

HW 6

Christopher Hunt

1.

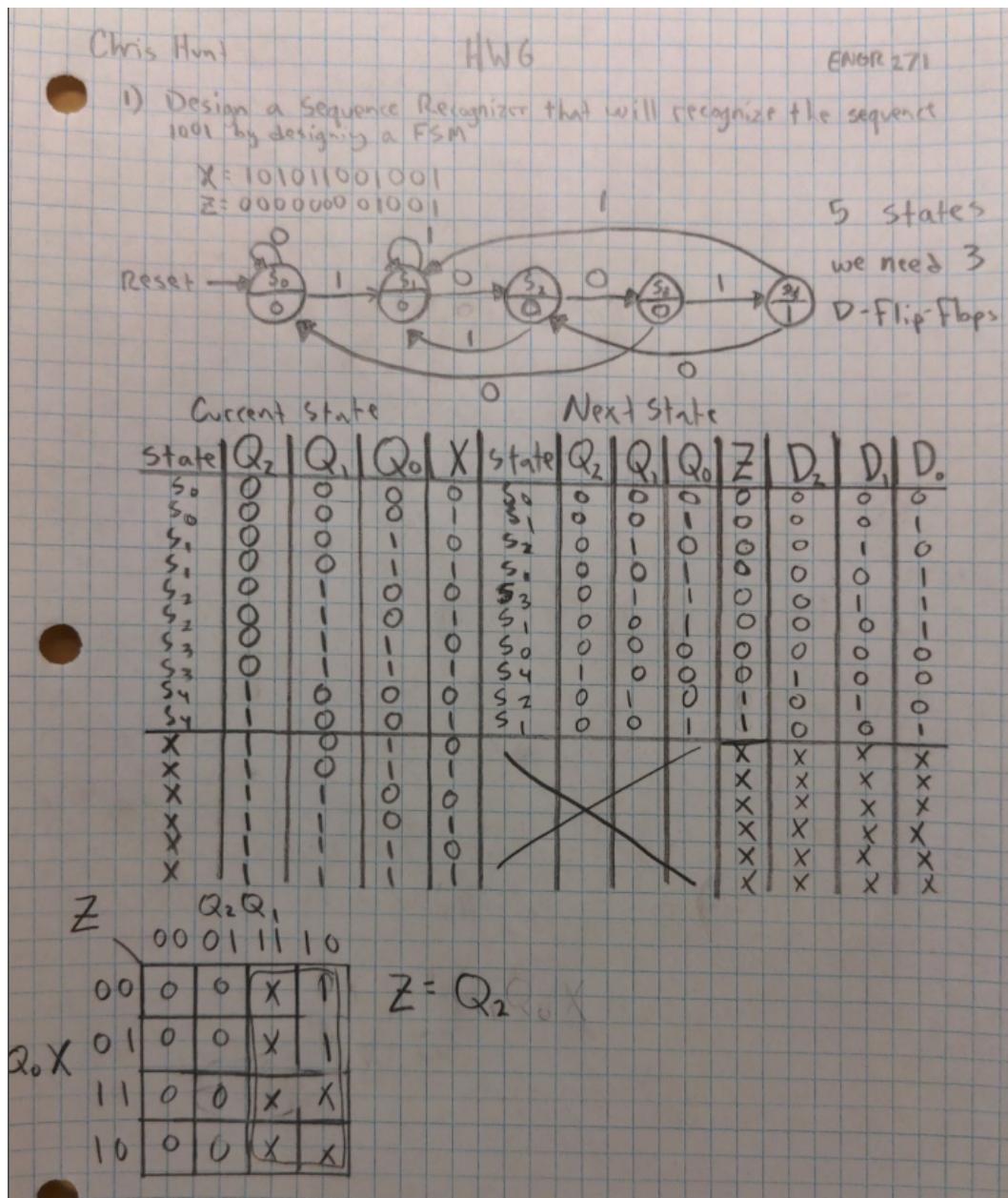


Figure 1: FSM Problem 1

Chris Hunt

HW 6

ENGR 271

1) Cont.

