

Name: _____

Pid: _____

1. Show that for any matrix $A \in \mathbb{R}^{m \times n}$ ($n > m$) there is a nonzero vector $x \in \mathbb{R}^n$ such that $Ax = 0$.

2. Show that all the elements of $\{0, 1\}^n$ (Binary strings) may be ordered such that every successive strings in this order are different only in one character.

For example, for $n = 2$ the order may be 00, 01, 11, 10.