

## 1 | intro

1.1 | speaking is important

1.2 | tutorial: probably tuesdays and thursdays at lunch

## 2 | isomorphisms

2.1 | an invertible / bijective map from one vectorspace to another

2.2 | an operator (map from a vector space to itself) is bijective iff it is surjective or injective

## 3 | 3D Exercises

3.1 | Axler3D.3

3.1.1 | suppose  $V$  is finite-dimensional,  $U$  is a subspace of  $V$ , and  $S \in \mathcal{L}(U, V)$ . Prove there exists an invertible operator  $T \in \mathcal{L}(V)$  s.t.  $Tu = Su$  for every  $u \in U$  iff  $S$  is injective

3.1.2 | maybe  $S$  needs to be an operator on  $\mathcal{L}(U)$ ?