

## EXERCISES ON MODAL LOGIC (5)

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1.

Prove that the logic  $KT4 + \Box(\Box p \rightarrow \Box q) \vee \Box(\Box q \rightarrow \Box p)$  (known as S4.3) is canonical, and therefore frame complete.

2.

Prove that the logic  $KT + p \rightarrow \Box p$  (called Trivial) is canonical, and hence frame complete.

3.

Prove that the logic  $K + \Box(\Box p \rightarrow p)$  is canonical.

4.

Prove that the logic  $K + \Diamond \top \rightarrow (\Box p \rightarrow p)$  is canonical.