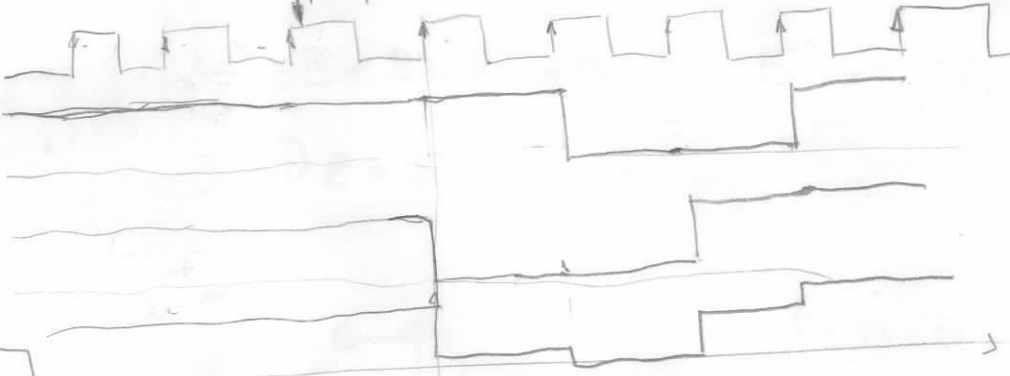


shyri 1 shelo per 0. Po 3wsh jeshoh shelo peshkimesh
pi je ta peshkimesh. Gjendja shqiptare n' tana n'af' do kane 1
peshkimesh shelo n' mami shelo n'af' n'af' shelo!
mami



D_0	D_1	Q_0	Q_1	X_0	X_1	Z
1	0	1	1	0	1	1.25
0	0	1	0	0	0	0
0	1	0	0	1	0	2.5
1	1	0	1	1	1	3.75

$$\frac{x-2}{2} + \frac{3-2}{2} = 0$$

$$\frac{x_1 - 1}{2k} + \frac{2 - 1}{k} + \frac{1 - 1}{k} = 0$$

$$\textcircled{3} \quad -\frac{f}{2x} + \frac{-f}{2x} + \frac{f}{x} = 0$$

$$-p + \{ -p = 0$$

$$\xi = 2\mu$$

$$\mu = \frac{1}{2}$$

② $x_1 - \zeta + 2z - 2\zeta + 2\mu - 2\zeta = 0$

$$x_1 - \cancel{x} + 2\cancel{x} - 2\cancel{x} + \cancel{x} - 2\cancel{x} = 0$$

$$x_1 + 2z - 4y = 0$$

$$\frac{x_1 + 2z}{4} = \{$$

$$\textcircled{1} \quad \frac{x_0 - 2}{2k} + \frac{z - 2}{k} = 0 \cdot k$$

$$x_0 - z + 2y - 2z = 0$$

$$x_0 - 3z + 2 \{ = 0$$

$$x_0 - 3z + \frac{x_1 + 2z}{2} = 0$$

$$x_0 - 3z + \frac{x_1}{2} + z' = 0$$

$$x_0 + \frac{x_1}{2} = 2z$$

$$z = \frac{1}{2} \left[x_0 + \frac{x_1}{2} \right] \Rightarrow z = \frac{1}{2} \left[\right]$$

Zapišite pravilno in nepravilno verzijo funkcije, ki jo definira naslednja logična tabela. 1
Nato jo optimizirajte s Karnaughovim diagramom in ugotovite, ali se lahko izrazi s NAND.

1

CD \ AB	00	01	11	10
00	X	X	X	X
01	1	X	0	1
11	X	1	X	X
10	X	X	X	X

$$\textcircled{1} Z = \overline{B} \cdot (\overline{A} \cdot BCD) = B \cdot \overline{A} BCD$$

$$\textcircled{2} Z = BC + B\overline{C} = B(\overline{C} + C) = B$$

$$\textcircled{3} Z = B\overline{C}\overline{D}$$

$$\overline{C} + \overline{D} = \overline{CD}$$

$$\overline{CD} = \overline{C} + \overline{D} =$$

$$= \overline{C} + \overline{D}(\overline{C} + C) =$$

$$= \overline{C} + \overline{D}\overline{C} + \overline{D}C =$$

$$= \overline{C}(\overline{D} + 1) + \overline{D}C =$$

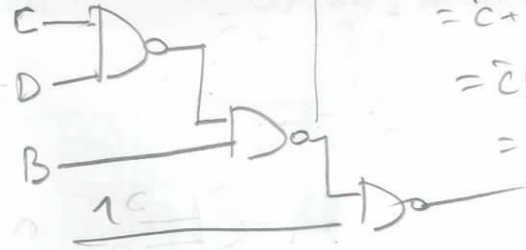
$$= \overline{C} + \overline{D}C$$

NAND	A	B
1	0	0
0	0	1
0	1	0
0	1	1

$$\overline{AB} = \overline{A} + \overline{B}$$

$$\overline{\overline{A} + \overline{B}} = \overline{\overline{A}} \overline{\overline{B}}$$

$$\overline{A} \Rightarrow \overline{A \cdot 1} = \overline{A}$$



- 2) sestavite binarni števec, ki v binarnem kodu ciljanih stoji 0 1 3 6 4 če je ne kontrolni vhod logično 1. kodov je ne kontrolni vhod logično 0 naj se ukaže v stoji 3.

