Section 13.6. Further Reading

Note. The "pioneering work" of Erdős and Rényi on random graphs include two papers:

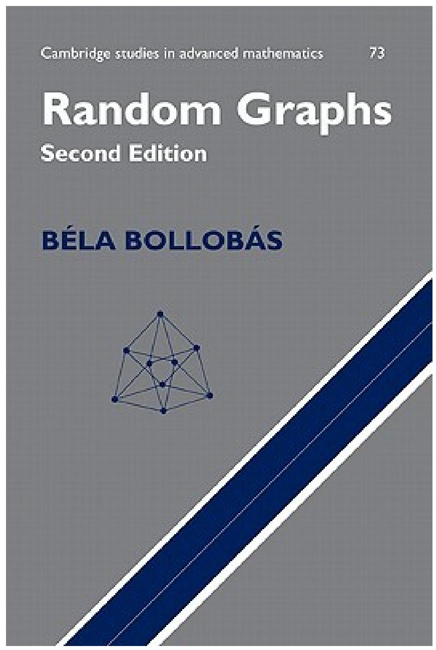
1. On Random Graphs I, *Publicationes Mathematicae Debrecen* **6**, 290–297; available in English online at Stanford Network Analysis Project (accessed 12/29/2020).

2. On the Evolution of Random Graphs, *Magyar Tudomanyos Akademia Matematikai Kutato Intezetenek Kozlmenenyei* 5, 1761 (1960); available in English online at Cite Seer X (accessed 12/29/2020).

In these works, the finite probability space that is studied is the space of all labeled graphs on n vertices and m edges, each such graph being equiprobable. This space is denoted $\mathcal{G}_{n,m}$.

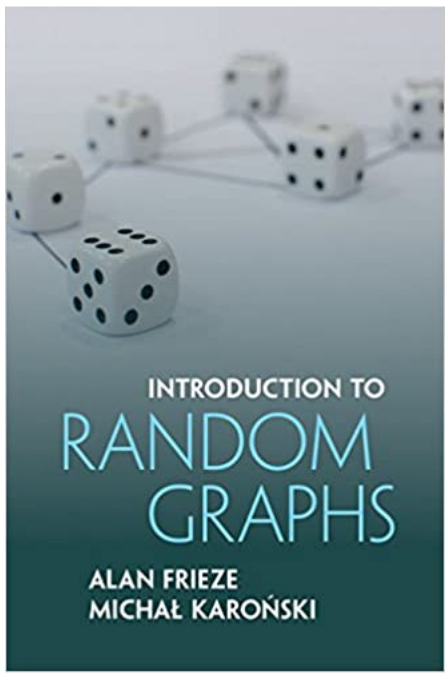
Note. A fundamental text in the area is Béla Bollobás's *Random Graphs.* It was first published by Academic Press in 1985. The ETSU Sherrod Library has a hard copy of this version, which has Library of Congress call number: QA166.17 B66 1985. A second edition appeared in 2001, published by Cambridge University Press. This second edition is described on the Amazon.com webpage for the book as (accessed 12/28/2020):

> "This is a new edition of the now classic text. The already extensive treatment given in the first edition has been heavily revised by the author. The addition of two new sections, numerous new results and 150 references means that this represents an up-to-date and comprehensive account of random graph theory. The theory estimates the number of graphs of a given degree that exhibit certain properties."

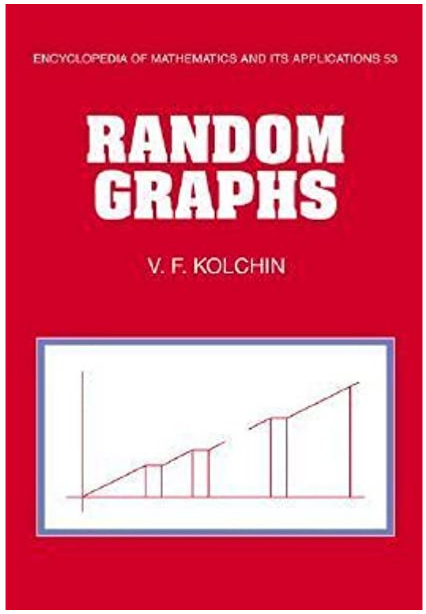


Note. Another book that looks readable, interesting, and more contemporary is Alan Fieze and Michal Karonski's *Introduction to Random Graphs*, Cambridge University Press (2016). It is described on the Amazon.com webpage for the book as (accessed 12/28/2020):

> "From social networks such as Facebook, the World Wide Web and the Internet, to the complex interactions between proteins in the cells of our bodies, we constantly face the challenge of understanding the structure and development of networks. The theory of random graphs provides a framework for this understanding, and in this book the authors give a gentle introduction to the basic tools for understanding and applying the theory."



Note. A reference which you can access for free is V. F. Kolchin's *Random Graphs*, Encyclopedia of Mathematics and Its Applications, volume 53, Cambridge University Press (1999). The ETSU Sherrod Library has a hard copy of this version, which has Library of Congress call number: QA166.17 K64 1999. It can also be viewed online (though you will need to log in to the library website using your ETSU username and password). It includes some discussion of the probabilistic approach to combinatorial problems in general, and applications to the evolution of random graphs in particular.



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