

<<线性代数>>

图书基本信息

书名：<<线性代数>>

13位ISBN编号：9787111341994

10位ISBN编号：7111341996

出版时间：2011-5

出版时间：机械工业出版社

作者：（美）Steven J. Leon

页数：490

版权说明：本站所提供下载的PDF图书仅提供预览和简介，请支持正版图书。

更多资源请访问：<http://www.tushu007.com>

## &lt;&lt;线性代数&gt;&gt;

## 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。

## <<线性代数>>

### 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。

## &lt;&lt;线性代数&gt;&gt;

## 书籍目录

preface  
matrices and systems of equations  
1.1 systems of linear equations  
1.2 row echelonform  
1.3 matrix arithmetic  
1.4 matrix algebra  
1.5 elementary matrices  
1.6 partitioned matrices  
matlab r exercises  
chaptertesta  
chaptertestb  
2 determinants  
2.1 the determinant of a matrix  
2.2 properties of determinants  
2.3. additionaltopics and applications  
matlab exercises  
chaptertesta  
chaptertestb  
3 vector spaces  
3.1 definition and examples  
3.2 subspaces  
3.3 linear independence  
3.4 basis and dimension  
3.5 change of basis  
3.6 row space and column space  
matlab exercises  
chaptertesta  
chaptertestb  
4 linear transformations  
4.1 definition and examples  
4.2 matrix representationsof lineartransformations  
4.3 similarity  
matlab exercises  
chaptertesta  
chaptertestb  
5 orthogonality  
5.1 the scalar product in  $\mathbb{R}^n$   
5.2 orthogonal subspaces  
5.3 least squares problems  
5.4 inner product spaces  
5.5 orthonormal sets  
5.6 the gram – schmidt orthogonalization process  
5.7 orthogonal polynomials  
matlab exercises  
chaptertesta

## &lt;&lt;线性代数&gt;&gt;

chaptertestb

6 eigenvalues

6.1 eigenvalues and eigenvectors

6.2 systems of linear differential equations

6.3 diagonalization

6.4 hermitian matrices

6.5 the singularvalue decomposition

6.6 quadraticforms

6.7 positive definite matrices

6.8 nonnegative matrices

matlab exercises

chaptertesta

chaptertestb

7 numerical linear algebra

7.1 floating-point numbers

7.2 gaussian elimination

7.3 pivoting strategies

7.4 matrix norms and condition numbers

7.5 orthogonal transformations

7.6 the eigenvalue problem

7.7 least squares problems

matlab exercises

chapter test a

chapter test b

8 iterative methods web.

9 canonical forms web.

appendix: matlab

bibliography

answers to selected exercises

index

## 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.

<<线性代数>>

编辑推荐

<<线性代数>>

版权说明

本站所提供下载的PDF图书仅提供预览和简介，请支持正版图书。

更多资源请访问:<http://www.tushu007.com>