CSci 2033 Practice Exercises Set #6 Feb. 9, 2018

 1 Consider the matrix A  $\begin{bmatrix} 1 & 2 & 1 & -1 \\ 1 & 1 & 1 & 1 \\ 0 & 0 & 1 & 3 \\ 1 & -1 & 0 & 2 \end{bmatrix}$  

 (a) Are the columns of A linearly dependent?
  $\begin{bmatrix} 1 & 2 & 1 & -1 \\ 1 & 1 & 1 & 1 \\ 0 & 0 & 1 & 3 \\ 1 & -1 & 0 & 2 \end{bmatrix}$ 

(b) Does the last column belong to the span of the other columns?

(c) Does the first column belong to the span of the other columns?

(d) We now replace A(4, 4) by A(4, 4) = 0. Are the columns of thew new A dependent?