stoj	Q_A	Q_B	Q_C	Z_1	Z_2	Z_3	X
1	0	0	0	0	0	0	1
2	1	0	0	1	0	0	1
3	0	1	0	1	1	0	1
4	0	0	1	0	1	1	1
5	1	1	0	0	0	1	1

$$Z_1 = Q_A \bar{Q}_B + \bar{Q}_A Q_B$$

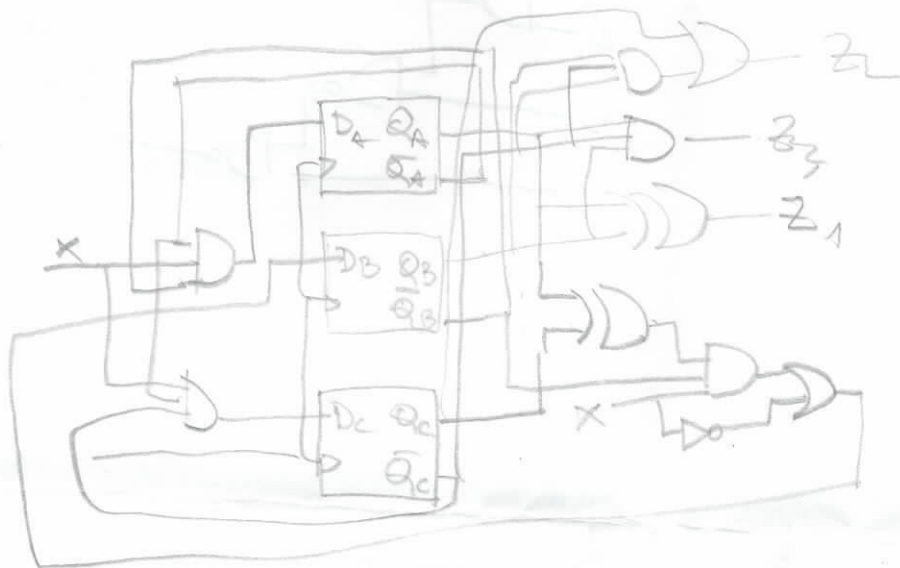
$$Z_2 = \bar{Q}_A \bar{Q}_B \bar{Q}_C + Q_C$$

$$Z_3 = Q_A Q_B \bar{Q}_C$$

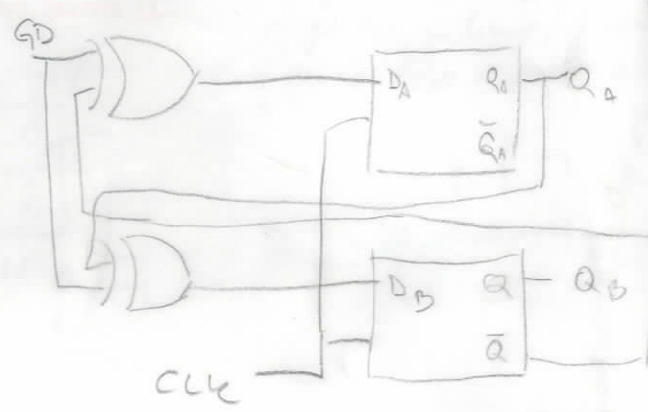
$$D_A = \bar{Q}_A \bar{Q}_B \bar{Q}_C + Q_A Q_B Q_C = \bar{Q}_A \bar{Q}_B \cdot X$$

$$D_B = Q_A \bar{Q}_B \bar{Q}_C + \bar{Q}_A Q_B Q_C = \bar{Q}_B (Q_A \bar{Q}_C + \bar{Q}_A Q_C) = \bar{Q}_B (Q_A \oplus Q_C)$$

$$D_C = \bar{Q}_A Q_B \bar{Q}_C \cdot X$$



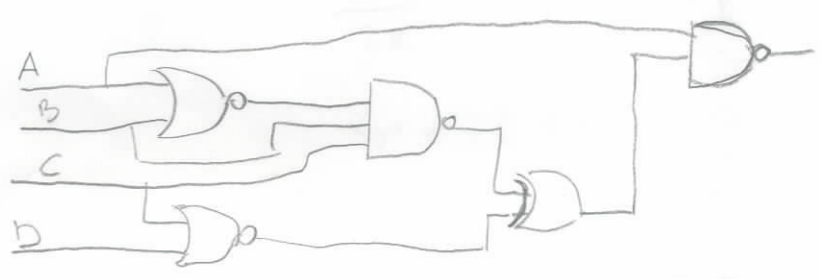
3) Na vseh verzah CLK je priključen prevodni signal ure. Varni diagrami so Q_A in Q_B ne izhaja iz prevodni, ko ima GD vrednost 1 in drugače 0, ko ima GD=0



$D_A = GD \oplus \bar{Q}_B$
 $D_B = GD \oplus Q_A$

	GD	QA	QB	DA	DB
Stagnant	1	0	0	0	1
	1	0	1	1	1
	1	1	1	1	0
	1	1	0	0	0
Transition	0	0	0	1	0
	0	1	0	1	1
	0	1	1	0	1
	0	0	1	0	0

4) Prevedeni vsaj uporabi samo vrste nov! 2



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

$$= A [\overline{(\overline{A+B}) \cdot B \cdot C \cdot (\overline{C+D})} + \overline{A+B} \cdot B \cdot C \cdot (\overline{C+D})] =$$

$$= A [\overline{\overline{A+B}} \cdot \overline{B \cdot C \cdot (\overline{C+D})} + \overline{A+B} \cdot B \cdot C \cdot (\overline{C+D})] =$$

izkoristimo $\bar{A} = \overline{A+0}$

$$= A \cdot [(A+B+\overline{B \cdot C}) (C+D)] =$$

$$= A \cdot [(A+B+\overline{B \cdot C}) (C+D)] =$$

$$= \bar{A} + \overline{C+D}$$