Notes from How to Prove It

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Preface

I wrote these notes principally FOR understanding, they are meant for future reference for a refresher on what I have learnt. These notes assumes a mathematical maturity of at least an A-Level student because there may be some technical aspects that are deemed too difficult to fully comprehend if the reader is not at the required level.
Honestly, I don't have much to say, I just thought that a preface would be cool. Let's start our journey now.

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1 Sentential Logic

1.1 Deductive reasoning and logical connectives

In an *argument*, we arrive at *conclusions* assuming that the *premises* are **true**.
Premises are often referred to as conditions, and conclusions are called the outcome.
If all the premises are **true**, then the conclusion should be **true**. However, for the case where the conclusion is **false** while the premises are **true**, the argument is **invalid**.

Symbol	Meaning	Description
$\vee$	or	Disjunction
$\wedge$	and	Conjunction
$/$	not	Negation

1.2 Truth tables

1.3 Variables and sets

1.4 Operations on sets

1.5 The conditional and biconditional connectives