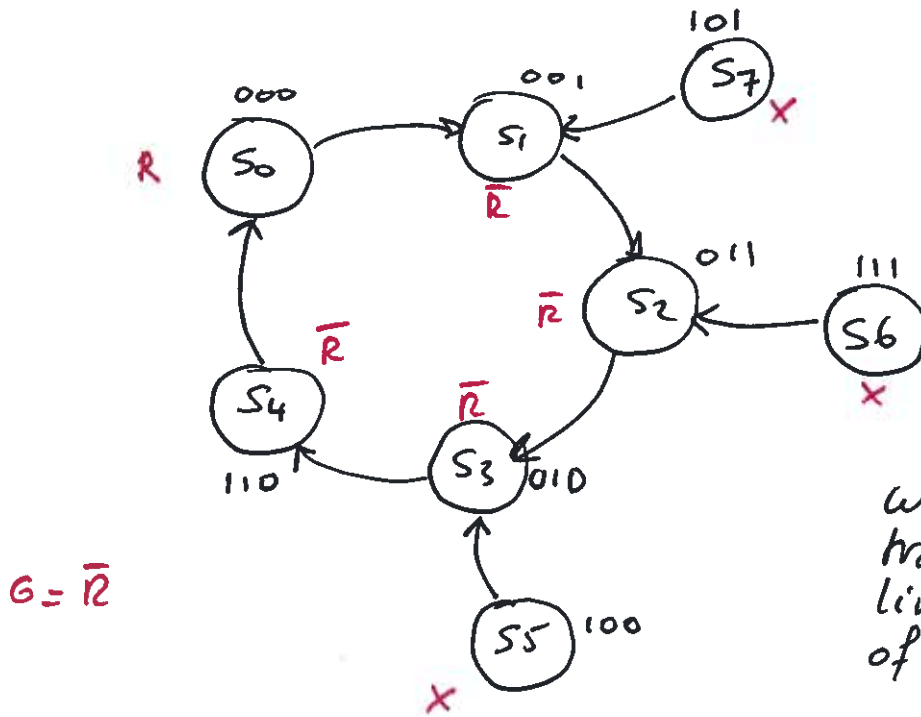


CSC270
HW#5
2012

I



$G = \bar{R}$

We pick transitions that limit the number of bit flipping.

We don't care what Green or Red do in the transient states ($S_5, S_6, \& S_7$).

3 FFs. $\text{freq} = 1/10s = 0.1 \text{ Hz}$

n			$n+1$			
Q_2	Q_1	Q_0	Q_2	Q_1	Q_0	R
0	0	0	0	0	1	1
0	0	1	0	1	1	0
0	1	0	0	1	0	0
0	1	1	0	1	0	0
1	0	0	0	0	0	X
1	0	1	0	0	1	X
1	1	0	0	0	0	0
1	1	1	0	1	1	X
			D_2	D_1	D_0	

	$Q_2 Q_1$			
Q_0	00	01	11	10
0		1		
1		0		

$$D_2 = \overline{Q_2} \cdot Q_1 \cdot \overline{Q_0}$$

	$Q_2 Q_1$			
Q_0	00	01	11	10
0		1		1
1	1	1	1	

$$\begin{aligned} D_1 &= \overline{Q_0} \cdot (Q_2 \oplus Q_1) + Q_0 (\overline{Q_2 \oplus Q_1}) \\ &\quad + Q_0 Q_1 \\ &= Q_0 \oplus (Q_2 \oplus Q_1) + Q_1 Q_0 \end{aligned}$$

	$Q_2 Q_1$			
Q_0	00	01	11	10
0	1			
1	1		1	1

$$D_0 = \overline{Q_2} \cdot \overline{Q_1} + Q_2 Q_0$$

$$R = \overline{Q_1} \cdot \overline{Q_0}$$

$$G = \overline{R}$$

II For explanations, see listing!

03/12/12
18:14:50

```
cmd Q2Q1Q0 = 0 0 0 1 | GR = 1 0
cmd Q2Q1Q0 = 0 0 1 1 | GR = 1 0
cmd Q2Q1Q0 = 1 0 1 0 | GR = 1 0
cmd Q2Q1Q0 = 1 0 0 0 | GR = 0 1
cmd Q2Q1Q0 = 0 0 0 0 | GR = 0 1
***
```

hw5sol1.py

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