$D_2 \quad Q_2 Q_1$

	00	01	11	10
$Q_0 X$	00	0 0 x x		
	01	0 0 x x		
	11	0 () x x		
	10	0 0 x x		

$D_2 = Q_1 Q_0 X$

$D_1 \quad Q_2 Q_1$

	00	01	11	10
$Q_0 X$	00	0 () x D		
	01	0 0 x 0		
	11	0 0 x x		
	10	D 0 x ()		

$D_1 = Q_1 \bar{Q}_0 \bar{X} + Q_2 \bar{Q}_0 \bar{X} + \bar{Q}_1 Q_0 \bar{X}$

$D_0 \quad Q_2 Q_1$

	00	01	11	10
$Q_0 X$	00	0 () x 0		
	01	() 1 x D		
	11	D 0 x ()		
	10	0 0 x x		

$D_0 = \bar{Q}_0 X + \bar{Q}_2 Q_1 \bar{Q}_0 + \bar{Q}_1 Q_0 X$

Figure 2: FSM Problem 1

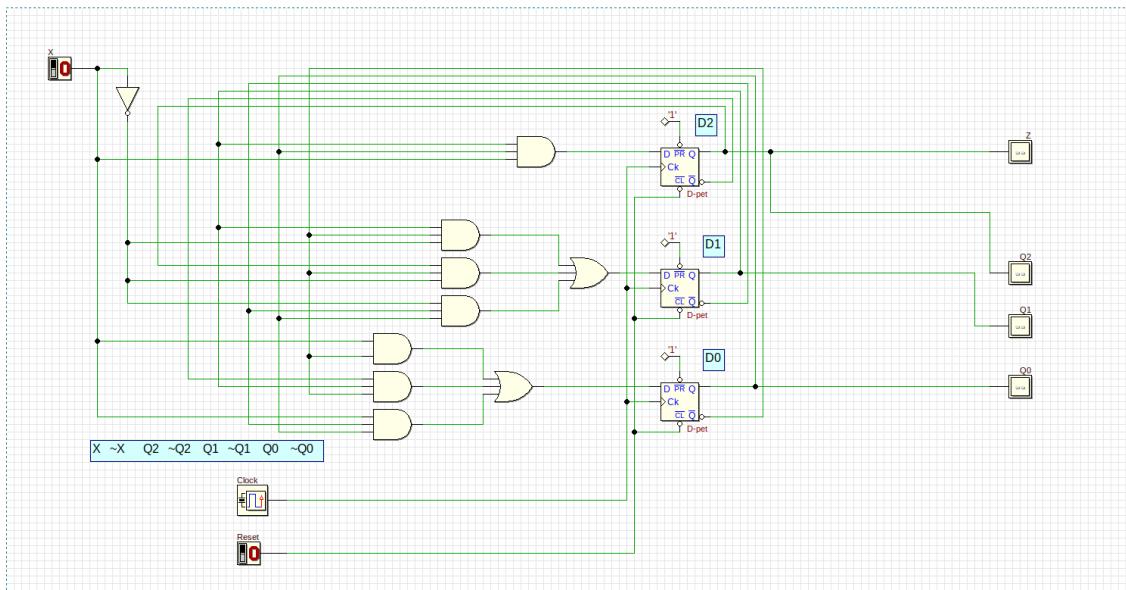


Figure 3: FSM Problem 1

2.

