#1. $M = (Q, \Sigma, \delta, q_0, F)$

$Q = \{f_1, f_2, \ldots f_n\}$ f_i represents floor i

$\Sigma = \{stay, go_1, go_2, \ldots go_n\}$ go_i means go to floor i

$q_0 = f_1$

$F = \{\}$ no final state, assume elevator in continual operation

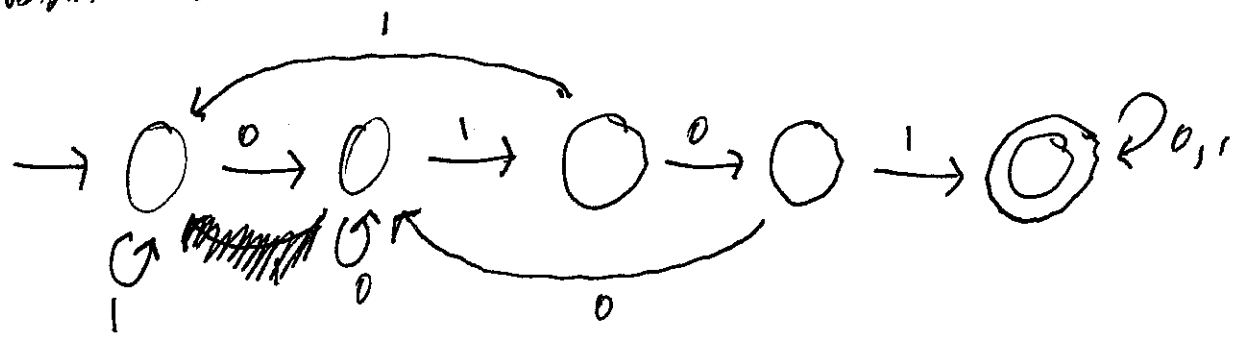
$\delta(f_i, stay) = f_i$ for $i = 1, 2, \ldots n$

$\delta(f_i, go_j) = f_j$ for $i = 1, 2, \ldots n$

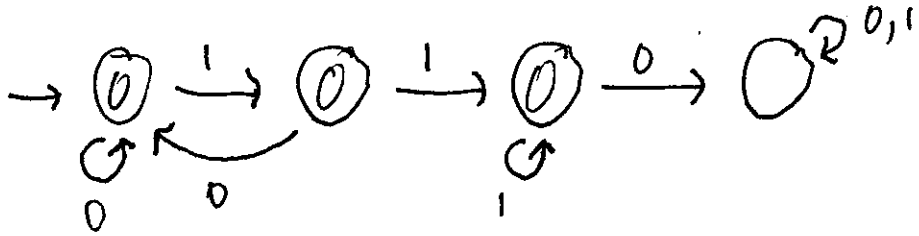
for $j = 1, 2, \ldots n$

#2. Problem 1.6

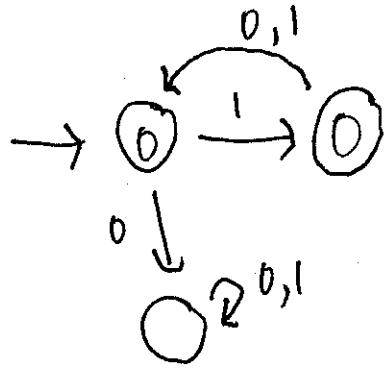
(c)



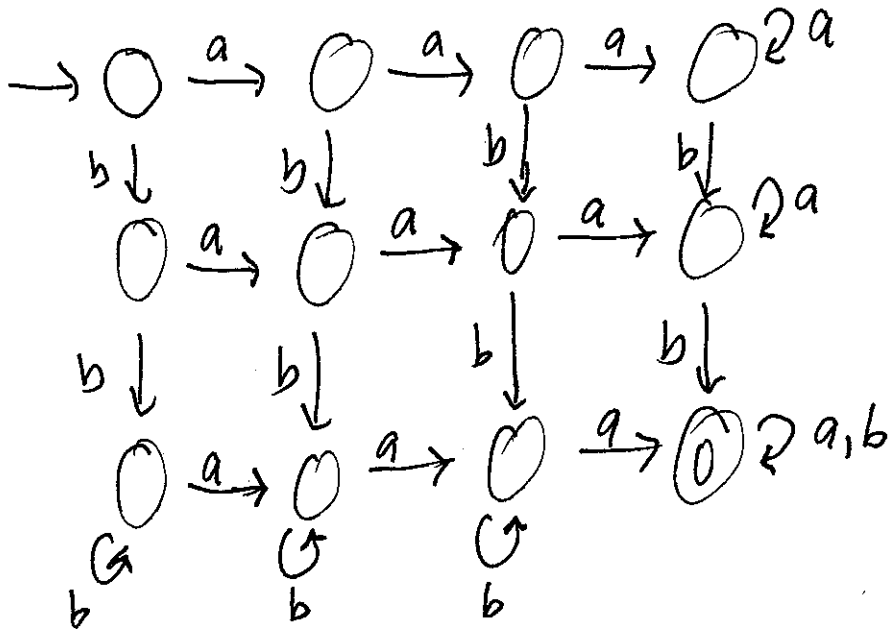
(f)



(i)

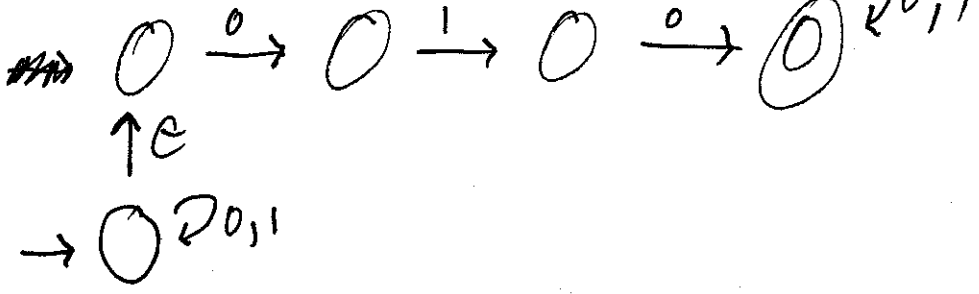


#3 1.4

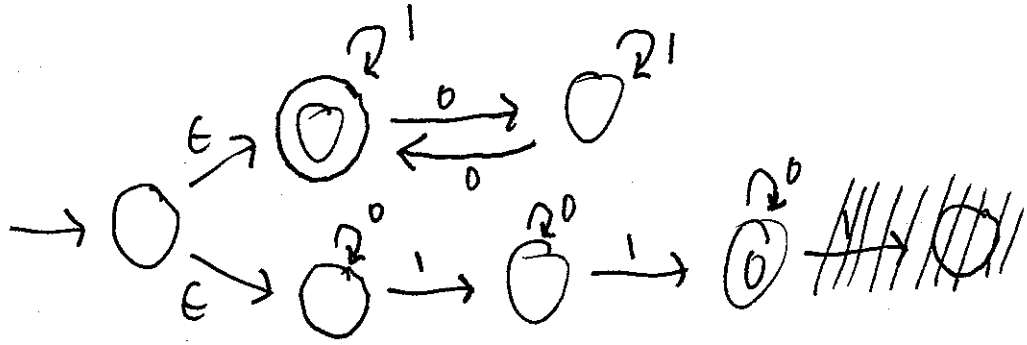


#4 1.7

(b)



(c)



(g)