

## A2 - CIÊNCIAS DA COMPUTAÇÃO

Disciplina: Sistemas Digitais

Docente: Lytiene Rodrigues

1 – Faça a conversão da Tabela Verdade em Mapa de Karnaugh e em seguida simplifique a expressão Booleana:

a)

A	B	X
0	0	
0	1	
1	0	
1	1	

data  
fecha

D S T Q Q S S  
 D L M M J V S

A1

A	B	X
0	0	1
0	1	1
1	0	1
1	1	0

$\rightarrow X = \bar{A}\bar{B} + \bar{A}B + A\bar{B}$

	$\bar{B}$	B
$\bar{A}$	1	1
A	1	0

$\rightarrow X = \bar{B} + \bar{A}$

b)

A	B	C	X
0	0	0	
0	0	1	
0	1	0	
0	1	1	
1	0	0	
1	0	1	
1	1	0	
1	1	1	

b)

A	B	C	X
0	0	0	0
0	0	1	1
0	1	0	0
0	1	1	1
1	0	0	1
1	0	1	1
1	1	0	1
1	1	1	0

$$X = \bar{A}\bar{B}C + \bar{A}B\bar{C} + A\bar{B}\bar{C} + A\bar{B}C + A\bar{B}C + ABC$$

	$\bar{B}$	B	
$\bar{A}$	0	1	0
A	1	1	0
	$\bar{C}$	C	$\bar{C}$

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

c)

A	B	C	X
0	0	0	
0	0	0	
0	0	1	
0	0	1	
0	1	0	
0	1	0	
0	1	1	
0	1	1	

c)

A	B	C	X
0	0	0	0
0	0	0	0
0	0	1	1
0	0	1	1
0	1	0	0
0	1	0	0
0	1	1	1
0	1	1	1

$$X = \bar{A}\bar{B}\bar{C} + \bar{A}\bar{B}C + \bar{A}B\bar{C} + \bar{A}BC$$

	$\bar{B}$	B
$\bar{A}$	0	1
A	0	0

$X = \bar{A}C$

d)

A	B	C	X
1	0	0	
1	0	0	
1	0	1	
1	0	1	
1	1	0	
1	1	0	

1	1	1	
1	1	1	

data  
fecha . . .

d1

A	B	C	X
1	0	0	1
1	0	0	1
1	0	1	1
1	0	1	1
1	1	0	1
1	1	0	1
1	1	1	0
1	1	1	0

$$x = \overline{A} \overline{B} \overline{C} + \overline{A} \overline{B} \overline{C} + \overline{A} \overline{B} C + \overline{A} \overline{B} C + \overline{A} B \overline{C} + \overline{A} B \overline{C}$$

$$= \overline{A} \overline{B} \overline{C}$$

	$\overline{B}$	B
$\overline{A}$	0	0
A	1	1

$\rightarrow x = \overline{A} \overline{B} + A \overline{C}$

~~scribbled text~~