

Homework-17

Consider a two-server system in which a customer is served first by server-1, then by server-2, and then the customer leaves. Service times of the servers are independent exponential random variables with parameters λ_1 and λ_2 . Upon arrival, a customer, C, finds server-1 to be free, and two customers A and B at server-2, A availing service and B waiting in line.

- a) Find the probability that A is still in service when C moves to server-2.
- b) Find the probability that B is yet to leave when C moves to server-2.
- c) Find the expected time that C spends in the system.