

Introduction to Week Six

Numerical Solutions of PDEs

Direct Solution of Boundary Value Problems

✔ **Video:** Discrete Laplace Equation | Lecture 62
9 min

✔ **Reading:** Mean Value Property of the Laplace Equation
10 min

✔ **Video:** Natural Ordering | Lecture 63
8 min

✔ **Reading:** Coordinates of the four corners
5 min

▶ **Video:** Matrix Formulation | Lecture 64
12 min

📖 **Reading:** The Discrete Laplace Equation on a Four-by-Four Grid
10 min

📖 **Reading:** Number of Interior and Boundary Points
10 min

▶ **Video:** MATLAB Solution of the Laplace Equation (Direct Method) | Lecture 65
17 min

🔗 **Ungraded External Tool:** Direct Solution of the Laplace Equation
30 min

Iterative Solution of Boundary Value Problems

Time-stepping Methods for Initial Value Problems

Quiz

Programming Assignment: Two-dimensional Diffusion Equation

Farewell

Coordinates of the four corners

What are the k coordinates for the four corners of a rectangular box with n_x and n_y grid points in the x - and y -directions, respectively?

✔ Completed Go to next item

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