## Introduction

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## Types of Proofs

- 1. Direct Argument Assume the premise is true and logically deduce the conclusion with a sequence of logical steps
- $2.\,$  Construction Prove something exists by showing how to make
- 3. Contradiction Prove something is true by showing it can't be false
- 4. Weak Induction Show that a statement is true for the case of 0 and if it's true for the case of i, then it's true for the case of i + 1
- 5. Strong Induction Show that a statement is true for the case of 0 and if it's true for all cases < i, then it's true for the case of i