OSNOVE DIGITALNIH VEZIJ
5. domača naloga

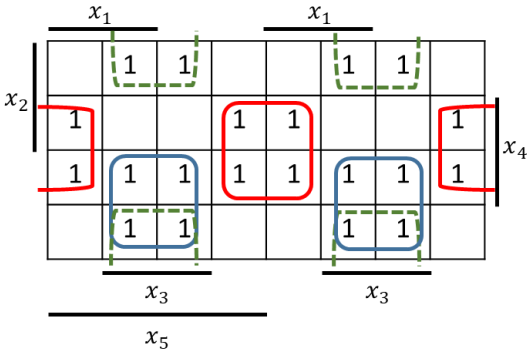
Podana je preklopna funkcija

$f(x_1, x_2, x_3, x_4, x_5) = \vee^5 (2,3,4,5,6,7,10,11,12,13,18,19,20,21,22,23,26,27,28,29)$

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

Minimalna disjunktivna normalna oblika (MDNO):

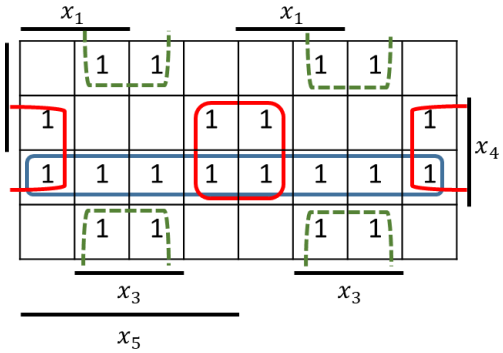
Rešitev a)



$f(x_1, x_2, x_3, x_4, x_5) = \overline{\boldsymbol{x_2}}.\ \boldsymbol{x_3} \vee \boldsymbol{x_3}\overline{\boldsymbol{x_4}} \vee \overline{\boldsymbol{x_3}}.\ \boldsymbol{x_4}$

MDNO: **[4, 9]**

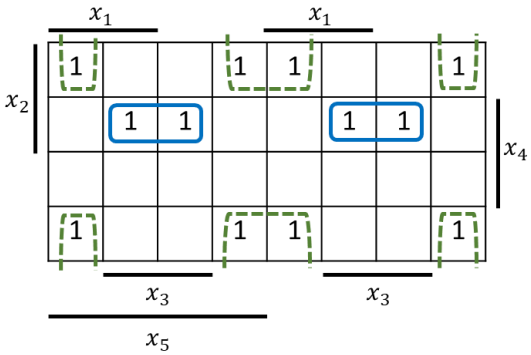
Rešitev b)



$f(x_1, x_2, x_3, x_4, x_5) = \overline{\boldsymbol{x_2}}.\ \boldsymbol{x_4} \vee \boldsymbol{x_3}\overline{\boldsymbol{x_4}} \vee \overline{\boldsymbol{x_3}}.\ \boldsymbol{x_4}$

MDNO: **[4, 9]**

Minimalna konjunktivna normalna oblika (MKNO):



MDNO ($\bar{f}$): $\bar{f}(x_1, x_2, x_3, x_4, x_5) = \boldsymbol{x_2}.\boldsymbol{x_3}.\boldsymbol{x_4} \vee \overline{\boldsymbol{x_3}}.\overline{\boldsymbol{x_4}}$

MKNO: $f(x_1, x_2, x_3, x_4, x_5) = \overline{\boldsymbol{x_2}.\boldsymbol{x_3}.\boldsymbol{x_4} \vee \overline{\boldsymbol{x_3}}.\overline{\boldsymbol{x_4}}} = (\overline{x_2} \vee \overline{x_3} \vee \overline{x_4}).(x_3 \vee x_4)$

MKNO: [3, 7]

Rešitev: Minimalna normalna oblika **MNO = MKNO**