

## Truth table

A	B	C	F
0	0	0	0
0	0	1	0
0	1	0	0
0	1	1	1 $m_3$
1	0	0	0
1	0	1	1 $m_5$
1	1	0	1 $m_6$
1	1	1	1 $m_7$

## Karnaugh map

C \ AB		A			
		0	2	6	4
C	1	3	7	5	1

B

## simplify

$$F = AB + AC + BC$$

## implementation with NAND gates.

$$\overline{\overline{F}} = \overline{(AB + AC + BC)}$$

$$F = (\overline{AB}) (\overline{AC}) (\overline{BC})$$

$$F = \text{NAND}(\text{NAND}(A, B), \text{NAND}(A, C), \text{NAND}(B, C))$$

