

Lösningsförslag till TMEL53 Digitalteknik M - Dugga 3 2012-02-15

1. $T = Q_3 \cdot Q_2$

$S = \overline{Q_2}$

$R = Q_3 \cdot Q_2$

$D = Q_2 + Q_1$

FÖRE CP

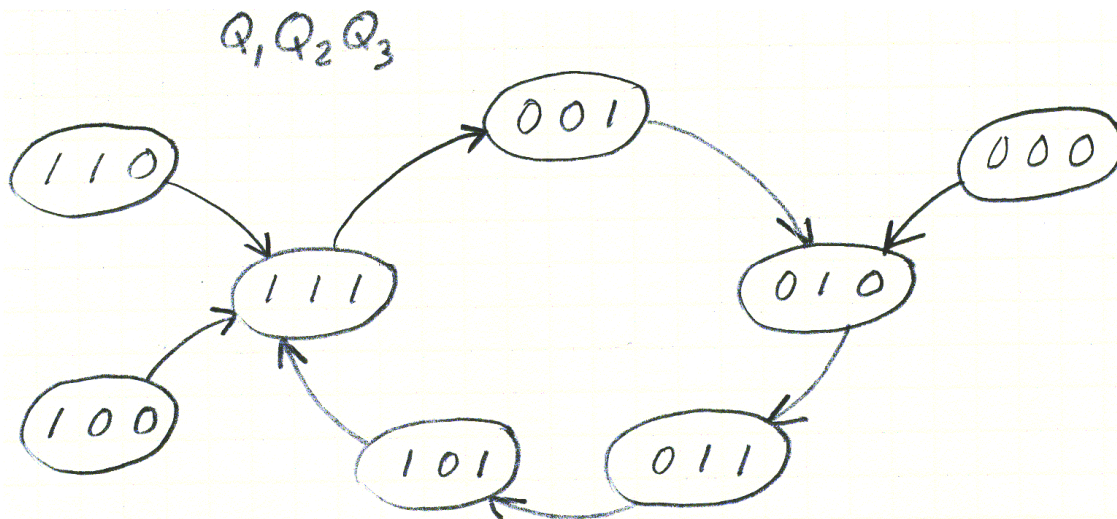
EFTER CP

Q_1, Q_2, Q_3

T, S, R, D

Q_1^+, Q_2^+, Q_3^+

0	0	0	0	1	0	0	0	0	1	0
0	0	1	0	1	0	0	0	0	1	0
0	1	0	0	0	0	1	1	0	1	1
0	1	1	1	0	1	1	1	1	0	1
1	0	0	0	1	0	1	1	1	1	1
1	0	1	0	1	0	1	1	1	1	1
1	1	0	0	0	0	1	1	1	1	1
1	1	1	1	0	1	1	0	0	1	1



2.

FORE CP

EFTER CP

X	Q ₁	Q ₂	J ₁	K ₁	J ₂	K ₂	Q ₁ ⁺	Q ₂ ⁺
0	0	0	0	-	0	-	0	0
0	0	1	1	-	-	1	1	0
0	1	0	-	1	0	-	0	0
0	1	1	-	1	-	0	0	1
1	0	0	1	-	0	-	1	0
1	0	1	1	-	-	0	1	1
1	1	0	-	1	1	-	0	1
1	1	1	-	0	-	0	1	1

Q₁ Q₂

X		00	01	11	10
0		0	1	-	-
1		1	1	-	-

$$J_1 = X + Q_2$$

Q₁ Q₂

X		00	01	11	10
0		-	-	1	1
1		-	-	0	1

$$K_1 = \bar{X} + \bar{Q}_2$$

Q₁ Q₂

X		00	01	11	10
0		0	-	-	0
1		0	-	1	1

$$J_2 = X Q_1$$

Q₁ Q₂

X		00	01	11	10
0		-	1	0	-
1		-	0	0	-

$$K_2 = \bar{X} \bar{Q}_1$$

