

| | | | | |
|-------|----|----|----|----|
| c \ d | 00 | 01 | 11 | 10 |
| b \ c | | | | |
| 00 | | | | |
| 01 | | | | |
| 11 | 1 | 1 | 1 | |
| 10 | 1 | | 1 | 1 |

امیر بهاء جزئی
99463138

$$F(a, b, c, d) = \sum m(2, 7, 8, 10, 11, 12, 13) + d(3, 15)$$

| PS | EPS | EPS | ۲ EPS می تواند |
|--------|----------|-------|----------------|
| b'c +6 | | | |
| cd' | b'c +1 | b'c | داده شده |
| ac'd' | cd' | cd | |
| abc' | abc' | abd | |
| abd | ab'd' -1 | ac'd' | |
| ab'd' | | | |

+2

$$(SOP) \Rightarrow F(a, b, c, d) = b'c + cd' + abc' + ab'd'$$

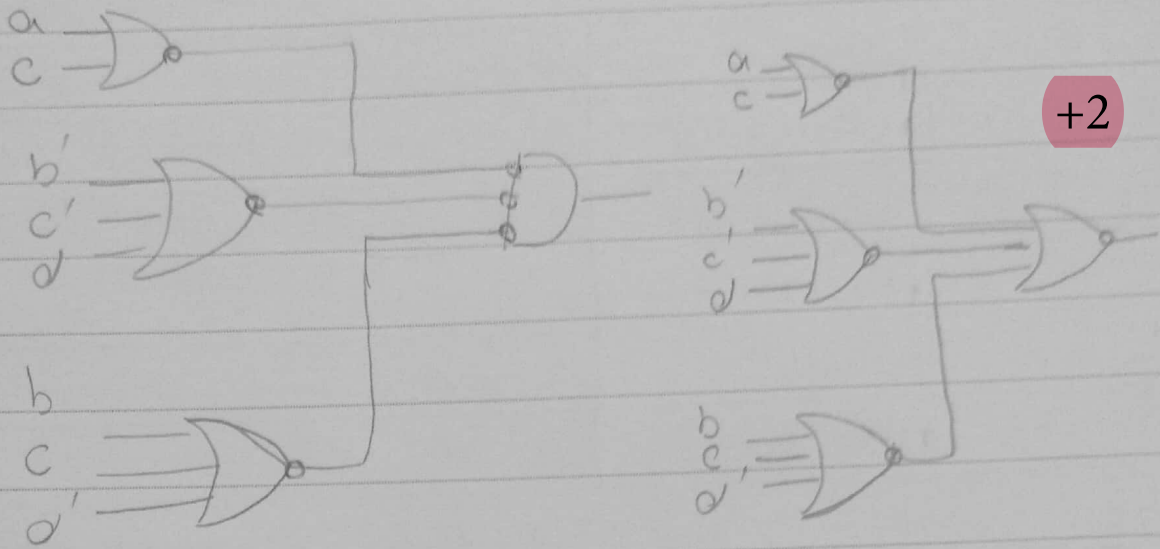
$$(POS) \Rightarrow F(a, b, c, d) = (a+c)(b'+c'+d)(b+c+d')$$

-4 for missed other Fs

$$f(a, b, c, d) = (a+c)(b'+c'+d)(b+c+d')$$

+3

NOR-NOR

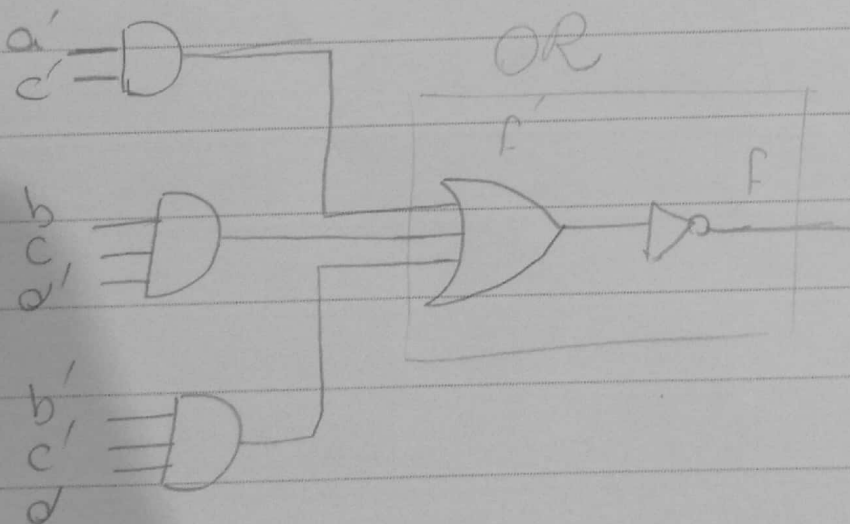


+2

AND-OR INV

$$\bar{f}(a, b, c) = a'c' + bcd' + b'c'd$$

+3



+2

| | | | |
|---------|------------------------------|-------------------|--------------------------------------|
| 2 0010 | (2,3) 1 | (2,3,10,11) (1,8) | $\overline{a}b\overline{c}d$ 8010 |
| 8 1000 | (2,10) 8 | (2,3,10,11) (8,1) | |
| 3 0011 | (8,10) 2 \rightarrow 1000 | (3,7,11,15) (4,8) | $\overline{a}b\overline{c}d$ 8811 |
| 10 1010 | (8,12) 4 \rightarrow 1000 | (3,11,7,15) (8,4) | |
| 12 1100 | (3,7) 4 + | | |
| 7 0111 | (3,11) 8 + | | |
| 11 1011 | (10,11) 1 | | |
| 13 1101 | (12,13) 1 \rightarrow 1100 | | |
| 15 1111 | (7,15) 8 + | | |
| | (11,15) 4 + | | |
| | (13,15) 2 \rightarrow 1101 | | |

+8

| ΣPS | ΣpS |
|-------------|-------------|
| $b'c$ | $b'c$ |
| cd | cd |
| $ac'd'$ | $ab'd'$ |
| abd | abc' |

+6

| PS | 2 | 3 | 7 | 8 | 10 | 11 | 12 | 13 | 15 |
|-------------------|---|---|---|---|----|----|----|----|----|
| $ab'd' (8,10)$ | | | | x | x | | | | |
| $ac'd' (8,12)$ | | | | x | | | x | | |
| $abc' (12,13)$ | | | | | | | x | x | |
| $abd (13,15)$ | | | | | | | | x | x |
| $b'c (2,3,10,11)$ | x | x | | | x | x | | | |
| $cd (3,7,11,15)$ | | x | x | | | x | | | x |
| | x | x | x | | x | x | | | x |

+6