

<<线性代数>>

图书基本信息

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内容概要

随着计算机技术的发展,线性代数课程的重要性越来越突出。同时,现代软件已经为显著改进授课方式提供了可能。本书作者多年讲授线性代数课程,并在教学过程中不断探索更利于学生理解的新教学方法,从而使本书更加适合作为线性代数课程的教材。

在第8版中,扩充了矩阵代数的知识,新增了向量积、实舒尔分解的内容,并增加了130多道新练习。

本书主要特点

? 理论与应用有机结合。
大量的实际应用贯穿于理论讲解的始终,体现了线性代数在各个领域中的广泛应用。

? 示例丰富。
便于读者理解相关的定义及原理,增强了读者学习的兴趣。

? 习题安排错落有致。
每一节的后面给出大量的习题,各章后面还有测试题,使学生有更多的演练机会,达到触类旁通的效果。

? 紧密结合数学工具MATLAB。
每章的后面都有基于MATLAB的上机练习,并在附录中介绍了MATLAB的基本用法。

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作者简介

Steven J. Leon

1971年于密歇根州立大学数学系获得博士学位，现为马萨诸塞大学达特茅斯分校数学系首席教授，ILAS（国际线性代数协会）、MAA（美国数学学会）和SIAM（美国工业与应用数学协会）成员。他主要从事科学计算、线性代数和应用数学等领域的研究。

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章节摘录

版权页：插图：The first column of the table indicates the distribution of the goods produced by the farmers, the second column indicates the distribution of the manufactured goods, and the third column indicates the distribution of the clothing. As the size of the tribe grows, the system of bartering becomes too cumbersome and, consequently, the tribe decides to institute a monetary system of exchange. For this simple economic system, we assume that there will be no accumulation of capital or debt and that the prices for each of the three types of goods will reflect the values of the existing bartering system. The question is how to assign values to the three types of goods that fairly represent the current bartering system. The problem can be turned into a linear system of equations using an economic model that was originally developed by the Nobel Prize-winning economist Wassily Leontief. For this model, we will let x_1 be the monetary value of the goods produced by the farmers, x_2 be the value of the manufactured goods, and x_3 be the value of all the clothing produced. According to the first row of the table, the value of the goods received by the farmers amounts to half the value of the farm goods produced, plus one-third the value of the manufactured products and half the value of the clothing goods.

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