INSTITUTO FEDERAL
Rio Grande do Sul | Campus Farroupilha

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ADS 2022/02 - Arquitetura e Organização de Computadores

Atividade 2:

Tabela Verdade

mintermo	A	B	C	D	*a*	*b*	*c*	*d*	*e*	*f*	*g*	*sin*	C-2
0	0	0	0	0	1	1	1	1	1	1	0	0	**0**
1	0	0	0	1	0	0	0	0	1	1	0	0	**1**
2	0	0	1	0	1	0	1	1	0	1	1	0	**2**
3	0	0	1	1	1	0	0	1	1	1	1	0	**3**
4	0	1	0	0	0	1	0	0	1	1	1	0	**4**
5	0	1	0	1	1	1	0	1	1	0	1	0	**5**
6	0	1	1	0	1	1	1	1	1	0	1	0	**6**
7	0	1	1	1	1	0	0	0	1	1	0	0	**7**
8	1	0	0	0	1	1	1	1	1	1	1	1	**-8**
9	1	0	0	1	1	0	0	0	1	1	0	1	**-7**
10	1	0	1	0	1	1	1	1	1	0	1	1	**-6**
11	1	0	1	1	1	1	0	1	1	0	1	1	**-5**
12	1	1	0	0	0	1	0	0	1	1	1	1	**-4**
13	1	1	0	1	1	0	0	1	1	1	1	1	**-3**
14	1	1	1	0	1	0	1	1	0	1	1	1	**-2**
15	1	1	1	1	0	0	0	0	1	1	0	1	**-1**

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Mapas de Karnaugh e Expressões

Mapa A:

AB / CD	00	01	11	10
00	1	0	1	1
01	0	1	1	1
11	0	1	0	1
10	1	1	1	1

F (a) = A . ~B + C ~D + ~B . ~D + ~A . C + B . ~C . D

Mapa B:

AB / CD	00	01	11	10
00	1	0	0	0
01	1	1	0	1
11	1	0	0	0
10	1	0	1	1

F (b) = ~C . ~D + A . ~B . C + ~A . B . ~C + ~A . B . ~D

Mapa C:

AB / CD	00	01	11	10
00	1	0	0	1
01	0	0	0	1
11	0	0	0	1
10	1	0	0	1

F (C) = C . ~ D + ~B . ~D

Mapa D:

AB / CD	00	01	11	10
00	1	0	1	1
01	0	1	0	1
11	0	1	0	1
10	1	0	1	1

F (d) = C. ~D + ~B . C + ~B . ~D + B . ~C . D

Mapa E:

AB / CD	00	01	11	10
00	1	1	1	0
01	1	1	1	1
11	1	1	1	0
10	1	1	1	1

F(e) = ~C + D + ~A . B + A . ~B

Mapa F:

AB / CD	00	01	11	10
00	1	1	1	1
01	1	0	1	0
11	1	1	1	1
10	1	1	0	0

F (f) = ~ A . ~B + A . B + ~C . ~ D + A . ~C + ~ A . C . D

Mapa G:

AB / CD	00	01	11	10
00	0	0	1	1
01	1	1	0	1
11	1	1	0	1
10	1	0	1	1

F (g) = C . ~D + B . ~C + A . ~D + ~B . C

Mapa H (sin):

AB / CD	00	01	11	10
00	0	0	0	0
01	0	0	0	0
11	1	1	1	1
10	1	1	1	1

F (sin) = A

OBS: as linhas pontilhadas possuem mais de um agrupamento