

## 1 | Operator, $\mathcal{L}(V)$

**def**

- A linear map from a vector space  $V$  to itself is called an operator.
- The notation  $\mathcal{L}(V)$  means  $\mathcal{L}(V, V)$  which is the set of all operators on  $V$ .

### 1.1 | results

#### 1.1.1 | Axler 3.69 Injectivity is surjectivity in finite dimensions

In a finite dimension operator, invertability, injectivity, and surjectivity are equivalent.