Basic Linear Algebra Review

The book Advanced Linear Algebra by Steven Roman covers a wide range of topics in linear algebra, including basic linear algebra, vector spaces, linear transformations, modules, eigenvalues and eigenvectors, inner product spaces, metric vector spaces, metric spaces, Hilbert spaces, tensor products, positive solutions to linear systems, affine geometry, singular values, and the Moore-Penrose inverse. The third edition includes a new chapter on associative algebras and an expanded reference section.

In our review of basic linear algebra, we will cover the following topics:

- Operations on matrices
- Determinants
- Eigenvectors and eigenvalues
- Vector spaces