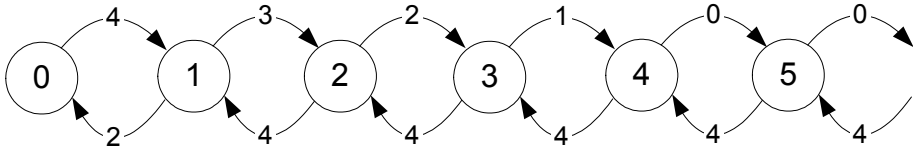


**56:171 Operations Research
Quiz #11 Solutions -- Fall 2002**

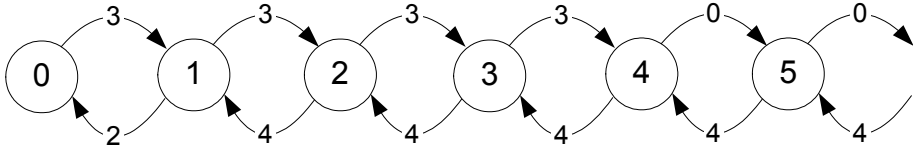
Part I: For each diagram of a Markov model of a queue in (1) through (5) below, indicate the correct Kendall's classification from among the following choices :

- | | | | |
|--------------|--------------|--------------|--------------|
| a. M/M/1 | f. M/M/2 | k. M/M/3 | p. M/M/4 |
| b. M/M/1/4 | g. M/M/2/3 | l. M/M/3/3 | q. M/M/4/3 |
| c. M/M/1/4/4 | h. M/M/2/3/4 | m. M/M/3/3/3 | r. M/M/4/2/4 |
| d. M/M/1/3/4 | i. M/M/2/4/4 | n. M/M/3/3/4 | s. M/M/4/4/4 |
| e. M/M/1/3/3 | j. M/M/2/4 | o. M/M/3/4/ | t. M/M/4/4 |
- u. None of the above

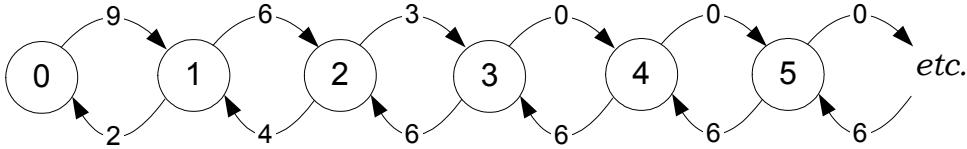
~~~~~  
M/M/2/4/4



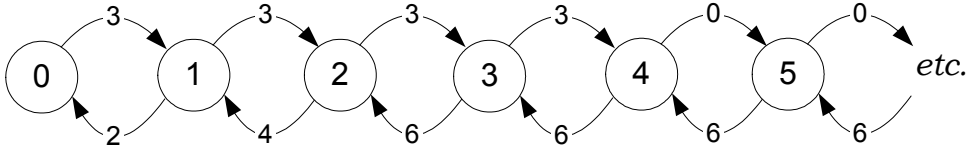
~~~~~  
M/M/2/4



