

Logic pset 4

Resources: HLW [Ch 3](#) and [Lecture 6](#)

Use Conditional Proof (and possibly the previous rules) to prove the following sequents. Be sure to include dependency numbers in the leftmost column of your proof.

1. $P \rightarrow Q \vdash P \rightarrow (Q \vee R)$
2. $P \vdash (P \rightarrow \neg P) \rightarrow \neg P$
3. $P \rightarrow (Q \rightarrow R) \vdash Q \rightarrow (P \rightarrow R)$
4. $\vdash P \rightarrow (P \vee Q)$
5. $\vdash P \rightarrow ((P \rightarrow Q) \rightarrow Q)$