

Quiz #1 (CSE 4190.313)

Wednesday, March 21, 2018

Name: _____ ID No: _____

1. (8 points)

- (a) (5 points) If P is any permutation matrix, find a nonzero vector \mathbf{x} so that $(I - P)\mathbf{x} = \mathbf{0}$.
- (b) (3 points) If P has 1s on the antidiagonal from $(1, n)$ to $(n, 1)$, describe PAP .

2. (7 points)

- (a) (4 points) What matrix E has the same effect as these three steps? Subtract row 1 from row 2, subtract row 1 from row 3, then subtract row 2 from row 3.
- (b) (3 points) What single matrix L has the same effect as these three reverse steps? Add row 2 to row 3, add row 1 to row 3, then add row 1 to row 2.