6.1.3 What You will Learn

Bookmark this page

Upon completion of this unit, you should be able to

- Apply Gaussian elimination to reduce a system of linear equations into an upper triangular system of equations.
- Apply back(ward) substitution to solve an upper triangular system in the form $Ux = b$.
- Apply forward substitution to solve a lower triangular system in the form $Lz = b$.
- Represent a system of equations using an appended matrix.
- Reduce a matrix to an upper triangular matrix with Gauss transforms and then apply the Gauss transforms to a right-hand side.
- Solve the system of equations in the form $Ax = b$ using LU factorization.
- Relate LU factorization and Gaussian elimination.
- Relate solving with a unit lower triangular matrix and forward substitution.
- Relate solving with an upper triangular matrix and back substitution.
- Create code for various algorithms for Gaussian elimination, forward substitution, and back substitution.
- Determine the cost functions for LU factorization and algorithms for solving with triangular matrices.

Legal

Terms of Service & Honor Code
Privacy Policy
Accessibility Policy
Trademark Policy
Sitemap
Cookie Policy
Your Privacy Choices

Connect

Idea Hub
Contact Us
Help Center
Security
Media Kit

Calculator