Homework Assignment 2

[Compiled on June 28, 2009]

Note

This assignment is due 9AM, July 6, 2009. Please write or type your answers on A4 (or similar size) paper. Put your completed homework by the due time on the lecturer's desk in Room 207 (of the NTU Extension). **No late submission will be accepted. You may discuss the problems with others, but copying answers is strictly forbidden.**

Problems

1. Please write down a **K**-proof of $\Box(p \wedge q) \supset (\Box p \wedge \Box q)$.

2. Prove that $\Box(\Diamond\varphi \supset \psi) \supset (\varphi \supset \Box\psi)$ is a theorem of the **KB** system

3. Prove the soundness of the axiom **5** with respect to the class of Euclidean models.

4. Let $\mathfrak{M}$ is the canonical model of a system containing **B**. Show that $\mathfrak{M}$ is a symmetric model.