Linear Algebra


Part I: Chapter 4

4.1 Matrices and Vectors
- System of m linear equations, matrix notation
- Vectors as special matrices

4.2 Matrix Operations

4.3 Vector Operations
- Geometric interpretation
- Linear dependence

4.4 Commutative, Associative, and Distributive Laws (tie-up with 4.2)

4.5 Identity and Null Matrices; Transposes and Inverses
- Solve linear-equation system by use of inverse matrix

Part II: Chapter 5

5.1-5.3 Nonsingular Matrix
- Conditions for Nonsingularity
- Rank
- Determinant
- Determinants and Nonsingularity

5.4 Finding the Inverse Matrix
- Cofactors and adjoint matrix
- Gaussian elimination

5.5 Cramer's Rule
- Homogeneous-equation systems