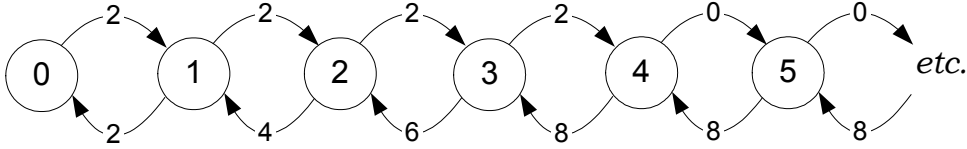
~~~~~  
M/M/3/3/3



~~~~~  
M/M/3/4

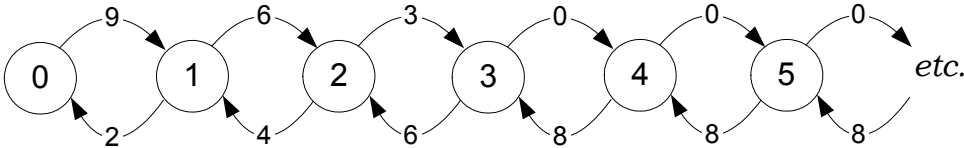


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M/M/4/4

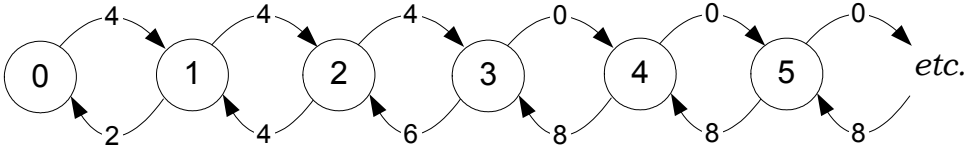


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M/M/4/3/3

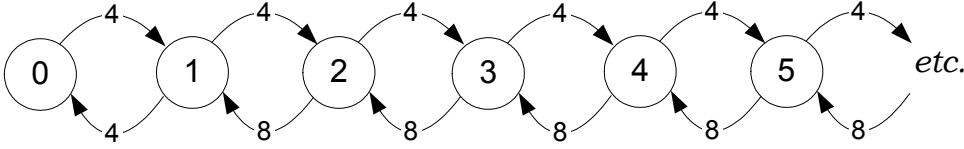
SOLUTIONS



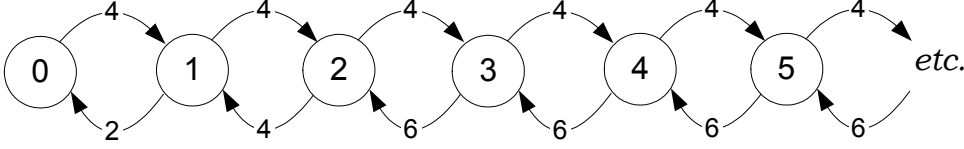
M/M/4/3



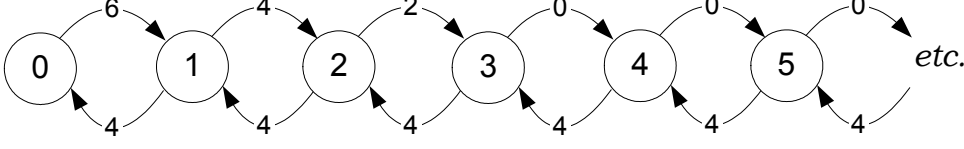
M/M/2



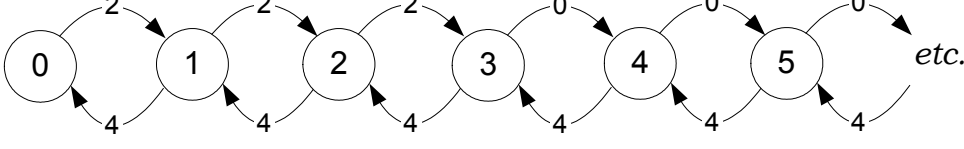
M/M/3



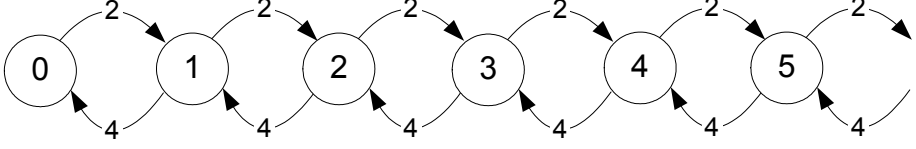
M/M/1/3/3



M/M/1/3



M/M/1



Note: Kendall's notation: **A/B/s/m/n** where
A indicates arrival process (M="Markovian" or "Memoryless")
B indicates service process (M="Markovian" or "Memoryless")
s indicates # of servers
m indicates capacity of system (including those being served)
n indicates size of source population