

CSCE 317 Spring 2018

QUIZ 6

Assigned Tuesday, 18-04-24

Write the utilization law, which relates the utilization of device i , ρ_i , the average arrival rate at device i , λ_i , and the average service rate at device i , μ_i .

Answer: $\rho_i = \lambda_i / \mu_i$

Write the response time law for closed systems. Remember that with Little's Law for closed systems is $N = X E[T]$, where X is the system throughput, $E[N]$ is the average number of jobs in a system, $E[T]$ is the average time jobs spends in a system. Also remember that $E[T]$ is the sum of think time ($E[Z]$) and response time ($E[R]$)

Answer:

$$E[R] = N/X - E[Z]$$