

① ①

AB \ CD	00	01	11	10
00	X ₀	1 ₄	0 ₁₂	1 ₈
01	0 ₁	1 ₅	1 ₁₃	1 ₉
11	0 ₃	X ₇	X ₁₅	0 ₁₁
10	0 ₂	1 ₆	0 ₁₄	1 ₁₀

a) SOP mínima

• Cubos implicantes mínimos:

$$\overline{A}B (m_4, m_5, m_6, m_7); \overline{A}\overline{B}\overline{C} (m_8, m_9); \overline{A}\overline{B}D (m_8, m_{10}); \overline{A}\overline{C}\overline{D} (m_0, m_4); \overline{B}\overline{C}\overline{D} (m_0, m_8);$$

$$BD (m_5, m_{13}, m_7, m_{15}); \overline{A}\overline{C}D (m_9, m_{13})$$

• Tabela cobertura

	m ₀	m ₁	m ₂	m ₃	m ₄	m ₅	m ₆	m ₇	m ₈	m ₉	m ₁₀	m ₁₁	m ₁₂	m ₁₃	m ₁₄	m ₁₅
$\overline{A}B$ ✓		•	•	•	•											
BD			•		X									•		X
$\overline{A}\overline{B}\overline{C}$									•	•						
$\overline{A}\overline{B}D$ ✓									•		•					
$\overline{A}\overline{C}\overline{D}$	X	•														
$\overline{B}\overline{C}\overline{D}$	X								•							
$\overline{A}\overline{C}D$ ✓										•				•		

$$SOP_{min} = \overline{A}B + \overline{A}\overline{B}D + \overline{A}\overline{C}\overline{D}$$

b) POS mínima

• Primos não-implicantes

$$A+B (M_0, M_1, M_2, M_3); \overline{A}+\overline{B}+D (M_{12}, M_{14}, M_{15}); \overline{C}+\overline{D} (M_3, M_7, M_{11}, M_{15})$$

$$\overline{A}+\overline{B}+\overline{C} (M_{14}, M_{15})$$

	M ₀	M ₁	M ₂	M ₃	M ₄	M ₅	M ₆	M ₇	M ₈	M ₉	M ₁₀	M ₁₁	M ₁₂	M ₁₃	M ₁₄	M ₁₅
$A+B$	X	•	•	•												
$\overline{A}+\overline{B}+D$							•		•				•			
$\overline{C}+\overline{D}$				•	X						X				•	
$\overline{A}+\overline{B}+\overline{C}$											X					

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