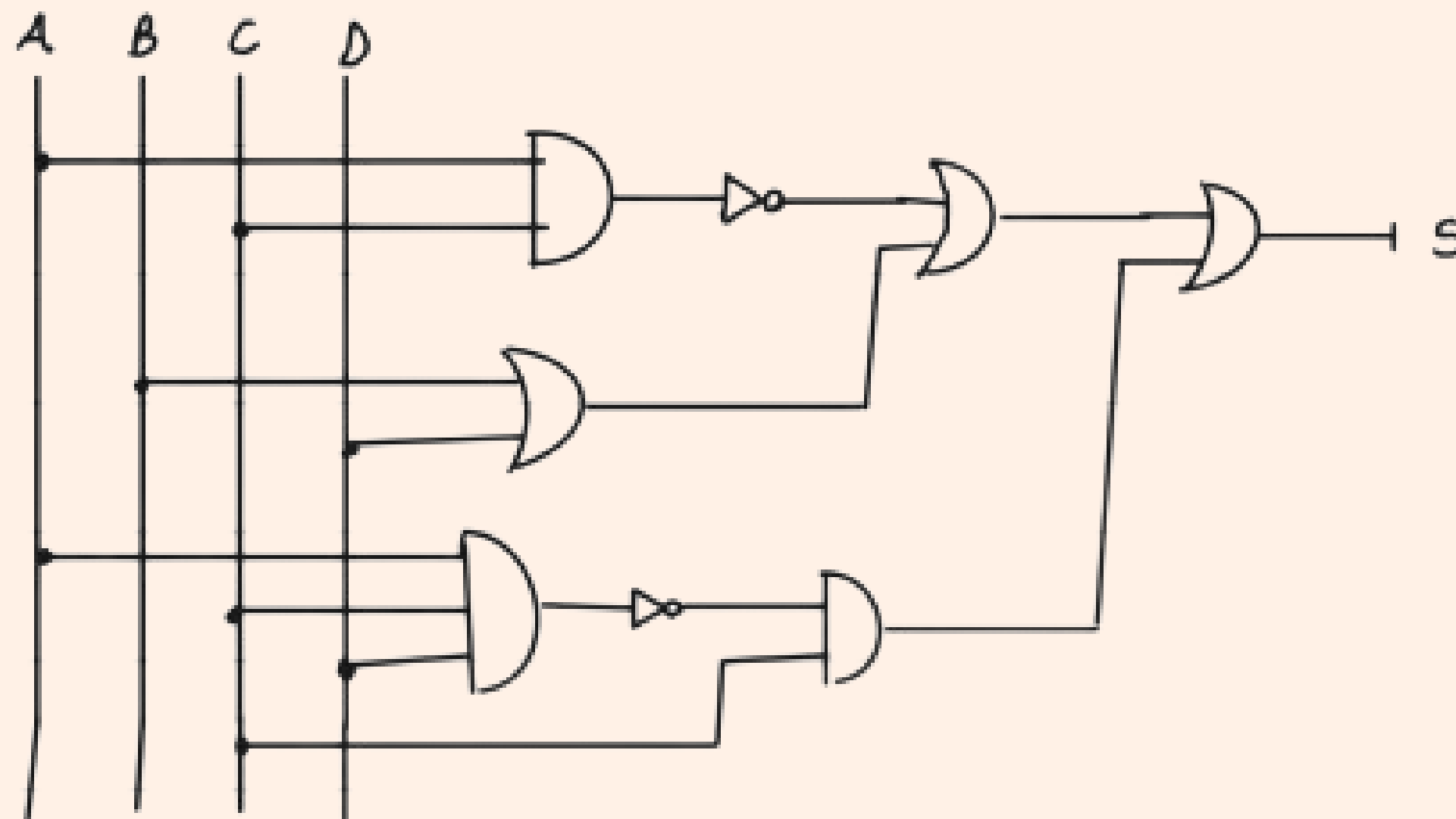
$$S = (\overline{A + B + C}) \cdot (\bar{A} \cdot \bar{B} \cdot \bar{C})$$



Circuitos Lógicos



$$S = (\overline{A \cdot C + B + D}) + C \cdot (\overline{A \cdot C \cdot D})$$



Circuitos Lógicos



$$S = ((A + B) \cdot C) \cdot (D \cdot (C + B))$$

?



Simplificação de Expressões

$((\{ \gg 0 \mid \square\square\square \}))$

04

$\square\square 0 \triangle // \triangle / \square\square) <$

Circuitos Lógicos



$$S = \bar{A} \bar{B} \bar{C} + \bar{A} B \bar{C} + A \bar{B} C$$

$$S = \bar{A} \bar{B} \bar{C} + \bar{A} B \bar{C} + A \bar{B} C$$

$$S = \bar{A} \bar{C} (\bar{B} + B) + A \bar{B} C$$

$$S = \bar{A} \bar{C} (1) + A \bar{B} C$$

$$S = \bar{A} \bar{C} + A \bar{B} C$$



Circuitos Lógicos



$$S = (\overline{AC} + B + D) + C(\overline{ACD})$$

$$S = (\overline{AC} + B + D) + C(\overline{ACD})$$

$$S = (\overline{A} + \overline{C} + B + D) + C(\overline{ACD})$$

$$S = (\overline{A} + \overline{C} + B + D) + (C\overline{A} + \cancel{C\overline{C}}^0 + C\overline{D})$$

$$S = A.C.\overline{B}.\overline{D} + C\overline{A} + C\overline{D}$$

$$S = C\overline{D}(\cancel{A\overline{B}} + 1) + \overline{A}C$$

$$S = C\overline{D} + \overline{A}C$$

$$S = C(\overline{D} + \overline{A})$$



Circuitos Lógicos



$$S = \bar{A} \bar{B} \bar{C} + \bar{A} B C + \bar{A} B \bar{C} + A \bar{B} \bar{C} + A B \bar{C}$$

?

