

FUNDAMENTALS OF LOGIC

NO.6 EXERCISE

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Exercise (1)

- Prove $\vdash A \wedge B \rightarrow B \wedge A$

Exercise (2)

- Prove $\vdash A \vee B \rightarrow B \vee A$

Exercise (3)

- Prove $\vdash A \wedge B \rightarrow A \vee B$

Exercise (4)

- Prove $\vdash A \rightarrow (\neg A \rightarrow B)$

Exercise (5)

- Prove $\vdash (A \rightarrow B) \rightarrow (\neg B \rightarrow \neg A)$

Exercise (6)

- Prove $\vdash (\neg B \rightarrow \neg A) \rightarrow (A \rightarrow B)$

Exercise (7)

- Prove $\vdash (A \rightarrow B) \rightarrow (\neg A \vee B)$

Exercise (8)

- Prove $\vdash (\neg A \vee B) \rightarrow (A \rightarrow B)$

Exercise (9)

- Prove $\vdash (A \rightarrow (B \rightarrow C)) \rightarrow ((A \rightarrow B) \rightarrow (A \rightarrow C))$

Exercise (10)

- Prove $\vdash (C \rightarrow A) \rightarrow ((C \rightarrow B) \rightarrow (C \rightarrow (A \wedge B)))$

Exercise (11)

- Prove $\vdash (A \rightarrow C) \rightarrow ((B \rightarrow C) \rightarrow ((A \vee B) \rightarrow C))$