Lecture 016: Intro to Vector Spaces

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When we talk about $\mathbb{R}$, what exactly are we talking about? Why do we intuitively think that $\mathbb{R}^2$ A on a plane is 2-dimensional?

We can define $\mathbb{R}$ as the set of n-tuples of real numbers. For example,

$$\mathbb{R}^3 \Rightarrow n = 3 \Rightarrow \begin{bmatrix} 2 \\ 3 \\ 1 \end{bmatrix}$$

However, it is more than just a set.