Linear Algebra: Step by Step

By Kuldeep Singh

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Linear algebra is a fundamental area of mathematics, and is arguably the most powerful mathematical tool ever developed. It is a core topic of study within fields as diverse as: business, economics, engineering, physics, computer science, ecology, sociology, demography and genetics.

For an example of linear algebra at work, one needs to look no further than the Google search engine, which relies upon linear algebra to rank the results of a search with respect to relevance.

The strength of the text is in the large number of examples and the step-by-step explanation of each topic as it is introduced. It is compiled in a way that allows distance learning, with explicit solutions to set problems freely available online. The miscellaneous exercises at the end of each chapter comprise questions from past exam papers from various universities, helping to reinforce the reader's confidence. Also included, generally at the beginning of sections, are short historical
biographies of the leading players in the field of linear algebra to provide context for the topics covered.

The dynamic and engaging style of the book includes frequent question and answer sections to test the reader's understanding of the methods introduced, rather than requiring rote learning. When first encountered, the subject can appear abstract and students will sometimes struggle to see its relevance; to counter this, the book also contains interviews with key people who use linear algebra in practice, in both professional and academic life. It will appeal to undergraduate students in
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- Rank: #361749 in eBooks
- Published on: 2013-10-31
- Released on: 2013-10-31
- Format: Kindle eBook

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Editorial Review

Review
Linear algebra is an important subject not only to mathematicians but also to an ever widening range of disciplines.

The effect of the broader audience is reinforced by the trend of lower levels of mathematical preparedness students have after finishing high school. It is with today's 'average' student that Kuldeep Singh has written his undergraduate text Linear Algebra: Step by Step (lasbs). Singh's goal is to assume only a limited mathematical background while still covering difficult material and to present it in such a way that students are able to learn on their own without the constant support of lecturer or tutor.
Importantly, throughout the text questions are posed to the student in blue font which are then promptly answered. While many authors pose the question 'why?' after some statement to encourage thought on the topic at hand it appears to me that Singh is more concerned with making questions like 'What does this definition mean?', 'How could we prove this statement?', 'Can the statement be generalised?', 'When is this valid?' common place and showing the 'average' student that they should be asking these questions and how they might answer the questions for themselves. Questioning the content is important but quite a rare activity amongst students in my experience who seem to focus more on calculation and getting an 'answer'.
If you don't already have you own set of notes or a favourite text to set students lasbs is definitely worth considering, particularly if you are wanting to ease students towards more abstract topics.
Isaac Towers School of Physical, Environmental and Mathematical Sciences, UNSW Canberra - Austrailian Mathematical Society, Volume 41, Number 3.

You can read the reviews from the Amazon UK site at the following url:
amazon.co.uk/product-reviews/0199654441/ref=dp_db_cm_cr_acr_txt?ie=UTF8&showViewpoints=1

This book gives an introduction to linear algebra for students with limited mathematical preparation. ... The steady pace of the book is so gentle that no student need be left behind. * Peter Macgregor, Mathematical Gazette *

From the Author
Why purchase this book?

In this age of data explosion, linear algebra has become the most powerful tool in the entire field of mathematics. It has overtaken calculus but university courses do not reflect this.
If you want step by step explanations and a book that you can use without the presence of a tutor (or for distance learning) then this is the book you need to purchase because it provides complete solutions to all the problems. Actually, you can see the complete solutions at the following url:
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About the Author

Kuldeep Singh, *Senior Lecturer in Mathematics, University of Hertfordshire*

Kuldeep Singh has held the position of Senior Lecturer in Mathematics at the University of Hertfordshire for over twenty years, where he teaches linear algebra to entry level undergraduates. He is also the author of Engineering Mathematics through Applications (Palgrave Macmillan), a book that used widely as the basis for undergraduate studies in many different countries. He hosts and regularly updates his Maths for All website:

maths-for-all.co.uk/
dedicated to mathematics.Senior Lecturer in Mathematics at the University of Hertfordshire.

Users Review

From reader reviews:

Gilbert Albright:

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Philip Logan:

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Christian Fowler:

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Christine Hughes:

In this time globalization it is important to someone to acquire information. The information will make anyone to understand the condition of the world. The fitness of the world makes the information quicker to share. You can find a lot of sources to get information example: internet, magazine, book, and soon. You can

observe that now, a lot of publisher that print many kinds of book. Often the book that recommended to you is Linear Algebra: Step by Step this book consist a lot of the information from the condition of this world now. This specific book was represented how does the world has grown up. The vocabulary styles that writer make usage of to explain it is easy to understand. Typically the writer made some research when he makes this book. Honestly, that is why this book acceptable all of you.

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