



Homework

1. Show a λ -term, which can be assigned infinitely many non α -convertible types.
2. Give a derivation that corresponds to:

$$\lambda x^{\alpha \rightarrow \beta}. \lambda y^{(\alpha \rightarrow \beta) \rightarrow \beta}. y(\lambda z. yx) : (\alpha \rightarrow \beta) \rightarrow ((\alpha \rightarrow \beta) \rightarrow \beta) \rightarrow \beta$$

3. Using the basic HOL rules derive the symmetry of equality:

$$A = B \vdash B = A$$

show intermediate steps.

4. Could the transitivity rule be simulated using other rules? How?

The rules shown during last exercise session are for example included in John Harrison's introductory slides: <http://www.cl.cam.ac.uk/~jrh13/slides/tphols-18aug09/slides.pdf>