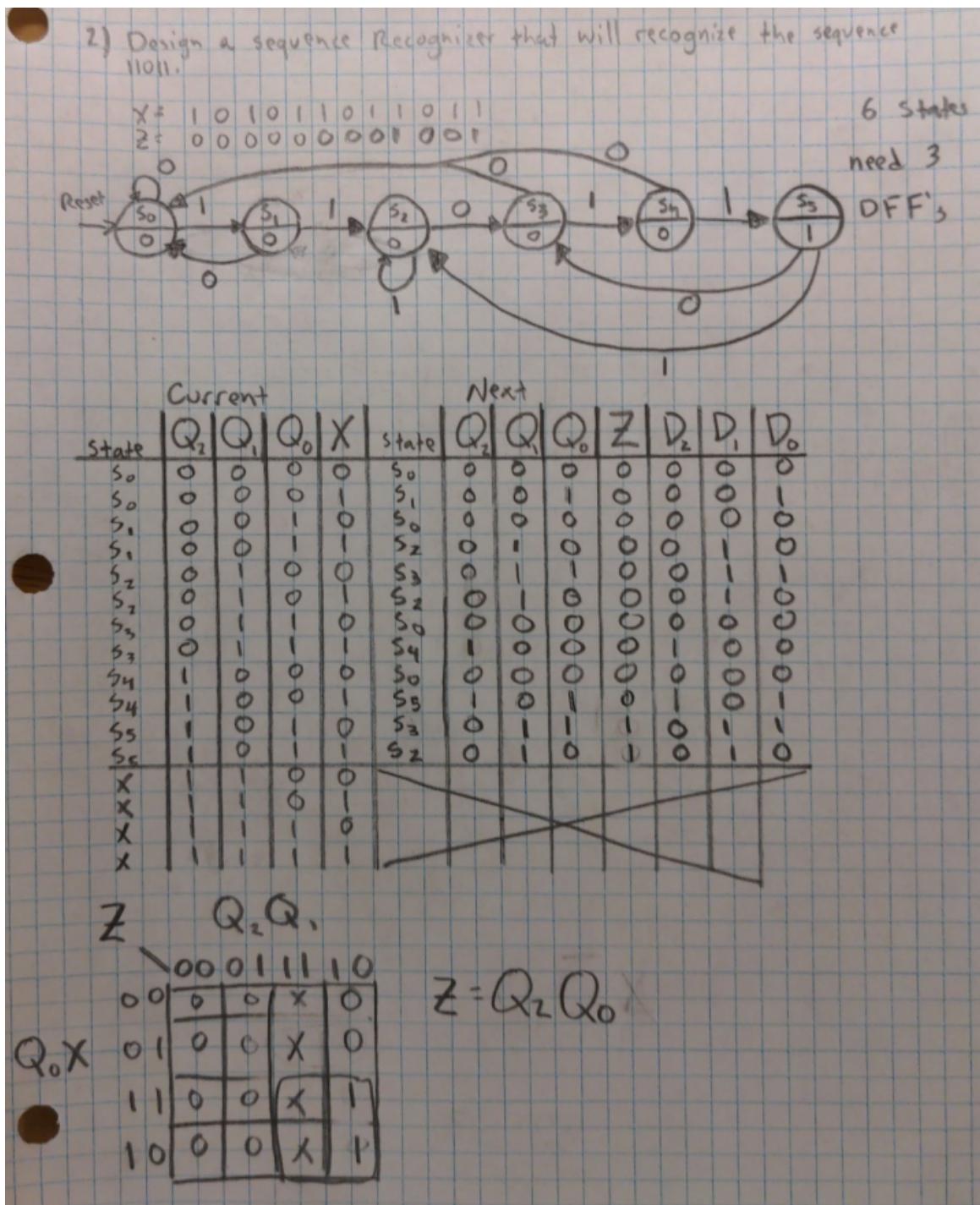


Figure 4: FSM Problem 2

<p>2) D_2 $\begin{matrix} Q_2 \\ Q_1 \end{matrix}$</p> <table border="1" style="border-collapse: collapse; text-align: center;"> <tr><td></td><td>00</td><td>00</td><td>X</td><td>0</td></tr> <tr><td>$Q_0 X$</td><td>01</td><td>00</td><td>X</td><td>1</td></tr> <tr><td></td><td>11</td><td>01</td><td>X</td><td>0</td></tr> <tr><td></td><td>10</td><td>00</td><td>X</td><td>0</td></tr> </table>		00	00	X	0	$Q_0 X$	01	00	X	1		11	01	X	0		10	00	X	0	$D_2 = Q_2 \bar{Q}_0 X + Q_1 Q_0 X$
	00	00	X	0																	
$Q_0 X$	01	00	X	1																	
	11	01	X	0																	
	10	00	X	0																	
<p>D_1 $\begin{matrix} Q_2 \\ Q_1 \end{matrix}$</p> <table border="1" style="border-collapse: collapse; text-align: center;"> <tr><td></td><td>00</td><td>0</td><td>X</td><td>0</td></tr> <tr><td>$Q_0 X$</td><td>01</td><td>0</td><td>X</td><td>0</td></tr> <tr><td></td><td>11</td><td>0</td><td>X</td><td>0</td></tr> <tr><td></td><td>10</td><td>0</td><td>X</td><td>0</td></tr> </table>		