Important Linear Algebra Definitions

Here are the main terms we have learned so far in class. When consolidating a theory, it is a really good exercise to review and internalize the definitions of the terms. I recommend investing time writing down and learning what these definitions mean. It will pay benefits later in the semester! :)

definitions related to vectors (e.g. columns of A, rather than A itself)

- span of $\{\bar{v}_1, \ldots, \bar{v}_p\}$
- $\{\bar{v}_1, \ldots, \bar{v}_p\}$ spans $\mathbb{R}^n$ (sps $\bar{v}_1, \ldots, \bar{v}_p$ are n-vectors)
- linear independence of $\{\bar{v}_1, \ldots, \bar{v}_p\}$
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$\bar{x} \mapsto A\bar{x}$ is an example of a LT

- matrix multiplication $A\bar{x}$. *

definitions related to linear transformations

- linear transformation $T: \mathbb{R}^n \to \mathbb{R}^m$
- onto
- one-to-one
- matrix product AB

* this is the key to translating statements about matrix equations to statements about vector equations, and vice versa