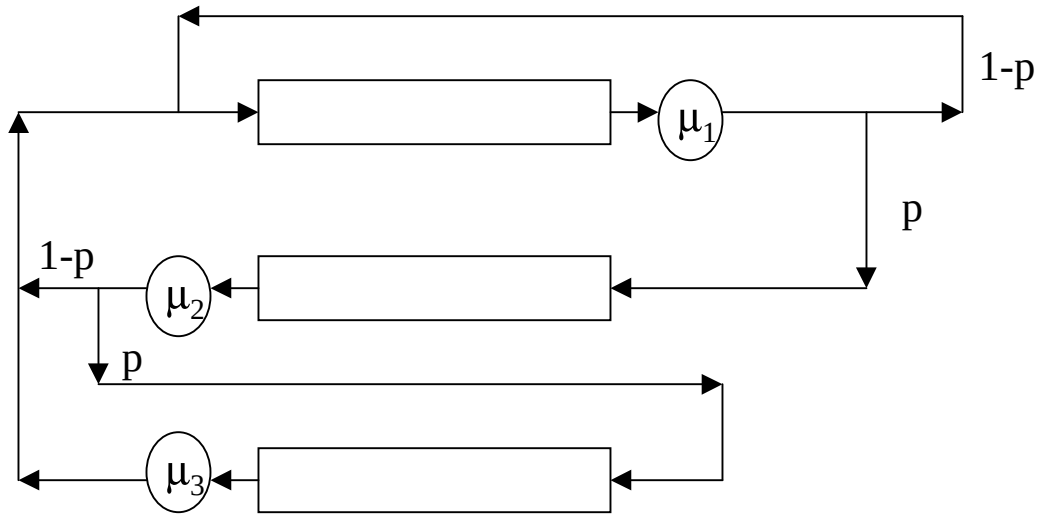
1.

a) Finish the derivation of the equilibrium equation 2.2.1 for the open Jackson network using the corrected equations 2.6.8 and 2.6.9.

b) Do the second part of the proof for theorem 2.6.1. That is prove that equation 2.6.7 is a solution of the equilibrium equation 2.2.1.

2.

Consider the network, with service times ~exp(μ_i)



a) Give the transition matrix P for the network

b) Solve e_i for I=1,…,N

c) Calculate the steady state probabilities

d) Calculate the utilization rate for each station

e) Calculate the utilization rates for K = 1, p=1/4 and μ_I = i