OSNOVE DIGITALNIH VEZIJ

5. Domača naloga
11/24/2020

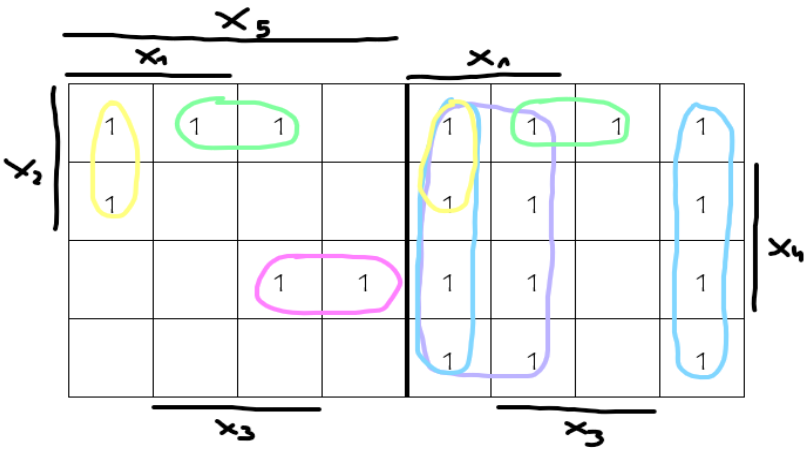
Mojca Kompara

Podana je preklopna funkcija:

$f(x_1, x_2, x_3, x_4, x_5) = v^5 (0, 2, 3, 7, 8, 10, 12, 13, 16, 18, 20, 22, 24, 25, 26, 27, 28, 29, 30)$.

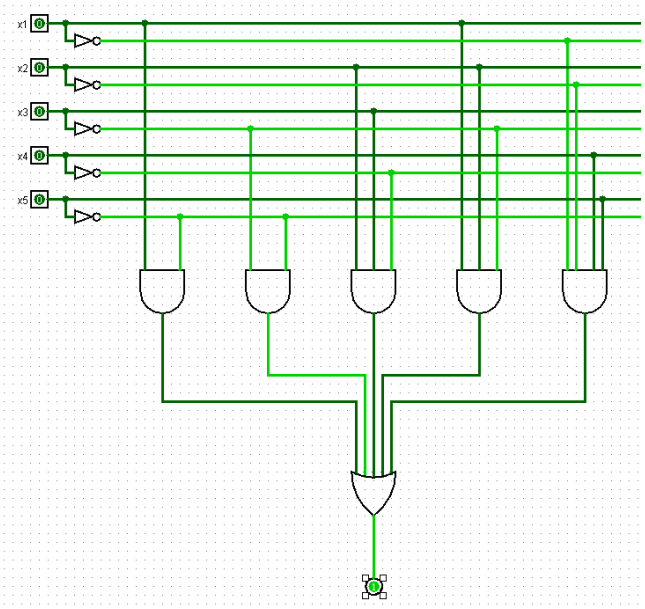
Poišči njeno minimalno normalno obliko (MNO). MNO obliko vizualiziraj v obliki logične sheme (ročno ali v programu Logisim).

MDNO:

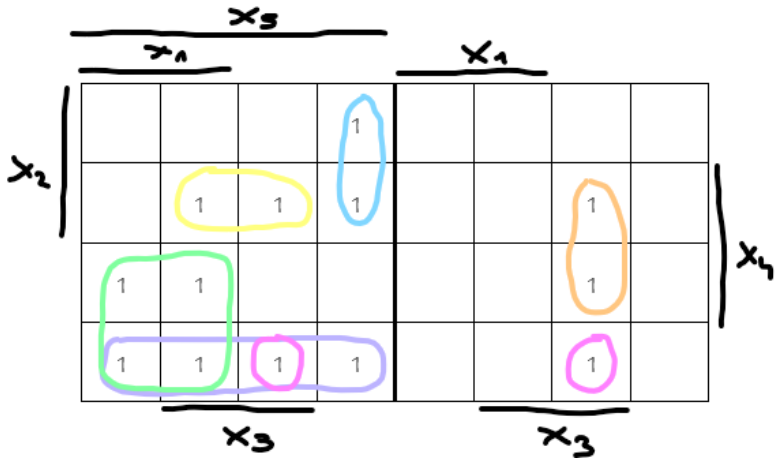


$f^5_{MDNO} = x_1\bar{x}_5 \vee \bar{x}_3\bar{x}_5 \vee x_2x_3\bar{x}_4 \vee x_1x_2\bar{x}_3 \vee \bar{x}_1\bar{x}_2x_4x_5$

[6, 19]



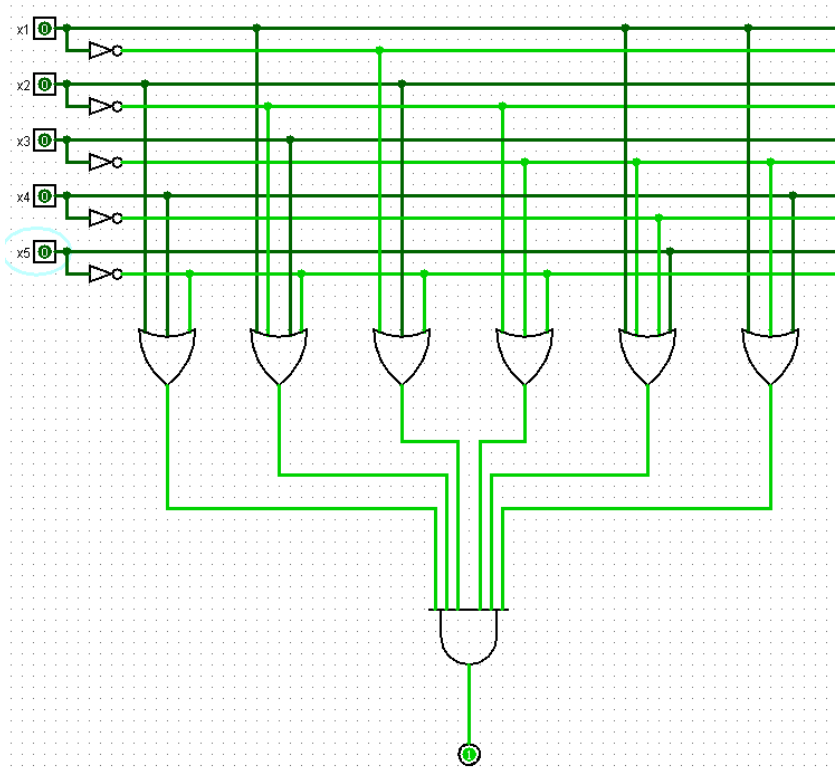
MKNO:



$\overline{f^5_{MKNO}} = \bar{x}_2\bar{x}_4x_5 \vee \bar{x}_1x_2\bar{x}_3x_5 \vee x_1\bar{x}_2x_5 \vee x_2x_3x_5 \vee \bar{x}_1x_3x_4\bar{x}_5 \vee \bar{x}_1x_3\bar{x}_4$

$f^5_{MkN0} = (x_2 \vee x_4 \vee \bar{x}_5)(x_1 \vee \bar{x}_2 \vee x_3 \vee \bar{x}_5)(\bar{x}_1 \vee x_2 \vee \bar{x}_5)(\bar{x}_2 \vee \bar{x}_3 \vee \bar{x}_5)(x_1 \vee \bar{x}_3 \vee \bar{x}_4 \vee x_5)(x_1 \vee \bar{x}_3 \vee x_4)$

[7, 26]



[6, 19] < [7, 26]

$f^5_{MNO} = f^5_{MDNO}$