

## CS2262 Spring 2007

### Assignment 10: Linear Systems

1. Set up the linear system of order  $n$  associated with the matrix  $A$  and vectors  $b$  and  $x$  given below. Verify that the given  $x$  solves the linear system.

$$A = \begin{bmatrix} 3 & 1 & 0 & \dots & 0 \\ 1 & 3 & 1 & \ddots & \vdots \\ 0 & \ddots & \ddots & \ddots & 0 \\ \vdots & \ddots & 1 & 3 & 1 \\ 0 & \dots & 0 & 1 & 3 \end{bmatrix}$$

$$b = \begin{bmatrix} 4 \\ 5 \\ 5 \\ \vdots \\ 5 \\ 4 \end{bmatrix}$$

$$x = \begin{bmatrix} 1 \\ 1 \\ 1 \\ \vdots \\ 1 \\ 1 \end{bmatrix}$$

2. A&H 6.1: page 248, #5
3. A&H 6.2: page 259, #1
4. A&H 6.2: page 260 #2
5. A&H 6.2: page 260 #3
6. A&H 6.2: page 261, #10
7. A&H 6.2: page 261, #15
8. A&H 6.3: page 281 #1

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Due April 19th 2007

Email completed assignments to [cs2262\\_assignments@cct.lsu.edu](mailto:cs2262_assignments@cct.lsu.edu)