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Linear and nonlinear programming. 2nd ed. (English) Zbl 1134.90040

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Publisher's description: The book is considered a classic textbook in Optimization. While it is a classic, it also reflects modern theoretical insights. These insights provide structure to what might otherwise be simply a collection of techniques and results, and this is valuable both as a means for learning existing material and for developing new results. One major insight of this type is the connection between the purely analytical character of an optimization problem, expressed perhaps by properties of the necessary conditions, and the behavior of algorithms used to solve a problem. This was a major theme of the first edition of this book (see the review in Zbl 0297.90044) and the second edition (see Zbl 0571.90051) expands and further illustrates this relationship.

This textbook covers the central concepts of practical optimization techniques. It is designed for either self-study by professionals or classroom work at the undergraduate or graduate level for technical students. Like the field of optimization itself, which involves many classical disciplines, the book should be useful to system analysts, operations researchers, numerical analysts, management scientists, and other specialists from the host of disciplines from which practical optimization applications are drawn.

MSC:

90C30	Nonlinear programming
90C05	Linear programming
90-01	Introductory exposition (textbooks, tutorial papers, etc.) pertaining to operations research and mathematical programming
49-01	Introductory exposition (textbooks, tutorial papers, etc.) pertaining to calculus of variations and optimal control