

Next State  
Input

| State | 0     | 1     | Output |
|-------|-------|-------|--------|
| $S_0$ | $S_1$ | $S_2$ | 0      |
| $S_1$ | $S_3$ | $S_4$ | 0      |
| $S_2$ | $S_5$ | $S_6$ | 0      |
| $S_3$ | $S_1$ | $S_2$ | 0      |
| $S_4$ | $S_5$ | $S_6$ | 0      |
| $S_5$ | $S_3$ | $S_4$ | 1      |
| $S_6$ | $S_5$ | $S_6$ | 1      |

Equivalent  
in some  
sense

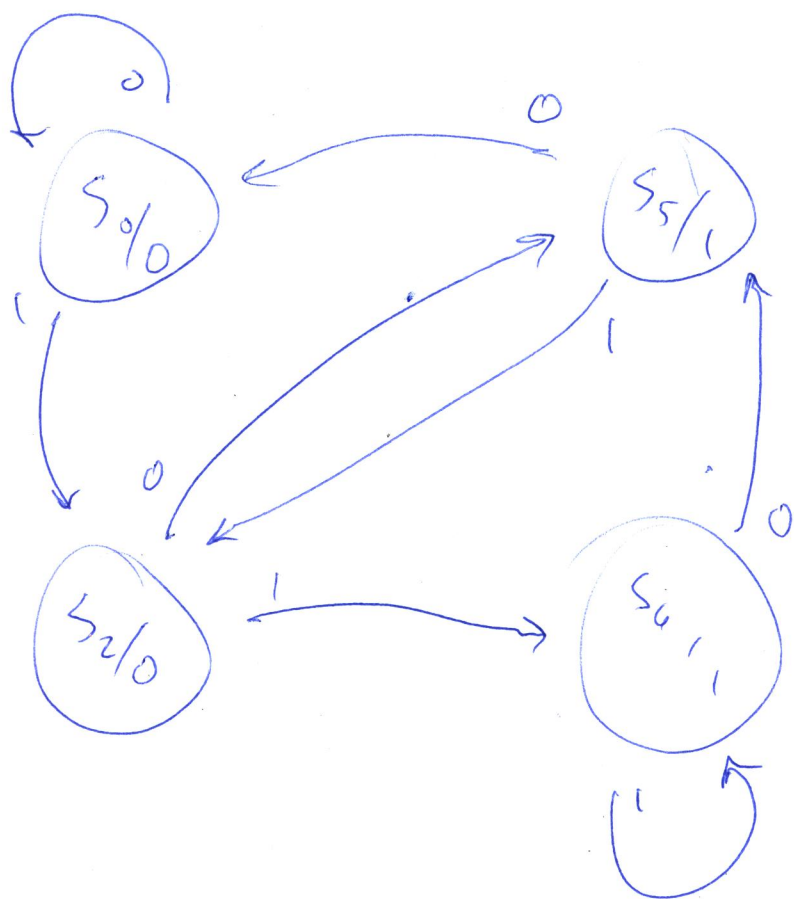
Equivalent  
in some  
sense

Simplify the machine

| State | Next State |       | Output |
|-------|------------|-------|--------|
|       | 0          | 1     |        |
| $S_0$ | $S_1$      | $S_2$ | 0      |
| $S_1$ | $S_0$      | $S_2$ | 0      |
| $S_2$ | $S_5$      | $S_6$ | 0      |
| $S_5$ | $S_0$      | $S_2$ | 1      |
| $S_6$ | $S_5$      | $S_6$ | 1      |

Equivalent  
in some  
sense

| State | 0     | 1     | Output |
|-------|-------|-------|--------|
| $s_0$ | $s_0$ | $s_2$ | 0      |
| $s_2$ | $s_5$ | $s_6$ | 0      |
| $s_5$ | $s_0$ | $s_2$ | 1      |
| $s_6$ | $s_5$ | $s_6$ | 1      |



p640

#24 b 000(0v1)\*

e (0v1)\*110

f (0v1)\*00(0v1)\*

d (01)\*v11(0)\*

36 b ~~36~~

(1 v ~~0~~ (000)\* v 1)\*

(1)\* ~~0~~ 0(00 v 1)\*

(1)\* 0 (00 v 1)\*

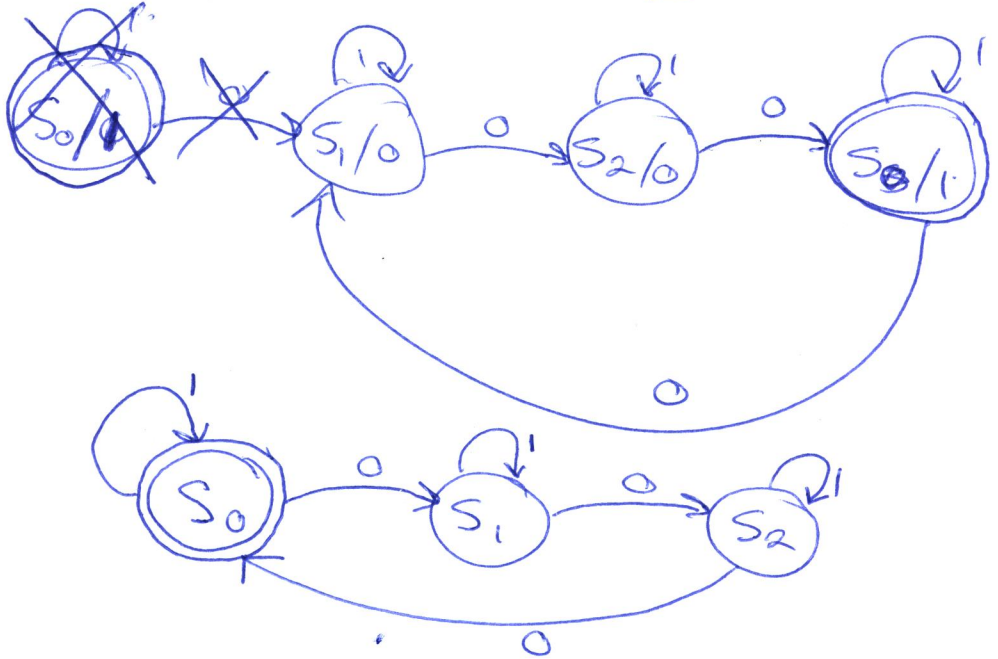
(1)\* 0 (01)\* 0(1)\*

1\* 0 (01\* 0 ~~1~~ 1\*)\*

(1)\* 0 ((1)\* 0 (1)\* 0 (1)\*) \* (1)\*

#23(e) p 640

all strings where the # of 0s  
is a multiple of 3.



#23(b) Consisting only of  
Two or more 1s, followed  
by a 0

