Linear Alg
MAS3114 2481

Quiz Q1

Prof. JLF King
31Aug2015

Q1: a Prof. King wears glasses Circle one:
True! **Yes!** ***Who?***

b Let $\mathsf{M} := \begin{bmatrix} 0 & 1 & 1 & 1 \\ 1 & 2 & 4 & -1 \\ 1 & 1 & 3 & -2 \end{bmatrix}$ and $\mathsf{R} := \mathit{RREF}(\mathsf{M})$. Then

$$\mathsf{R} = \begin{bmatrix} \quad & \quad & \quad & \quad \\ \quad & \quad & \quad & \quad \\ \quad & \quad & \quad & \quad \end{bmatrix}.$$

c Let $\mathbf{u}, \mathbf{v}, \mathbf{w}, \mathbf{t}$ be the column-vectors of M. Are there scalars α, β, γ such that $\alpha\mathbf{u} + \beta\mathbf{v} + \gamma\mathbf{w} = \mathbf{t}$? Write $(\alpha, \beta, \gamma) =$ ␣
or write "None" if there is no such triple.

d The dimension of $\mathrm{Spn}(\{\mathbf{u}, \mathbf{v}, \mathbf{w}\})$ equals ______________.

Please PRINT your name and ordinal. Ta:

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