Linear Algebra; Notes

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Some conventions:

- $\mathbb{N} = \{0, 1, 2, \ldots\}$,
- A_+ with $A = \mathbb{R}, \mathbb{Q}, \mathbb{N}, \mathbb{Z}$, refers to the respective subset of positive elements,
- A_- is the same as above but for negative elements.

1 Vector Spaces

1.1 Vector Spaces

Definition 1.1. A **field is a set together with the following operations:**

$+ :^2 \to^2, (a, b) \mapsto a + b$

2 Finite Dimensional Vector Spaces

2.1 Span and Linear Independence