DATE : . . .

2. ① $X(t)$ = 시간 t 에서 고객의 수 $\quad S = \{0, 1, 2, \cdots\}$

② 도착프로세스 ~ $PP(\lambda)$

③ 서비스시간 ~ $\exp(\mu)$ if $0 \le x(t) \le 5$

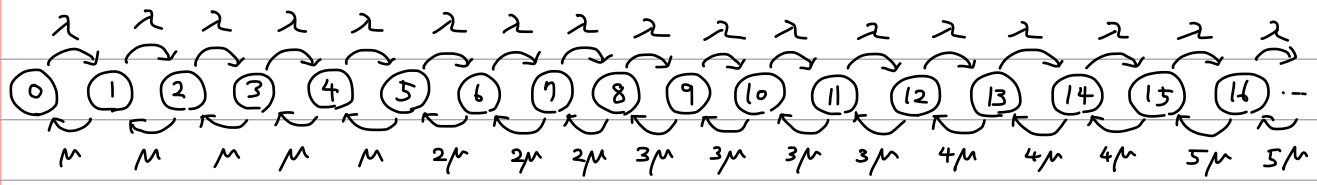
$\exp(2\mu)$ if $6 \le x(t) \le 8$

$\exp(3\mu)$ if $9 \le x(t) \le 12$

$\exp(4\mu)$ if $13 \le x(t) \le 15$

$\exp(5\mu)$ if $x(t) \ge 16$

<상태 전이도>



$0 : \lambda \cdot P_0 = \mu \cdot P_1$

$1 : (\lambda+\mu) P_1 = \lambda \cdot P_0 + \mu \cdot P_2$

$\vdots$

$4 : (\lambda+\mu) P_4 = \lambda \cdot P_3 + \mu \cdot P_5$

$5 : (\lambda+\mu) P_5 = \lambda P_4 + 2\mu \cdot P_6$

$6 : (\lambda+2\mu) \cdot P_6 = \lambda \cdot P_5 + 2\mu \cdot P_7$

$7 : (\lambda+2\mu) \cdot P_7 = \lambda \cdot P_6 + 2\mu \cdot P_8$

$8 : (\lambda+2\mu) \cdot P_8 = \lambda \cdot P_7 + 3\mu \cdot P_9$

$9 : (\lambda+3\mu) \cdot P_9 = \lambda \cdot P_8 + 3\mu \cdot P_{10}$

$10 : (\lambda+3\mu) \cdot P_{10} = \lambda \cdot P_9 + 3\mu \cdot P_{11}$

$11 : (\lambda+3\mu) \cdot P_{11} = \lambda \cdot P_{10} + 3\mu \cdot P_{12}$

$12 : (\lambda+3\mu) \cdot P_{12} = \lambda \cdot P_{11} + 4\mu \cdot P_{13}$

$13 : (\lambda+4\mu) \cdot P_{13} = \lambda \cdot P_{12} + 4\mu \cdot P_{14}$

$14 : (\lambda+4\mu) \cdot P_{14} = \lambda \cdot P_{13} + 4\mu \cdot P_{15}$

$15 : (\lambda+4\mu) \cdot P_{15} = \lambda \cdot P_{14} + 5\mu \cdot P_{16}$

$n \ge 16 : (\lambda+5\mu) \cdot P_n = \lambda \cdot P_{n-1} + 5\mu \cdot P_{n+1}$

$+ \quad \sum_{n=0}^{\infty} P_n = 1$