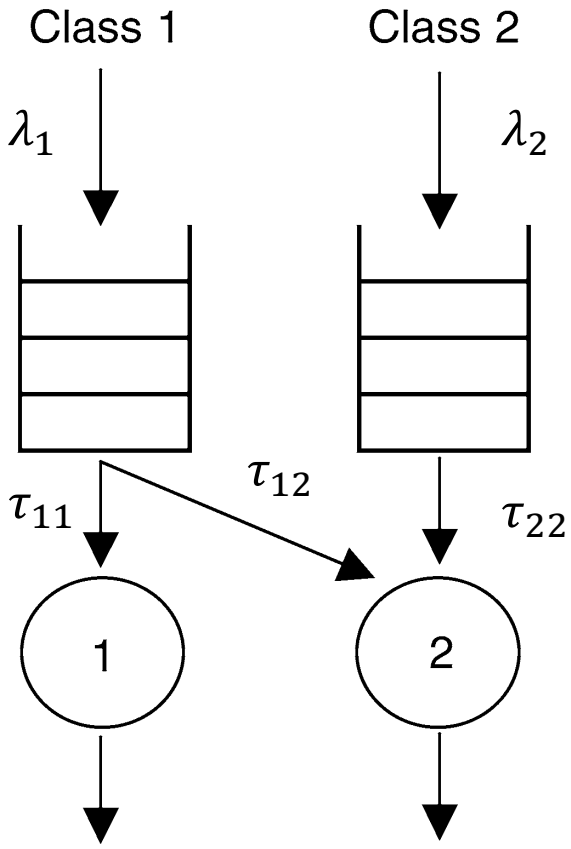
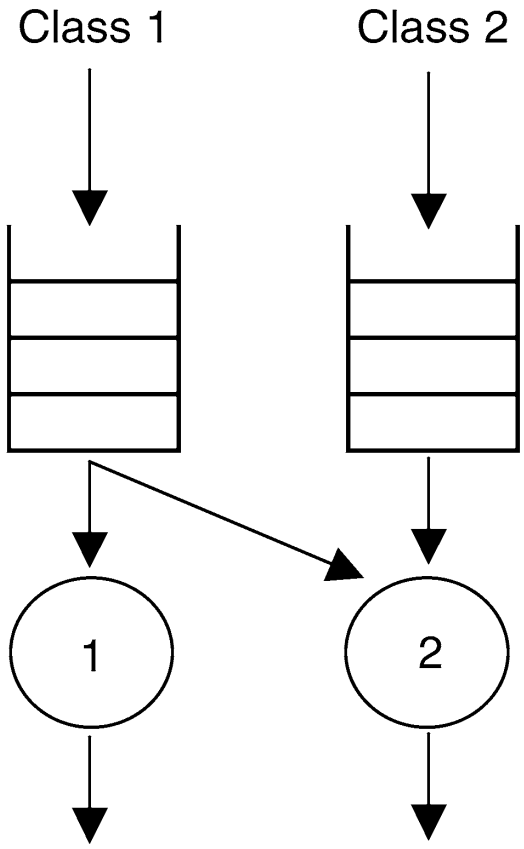
PythonSim Example: Processing Network

- Two classes; two servers
- Class 1 jobs have higher value; served with priority at server 2
- Arrivals are stationary Poisson processes, processing times exponential with given means
- Estimate the steady-state *queue-length* and *system time* for each class, and utilization of each server



PythonSim Example: Processing Network

- Main logic:
  - Class 1 arrival:
    - Schedule the next class 1 arrival
    - If server 1 idle; seize; schedule EndofService1
    - Else if server 2 idle; seize; schedule EndofService2
    - Else add customer to queue 1
  - Class 2 arrival:
    - Schedule the next class 2 arrival
    - If server 2 idle; seize; schedule EndofService2
    - Else add to queue 2



PythonSim Example: Processing Network

- Main logic:
  - EndofService1
    - Record system time
    - If queue1 > 0 remove next customer from queue 1 and schedule the next EndofService1
    - Else make server 1 idle
  - EndofService2
    - Record system time (could be class 1 or 2)
    - If queue 1 > 0; remove customer from class 1; schedule the next EndofService2 for a class 1 customer
    - Else if queue 2 > 0; remove customer from class 2; schedule the next EndofService2 for a class 2 customer
    - Else make server 2 idle