שאלה 3

17:56 Thursday, 14 March 2024

$$J(t+1) = X_1 X_2$$

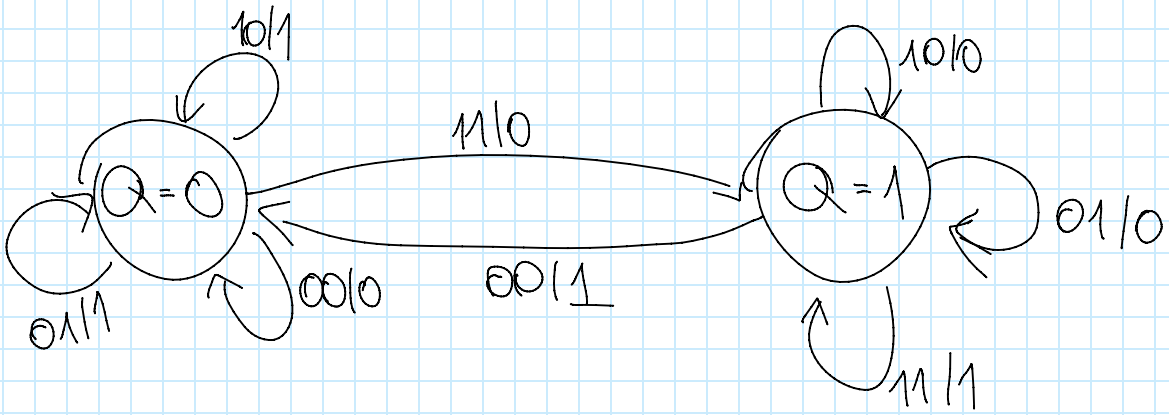
$$K(t+1) = X_1 + X_2$$

$$\begin{aligned} Z &= X_1 \oplus X_2 \oplus Q \\ &= (X_1 \overline{X_2} + \overline{X_1} X_2) \oplus Q \\ &= \overline{Q}(X_1 \overline{X_2} + \overline{X_1} X_2) + Q\overline{(X_1 \overline{X_2} + \overline{X_1} X_2)} \\ &= \overline{Q}(X_1 \overline{X_2} + \overline{X_1} X_2) + Q(\overline{X_1 \overline{X_2}} \cdot \overline{\overline{X_1} X_2}) \\ &= \overline{Q}(X_1 \overline{X_2} + \overline{X_1} X_2) + Q(\overline{X_1} + X_2)(X_1 + \overline{X_2}) \end{aligned}$$

:א

$Q(t)$	X_1	X_2	$J(t+1)$	$K(t+1)$	$Q(t+1)$	Z
0	0	0	0	1	0	0
0	0	1	0	0	0	1
0	1	0	0	0	0	1
0	1	1	1	0	1	0
1	0	0	0	1	0	1
1	0	1	0	0	1	0
1	1	0	0	0	1	0
1	1	1	1	0	1	1

:ב



ג.

$X_1 \oplus X_2 = Z$ כשקיים מעבר $Q(t)=0$

$\overline{X_1 \oplus X_2} = Z$ כשקיים מעבר $Q(t)=1$