00	0	X	0	$Q_0 X$	01	0	X	0		11	0	X	0		10	0	X	0	$D_1 = Q_1 \bar{Q}_0 + \bar{Q}_1 Q_0 X + Q_2 Q_0 \bar{X}$
	00	0	X	0																	
$Q_0 X$	01	0	X	0																	
	11	0	X	0																	
	10	0	X	0																	
<p>D_0 $\begin{matrix} Q_2 \\ Q_1 \end{matrix}$</p> <table border="1" style="border-collapse: collapse; text-align: center;"> <tr><td></td><td>00</td><td>0</td><td>X</td><td>0</td></tr> <tr><td>$Q_0 X$</td><td>01</td><td>0</td><td>X</td><td>0</td></tr> <tr><td></td><td>11</td><td>0</td><td>X</td><td>0</td></tr> <tr><td></td><td>10</td><td>0</td><td>X</td><td>0</td></tr> </table>		00	0	X	0	$Q_0 X$	01	0	X	0		11	0	X	0		10	0	X	0	$D_0 = Q_1 \bar{Q}_0 \bar{X} + \bar{Q}_1 \bar{Q}_0 X + Q_2 Q_0 \bar{X}$
	00	0	X	0																	
$Q_0 X$	01	0	X	0																	
	11	0	X	0																	
	10	0	X	0																	

Figure 5: FSM Problem 2

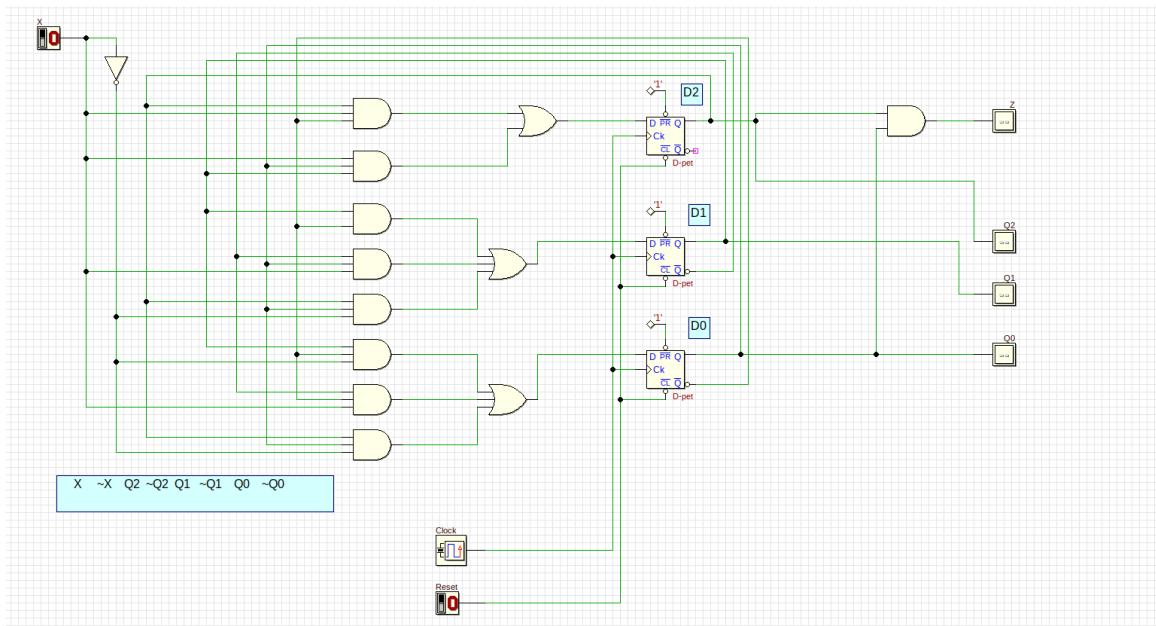


Figure 6: FSM Problem 2