



Relation prop apply all
de Morgan

$$\perp \rightarrow \top \equiv \top$$

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$$\overline{a \wedge b} \equiv \bar{a} \vee \bar{b}$$

currently
mastered all 6 topics \rightarrow A inellegible to take CS 2150

$$\overline{CS2102 \wedge CS2110} \equiv \overline{CS2102} \vee \overline{CS2110}$$

nam → wet

fire breath dragons in New Cabell Hall
→ I give you \$12,000

$$0 = 0.0000\dots$$

$$1 = 0.9999\dots$$

Proof Checkers

Axioms / step template

1	$(A \wedge B) \rightarrow C$	
2	A	
3	B	
<hr/>		
4	$A \wedge B$	$\wedge I, 2, 3$
5	C	MP, 4, 1

TFL

A	
B	
<hr/>	
$A \wedge B$	$\wedge I$
<hr/>	
A	
$A \rightarrow B$	
<hr/>	
B	MP

list of knowns

Pattern

matching — recursive —

map
dict

rule
variable: \langle known
expression \rangle

$(A \wedge B) \vdash C$

$\vdash A$

$\vdash B$

C

COQ LEAN
High-level logic Language

OUTPUT
→

M-C proof

Proof by Contradiction

Assume $\neg A$

⋮

⊥

∴ A

A
B
$A \rightarrow B$

→ ⊥

$\neg A$
⋮
⊥
A

 IP

Induction

$$P(0)$$

$$\forall n \geq 0. P(n) \rightarrow P(n+1)$$

Ind

$$\forall n \geq 0 P(n)$$