

Seminar logic, Hand-in exercise 5

March 11, 2024

Exercise 1

Part a (2 points)

Show that the \Leftarrow $-Elim$ rule in figure 3 on page 48 of Pitts is derivable from the rules in figure 4 on the same page.

Part b (3 points)

Show that the \vee $-Elim$ rule in figure 3 on page 48 of Pitts is derivable from the rules in figure 4 on the same page.

Exercise 2 (5 points)

Find a prop category C with finite meets, finite joins and Heyting implications, such that the collection of sequents $\Psi \vdash \varphi[\Gamma]$ is not closed under the usual rules of classical logic. Hint: consider remark 5.4.7 in Pitts.