***Introduction to Queuing Networks**; E. Gelenbe, G. Pujolle; Wiley, New York, 1998. ISBN 0-471-962-945; 240 pp., £34.95*

It is not an easy task to write a book on queuing networks when a large number of books in the topic have already been published. The authors have written a very timely book on queuing networks which can be used by people working in the area of communication networks.

The basics of stochastic process have been discussed in Chapter 1 with queuing networks being introduced in Chapter 2 where the authors discuss Jackson's network. The example showing the analysis of a virtual memory in a computer system is useful in understanding the material in this chapter. The traditional queuing theory is introduced in Chapter 3 where state-dependent queues, queues with multiple servers, queues with batch arrivals, and priority queues are discussed. The material on priority queues could be helpful for those dealing with communication networks where packets can have different priorities.

Several techniques to solve queuing networks are given in Chapter 5 along with an example of a study of computer networks with virtual circuits. Chapter 6 deals with flows in networks where the authors have discussed M/M/1 queues with feed back and shown how to obtain the various queue parameters. Chapters 7 and 8 discuss G-networks where two classes of customers (positive and negative customers) are considered. The positive customers could be packets in a queue whereas the negative customers do not queue up in the queue but can initiate the departure of a packet from the queue. Applications of this type of networks using a communication system having flow control have been shown. Finally, the book concludes with a discussion of discrete time queuing systems where all arrivals and departures happen at discrete events of time such as that in ATM networks.

The book would be very suitable for graduate students in Computer Science, Computer Engineering or Electrical Engineering. It will also be invaluable as a reference book for practicing engineers. More examples throughout the chapters would certainly make it very attractive as a text book.

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