MATLAB: University of California, Davis

Computer LAB for Linear Algebra Dr. Daddel

MATH 22AL LAB # 6

Start Typing in MATLAB

15 An other way of finding a basis for null-space of a matrix

Let $B2 = [A2^t \quad I]$, you need to type this as :

type	$B2 = [A2' \quad eye(4)]$

then find $F2 = rref(B2)$ by typing

type	$F2 = rref(B2)$

You will get a matrix of the form

$$\begin{bmatrix} R & * \\ 0 & N \end{bmatrix}$$

Note that in this matrix $\begin{bmatrix} R \\ 0 \end{bmatrix}$ is the $rref(A')$ and $\begin{bmatrix} * \\ N \end{bmatrix}$ is corresponding $rref$ of I.

Now check to see if the rows of N form a basis for the null-space of $A2$, by typing

type	$A2X1 = F2(3, 4:7)$
type	$A2NS1 = A2 * A2X1'$

Repeat this for the second vector:

type	$A2X2 = F2(4, 4:7)$
type	$A2NS2 = A2 * A2X2'$