

# Linear Algebra

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# 前言

这是数学系线性代数的笔记，写给自己。如有错误请见谅，这些只是作为分享。

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# 第一章 The Real and Complex Number Systems

## 1.1 Ordered Sets

### **Definition 1.1.1**

*Let  $S$  be a set. An order on  $S$  is a relation, denoted by  $<$ , with the following two properties:*

- 1. If  $x \in S$  and  $y \in S$ , then one and only one of the statements :  $x < y$ ,  $x = y$ ,  $y < x$  is true.*
- 2. If  $x, y, z \in S$  and  $x < y$  and  $y < z$ , then  $x < z$ .*

## 1.2 Fields

## 1.3 The Real Field

## 1.4 The Extended Real Number System

## 1.5 The Complex Field

## 1.6 Euclidean Spaces