

Homework 4. (Due October 8, 2008)
Math 353 Section 12, Fall 2008, University of Delaware

MatLab Exercises

1. Exercise 2.1.1. (computer problem)
2. Exercise 2.1.2. (computer problem)
3. Exercise 2.2.1. (computer problem)

Exercises

1. Use Gaussian elimination to solve the system.

$$\begin{aligned}4x_1 + 8x_2 + 4x_3 &= 8 \\x_1 + 5x_2 + 4x_3 - 3x_4 &= -4 \\x_1 + 4x_2 + 7x_3 + 2x_4 &= 10 \\x_1 + 3x_2 &\quad - 2x_4 = -4\end{aligned}$$

2. Exercise 2.2.4.

3. Exercise 2.3.6.

4. Use Gaussian elimination with partial pivoting to solve the following system.

$$\begin{aligned}2x_1 + 2x_2 - 2x_3 &= 2 \\x_1 + 2x_2 + 2x_3 &= 1 \\3x_1 + 6x_2 + 3x_3 &= 3\end{aligned}$$

5. Exercise 2.4.4.