Foundations of Software Science　（ソフトウェア基礎科学) /
Foundations of Computer Software　（ソフトウェア基礎）
Homework 3
November 6, 2009
Instructor: Eijiro Sumii

Submit on or before November 12, 2009 (next Thursday) by e-mail to:

　sumii@ecei.tohoku.ac.jp

The subject line of the e-mail must be

　software homework 3

all in lower case and ascii（半角）characters.　Do not omit the spaces between the words.

Write your student id (including all alphabets and digits) and full name in the first line of the message body of the e-mail.

I.　Write down a derivation tree for each of the following (valid) formulas in (intuitionistic) propositional logic.

1.　$P \Rightarrow Q \Rightarrow Q \wedge P$
2.　$P \vee Q \Rightarrow Q \vee P$
3.　$((P \vee (P \Rightarrow Q)) \Rightarrow Q) \Rightarrow Q$

II.　Write down the (simply typed) λ-terms that correspond to the proofs of the formulas above.