



Advanced Matrices

$$u_n = a_n - \sum_{i=1}^{n-1} \text{proj}_{u_i}(a_n)$$

$$x'_i = \sum_j a_{ij} x_j$$

$$I = \begin{pmatrix} 1 & 0 & 0 \\ 0 & 1 & 0 \\ 0 & 0 & 1 \end{pmatrix}$$

$$\begin{pmatrix} x'_1 \\ x'_2 \end{pmatrix} = \begin{pmatrix} \cos \alpha & \sin \alpha \\ -\sin \alpha & \cos \alpha \end{pmatrix} \begin{pmatrix} x_1 \\ x_2 \end{pmatrix}$$

$$V'(x'_1, x'_2, x'_3) = \hat{i}'V'_1 + \hat{j}'V'_2$$

$$T(k)^{-1} = T\left(\frac{1}{k}\right)$$

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Preface

This book deals with matrices and their applications in the field of Physics and Mathematics. It is based on important aspects of matrices that are required to be learnt by students of undergraduate and post graduate studies of different Universities.

The book starts with basic determinants that are required in analyzing matrices and the rest of the chapters of the book cover various aspects of matrices and their applications.

The book contains adequate examples to understand the topic and efforts has been made to keep the language of the book simple. The notations are as per convention so that it becomes easier to apply the concepts.

The authors are thankful to various distinguished work on matrices by scholars and writers that helped in writing this book.

The authors are of the opinion that the readers will find this book useful in their understanding of Matrices and their applications in various fields.

The authors are thankful to the Lucky Graphics for typesetting and to the publisher for the fast and efficient publishing in a short time

Authors