

Proof #1

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1:	$B \vee (C \vee D)$	assumption
2:	B	assumption
3:	$D \vee B$	\vee intro 2
4:	$C \vee (D \vee B)$	\vee intro 3
5:	$C \vee D$	assumption
6:	C	assumption
7:	$C \vee (D \vee B)$	\vee intro 6
8:	D	assumption
9:	$D \vee B$	\vee intro 8
10:	$C \vee (D \vee B)$	\vee intro 9
11:	$C \vee (D \vee B)$	\vee elim 5,6-7,8-10
12:	$C \vee (D \vee B)$	\vee elim 1,2-4,5-11
13:	$B \vee (C \vee D) \rightarrow C \vee (D \vee B)$	\rightarrow intro 1-12

Proof #1

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1:	$((A \rightarrow B) \rightarrow C) \rightarrow D$	assumption
2:	A	assumption
3:	B	assumption
4:	C	assumption
5:	$A \rightarrow B$	assumption
6:	C	hyp 4
7:	$(A \rightarrow B) \rightarrow C$	\rightarrow intro 5-6
8:	D	\rightarrow elim 1,7
9:	$C \rightarrow D$	\rightarrow intro 4-8
10:	$B \rightarrow (C \rightarrow D)$	\rightarrow intro 3-9
11:	$A \rightarrow (B \rightarrow (C \rightarrow D))$	\rightarrow intro 2-10
12:	$((A \rightarrow B) \rightarrow C) \rightarrow D \rightarrow (A \rightarrow (B \rightarrow (C \rightarrow D)))$	\rightarrow intro 1-11

The screenshot shows a window titled "Proof #1" with a menu bar containing "File", "Edit", "Backward", "Forward", "Window", and "Help". The main area displays a logical proof with the following steps:

1:	E	premise
2:	D	assumption
3:	C	assumption
4:	D ∧ E	∧ intro 2,1
5:	C → (D ∧ E)	→ intro 3-4
6:	(D → (C → (D ∧ E)))	→ intro 2-5

The proof is structured with nested boxes indicating the scope of assumptions: a box around lines 3 and 4, and a larger box around lines 2, 3, 4, and 5.

The screenshot shows a window titled "Proof #1" with a menu bar containing "File", "Edit", "Backward", "Forward", "Window", and "Help". The main area displays a list of logical steps:

1:	$(A \wedge B) \wedge C$	assumption
2:	$A \wedge B$	\wedge elim 1
3:	B	\wedge elim 2
4:	A	\wedge elim 2
5:	C	\wedge elim 1
6:	$B \wedge A$	\wedge intro 3,4
7:	$C \wedge (B \wedge A)$	\wedge intro 5,6
8:	$((A \wedge B) \wedge C) \rightarrow (C \wedge (B \wedge A)) \rightarrow$ intro 1-7	

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1:	$\neg\neg C$	assumption
2:	C	assumption
3:	$\neg C$	assumption
4:	\perp	\neg elim 2,3
5:	$\neg\neg C$	\neg intro 3-4
6:	\perp	\neg elim 5,1
7:	$\neg C$	\neg intro 2-6
8:	$\neg C \vee A$	\vee intro 7
9:	$\neg\neg C \rightarrow \neg C \vee A$	\rightarrow intro 1-8

Proof #1

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1:	$(E \rightarrow F) \rightarrow E$	assumption
2:	$\neg E$	assumption
3:	E	assumption
4:	\perp	\neg elim 3,2
5:	F	contra (constructive) 4
6:	$E \rightarrow F$	\rightarrow intro 3-5
7:	E	\rightarrow elim 1,6
8:	\perp	\neg elim 7,2
9:	E	contra (classical) 2-8
10:	$((E \rightarrow F) \rightarrow E) \rightarrow E$	\rightarrow intro 1-9

The screenshot shows a proof editor window titled "Proof #1" with a menu bar containing "File", "Edit", "Backward", "Forward", "Window", and "Help". The proof is displayed as a list of 13 lines, with some lines grouped into nested boxes to represent subproofs. The justification for each line is provided to the right of the formula.

Line	Formula	Justification
1:	$A \vee B$	assumption
2:	A	assumption
3:	$\neg A \wedge \neg B$	assumption
4:	$\neg A$	\wedge elim 3
5:	\perp	\neg elim 2,4
6:	$\neg(\neg A \wedge \neg B)$	\neg intro 3-5
7:	B	assumption
8:	$\neg A \wedge \neg B$	assumption
9:	$\neg B$	\wedge elim 8
10:	\perp	\neg elim 7,9
11:	$\neg(\neg A \wedge \neg B)$	\neg intro 8-10
12:	$\neg(\neg A \wedge \neg B)$	\vee elim 1,2-6,7-11
13:	$(A \vee B) \rightarrow \neg(\neg A \wedge \neg B)$	\rightarrow intro 1-12

Proof #2

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1:	E	assumption
2:	F	assumption
3:	$E \rightarrow (F \rightarrow G)$	assumption
4:	$F \rightarrow G$	\rightarrow elim 3,1
5:	G	\rightarrow elim 4,2
6:	$(E \rightarrow (F \rightarrow G)) \rightarrow G$	\rightarrow intro 3-5
7:	$F \rightarrow (E \rightarrow (F \rightarrow G)) \rightarrow G$	\rightarrow intro 2-6
8:	$E \rightarrow F \rightarrow (E \rightarrow (F \rightarrow G)) \rightarrow G$	\rightarrow intro 1-7

Proof #1

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1:	$\neg((\neg A \rightarrow B) \vee (B \rightarrow \neg A))$	assumption
2:	B	assumption
3:	A	assumption
4:	$\neg A$	assumption
5:	B	hyp 2
6:	$\neg A \rightarrow B$	\rightarrow intro 4-5
7:	$(\neg A \rightarrow B) \vee (B \rightarrow \neg A)$	\vee intro 6
8:	\perp	\neg elim 7,1
9:	$\neg A$	\neg intro 3-8
10:	$B \rightarrow \neg A$	\rightarrow intro 2-9
11:	$(\neg A \rightarrow B) \vee (B \rightarrow \neg A)$	\vee intro 10
12:	\perp	\neg elim 11,1
13:	$(\neg A \rightarrow B) \vee (B \rightarrow \neg A)$	contra (classical) 1-12

Proof #1

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1:	$((A \rightarrow B) \rightarrow A) \rightarrow A \rightarrow B$	assumption
2:	$(A \rightarrow B) \rightarrow A$	assumption
3:	A	assumption
4:	$(A \rightarrow B) \rightarrow A$	assumption
5:	A	hyp 3
6:	$((A \rightarrow B) \rightarrow A) \rightarrow A$	\rightarrow intro 4-5
7:	B	\rightarrow elim 1,6
8:	$A \rightarrow B$	\rightarrow intro 3-7
9:	A	\rightarrow elim 2,8
10:	$((A \rightarrow B) \rightarrow A) \rightarrow A$	\rightarrow intro 2-9
11:	B	\rightarrow elim 1,10
12:	$((((A \rightarrow B) \rightarrow A) \rightarrow A) \rightarrow B) \rightarrow B$	\rightarrow intro 1-11