

1 Let $A = \begin{pmatrix} 1 & 1 & 2 & 1 & 1 \\ 2 & 3 & 1 & 4 & 4 \\ 3 & 4 & 3 & 5 & 5 \\ 1 & 1 & 2 & 1 & 1 \end{pmatrix}$.

- a Col A is a subspace of what vector space?
- b Nul A is a subspace of what vector space?
- c Find a basis for Col A . Why is this a basis?
- d Find a basis for Nul A . Why is this a basis?
- e What is the rank of A .