

Book Reviews

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BOOK REVIEWS — РЕЦЕНЗИИ

B. Andrásfai: INTRODUCTORY GRAPH THEORY, Akadémiai Kiado, Budapest 1977 (268 pages, 264 figures).

The book consists of Preface, 7 Chapters (1. Introduction to graphs; 2. Trees and forests; 3. Routes following the edges of a graph; 4. Routes covering the vertices of a graph; 5. Matching problems, factors; 6. Extremal values, extremal graphs; 7. Solutions to the exercises and problems), Source Index, References and Subject Index.

The form of this original book is very unusual: Almost all the text is divided into problems and exercises with an intention to draw the reader to an independent study of them. The author lays emphasis on the process of discovery: proving of statements and sub-statements, definitions of new concepts, suggestions of new problems and stimulation of readers. He starts from very simple and elementary exercises and problems and successively proceeds to more difficult ones. Some problems and exercises are solved within the corresponding chapters; the rest have their solution in Chapter 7. (The difference between problems and exercises lies here only in their difficulty)

Almost all the statements in the book are supplied with an exact proof. The exposition is elementary and detailed. No knowledge of advanced mathematics is supposed. However, many problems are taken from original scientific papers of well-known mathematicians. The authors of the results are presented in the Source Index. The book will be useful for students of secondary schools or universities as well as for scientific workers or engineers interested in the graph theory.

The author promises to write also the second volume of this book; it will contain the relation of graphs to surfaces, matrices and probability theory, map colouring, electrical networks and transportation problems. However, even the present first volume represents an interesting product of the Hungarian graph theory school with an excellent presentation of extremal graph problems. It was P. Erdős who suggested and fostered the idea of the English edition of the book (the Hungarian version has been written in 1969).

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