WEEK 2

YOUWEN WU

1. Vectors, linear combinations, spans, matrix-vector product.

- Consider a whole new way of looking at linear systems
- Add vectors entrywise, head to tail
- Multiply vectors via scaling
- A more flexible way to draw a line. For a line through point p, in direction $\vec{d}$, use $\vec{p} + t\vec{d}, t \in \mathbb{R}$. Intuition: Add a vector $\vec{p}$ pointing to point p and compose a vector pointing in the intended direction $\vec{d}$ head to tail.

A linear combination is

$$\vec{y} = \sum_{k=1}^{n} \alpha_n \vec{v}_n$$

References

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