**1.**

, where represents each floor and i is the floor number.

is the input floor and 0 represents remain stationary.

, the accept state can be viewed as any destination floor.

**2. 1.6, p.84**

**c.**

1 0 0 0,1

0 1 0 1

1

**f.**

0 1 0,1

1 1 0

0

**i.**

0,1

0

1

0

0,1

1

**3. 1.4, p.83**

**a.**

b

b

b

a,b

a

a

a

a,b

a

a

b

b

a

a

a

a

b

b

b

b

a

a

a

a

b

b

b

b

a

a

a

b

b

a,b

b

**4. 1.7, p.84**

**b.**

0,1 0 0 0,1

0 1 0 1

1

**c.**

0

1

1

ε

0

0

0

0

ε

1

1

**g.**