

# Lista 5

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Problema 1: seja  $P$ : "Está Frio" e  $q$ : "Está Chovendo".

- a)  $\sim P$ ; Não está frio
- b)  $P \vee q$ ; Está frio ou Está chovendo
- c)  $P \wedge q$ ; Está frio e Está chovendo
- d)  $q \vee \sim P$ ; Está chovendo ou Não está frio

Problema 2:

$$E(P, q) = \sim P \wedge q$$

P	q	$\sim P$	$\sim P \wedge q$
F	F	V	F
F	V	V	V
V	F	F	F
V	V	F	F

$\swarrow$     $\nwarrow$     $\nearrow$   
 $\wedge$

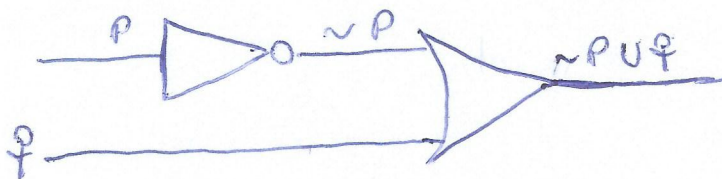
$$E(P, q) = P \vee \sim(P \wedge q)$$

P	q	$P \wedge q$	$\sim(P \wedge q)$	$P \vee \sim(P \wedge q)$
F	F	F	V	V
F	V	F	V	V
V	F	F	V	V
V	V	V	F	V

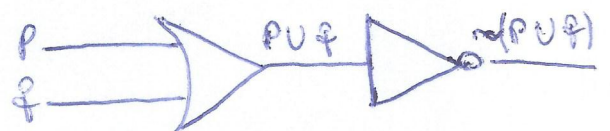
$\swarrow$     $\nwarrow$     $\nearrow$   
 $\vee$

Problema 6:

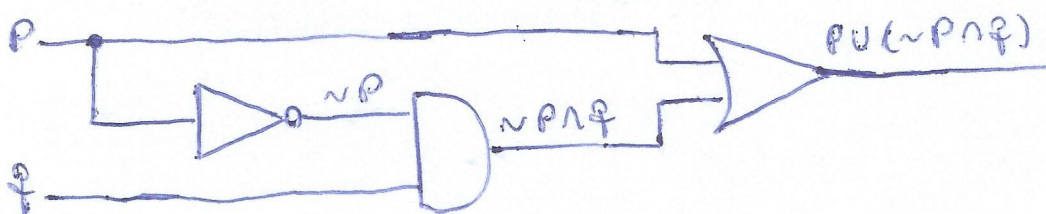
a)  $\sim P \vee q$



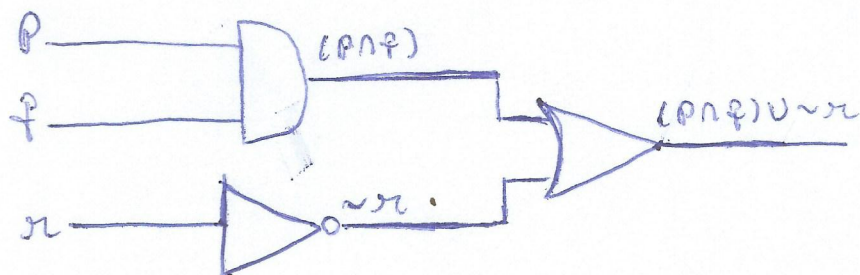
b)  $\sim(P \vee q)$



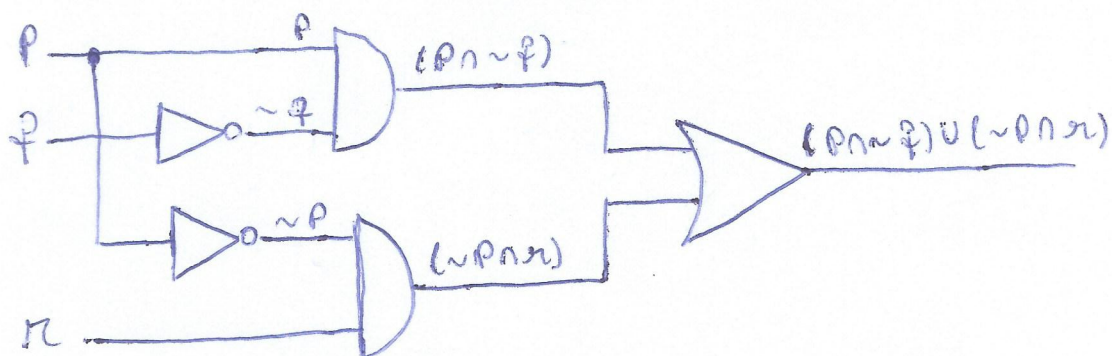
c)  $P \vee (\sim P \wedge q)$



d)  $(P \wedge Q) \vee \sim R$



e)  $(P \wedge \sim Q) \vee (\sim P \wedge R)$



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Tabela 1			
P	Q	R	S
V	V	F	V
F	V	V	V

$\rightarrow P \wedge Q \wedge \sim R$   
 $\rightarrow \sim P \wedge Q \wedge R$

$S = (P \wedge Q \wedge \sim R) \vee (\sim P \wedge Q \wedge R)$

Tabela 2			
P	Q	R	S
V	F	V	V
V	F	F	V
V	V	F	V

$\rightarrow P \wedge \sim Q \wedge R$   
 $\rightarrow P \wedge \sim Q \wedge \sim R$   
 $\rightarrow P \wedge Q \wedge \sim R$

$S = (P \wedge \sim Q \wedge R) \vee (P \wedge \sim Q \wedge \sim R) \vee (P \wedge Q \wedge \sim R)$

Tabela 3			
P	Q	R	S
V	V	V	V
V	F	V	V
F	F	F	V

$\rightarrow P \wedge Q \wedge R$   
 $\rightarrow P \wedge \sim Q \wedge R$   
 $\rightarrow \sim P \wedge \sim Q \wedge \sim R$

$S = (P \wedge Q \wedge R) \vee (P \wedge \sim Q \wedge R) \vee (\sim P \wedge \sim Q \wedge \sim R)$

Tabela 4			
P	Q	R	S
V	V	F	V
F	V	V	V
F	F	V	V

$\rightarrow P \wedge Q \wedge \sim R$   
 $\rightarrow \sim P \wedge Q \wedge R$   
 $\rightarrow \sim P \wedge \sim Q \wedge R$

$S = (P \wedge Q \wedge \sim R) \vee (\sim P \wedge Q \wedge R) \vee (\sim P \wedge \sim Q \wedge R)$