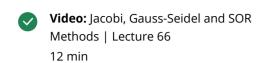
Introduction to Week Six

Numerical Solutions of PDEs

Direct Solution of Boundary Value Problems

Iterative Solution of Boundary Value Problems



Reading: Iterative Solution of a System of Linear Equations

Video: Red-Black Ordering | Lecture 67

3 min

Video: MATLAB Solution of the

Laplace Equation (Iterative Method) | Lecture 68 12 min

Ungraded External Tool: Iterative Solution of the Laplace Equation 30 min

Time-stepping Methods for Initial Value Problems

Quiz

Programming Assignment: Twodimensional Diffusion Equation

Farewell

Iterative Solution of a System of Linear Equations

The Jacobi, Gauss-Seidel and SOR methods can also be used to solve a system of linear equations. Consider the system of equations given by

$$a_{11}x_1+a_{12}x_2+a_{13}x_3=b_1,\\$$

$$a_{21}x_1 + a_{22}x_2 + a_{23}x_3 = b_2,$$

$$a_{31}x_1 + a_{32}x_2 + a_{33}x_3 = b_3.$$

By solving the ith equation for x_i , write down the Jacobi iteration method for this system.

✓ Completed

Go to next item

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