

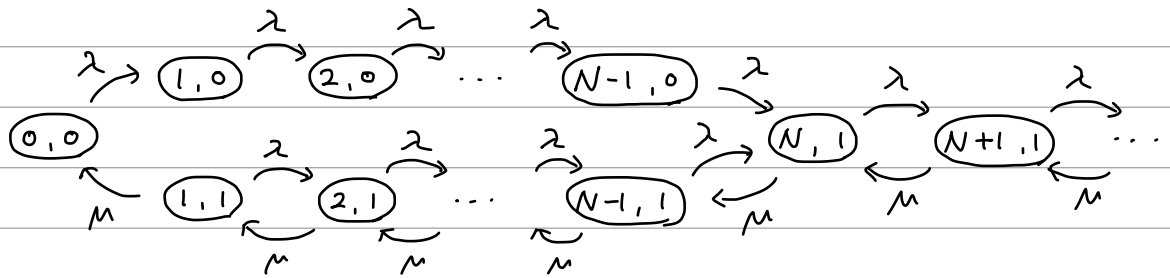
6.  $X(t) =$  기다리는 고객 수

$$Y(t) = \begin{cases} 1 & : \text{if 서비스 가동 } 0 \\ 0 & : \text{if 서비스 가동 } X \end{cases}$$

$$S = \{ (X(t), Y(t)), t \geq 0 \}$$

$$= \{ (0, 0), (1, 0), (2, 0), \dots, (N-1, 0), \\ (1, 1), (2, 1), \dots, (N-1, 1), (N, 1), (N+1, 1) \dots \}$$

< 상태전이도 >



$$0 : \lambda P_{00} = \mu P_{10}$$

$$1 \leq n \leq N-1 : \lambda P_{n0} = \lambda P_{n-1,0}$$

$$N : (\lambda + \mu) P_{N1} = \lambda P_{N-1,0} + \lambda P_{N-1,1} + \mu P_{N+1,1}$$

$$n \geq 1, n \neq N : (\lambda + \mu) P_{n1} = \lambda P_{n-1,1} + \mu P_{n+1,1}$$

$$P_{00} + \sum_{n=1}^{N-1} P_{n0} + \sum_{n=1}^{\infty} P_{n1} = 1.$$