

Homework 2

Due: 9/24/2024

1. Problem 1 in Chapter 2.
2. Problem 2 in Chapter 2.
3. Problem 4 in Chapter 2.
4. Problem 6 in Chapter 2.
5. Find the leading truncation error terms of the following finite-difference approximation:

$$\left. \frac{\partial^2 u}{\partial x \partial y} \right|_{i,j} \approx \frac{u_{i+1,j+1} - u_{i+1,j-1} - u_{i,j+1} + u_{i,j-1}}{2\Delta x \Delta y}.$$