Homework week #2- Solving Linear Equations – Due 10/17

John Navarro

1

Multiply 1st row by 2, and subtract that from the second row and replace

Multiply 1st row by 3 and subtract that from 3rd row and replace

Multiply 2nd row by 2 and subtract that from 3rd row and replace

Since there are no pivots in the 3rd column, these vectors are dependent.

These three vectors lie on a line.

2 =

3 False. A 5x3 matrix multiplied by a 3x4 matrix will give a 5x4 matrix.

4 A multiple of 3 should be used.

The first pivot is in location (1,1) value of 2. The second pivot is in location (2,2) Multiply the first row by 3 and subtract it from the second row and replace.

Now we can use the bottom row and say 6y = -3 therefore y =

Using that in the first equation, we can now solve for x

2x +3(-) = 5

2x = therefore, x = y =-

5 Use Gauss-Jordan elimination on [U I] to find the upper triangular U-1 :

multiply row 3 by c and subtract from row 2

multiply row 2 by a and subtract from row 1

multiply row 3 by b and subtract from row 1

Bonus Find the conditions on a and b that makes matrix A invertible and find A-1 :

Matrix of minors

Matrix of cofactors

Adjudicate

Determinant