MATH-332: Linear Algebra Chapter: 2

Matrix Algebra

Section 2.5: Matrix Factorizations

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Lecture: Matrix Factorizations

Topics:	Matrix Factorizations
	LU Factorizations
Problems	Prac: 1
	Prob: 1, 3, 7-15odd, 19, 25

Section Goals

- Understand how a matrix factorizations can represent important information extracted from a matrix and how this information can be used to simplify the solving of linear systems.

- Devise a method for finding a decomposition of a matrix that separates its echelon form from the row-operations used in producing it.

Section Objectives

- Define the LU-decomposition of a matrix and use it to solve associated linear systems.

- Argue the validity of the LU-factorization algorithm and apply this algorithm to various test matrices.