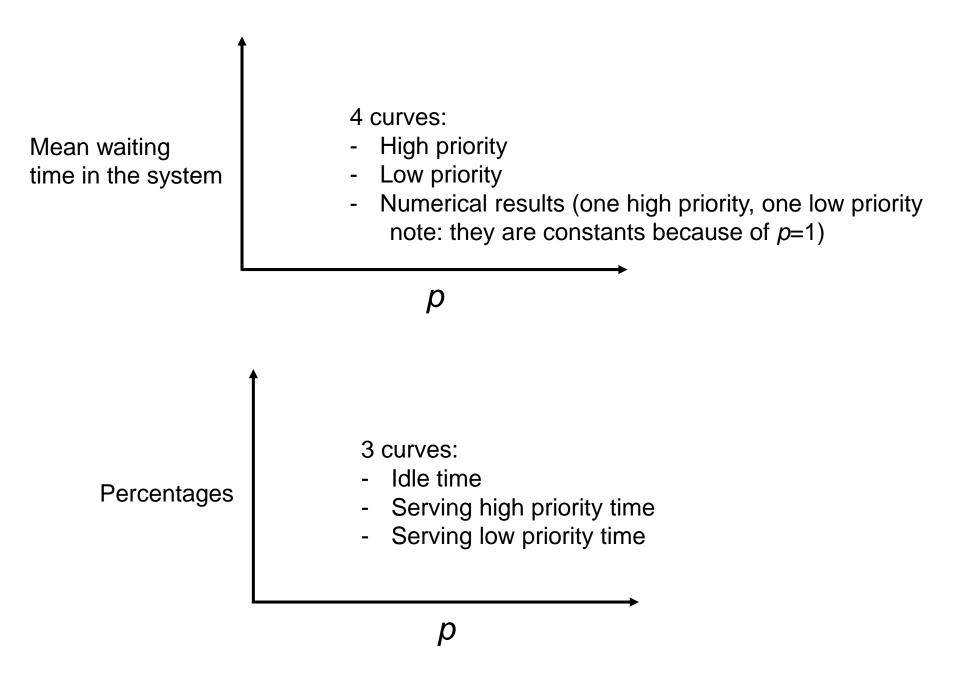
Homework 3

- Write simulation program to examine the performance of the following system:
 - Consider there high priority and low priority arrival packets to a router with mean rates of 20 packets/sec. and 30 packets/sec., respectively. Both arrivals are Poisson distributed. There are two output links and the packet transmitted rate is also Poisson distributed with mean 30 packets/sec for each link. It is assumed that the transmitting packet can not be preempted. The high priority packet has higher priority to be transmitted with probability p. And the queuing buffer is assumed to be infinite.
 - Due date: 2022/01/14 23:59

Homework 3

- Please provide the following simulation results by letting *p* be 0.7, 0.8, 0.9, and 1.0, respectively.
 - The mean waiting time in the system for both high priority and low priority packets v.s. the analytical numerical results from the equation of M/M/1 priority queuing system results (as there is only one server, the mean transmission rate is 60 packets/sec.)
 - The percentages of the idle time, serving high priority packets, serving low priority packets.



Delivery

- Software code with description comments (in appendix)
- Simulation results with discussions:
 - For example: will the high priority packets occupy p portion of the server busy time?
- Please zip all your document into one file with the student ID for the file name.
- Mail (with subject: "Queuing-3") to the teacher ywchen@ce.ncu.edu.tw before 2022/01/14