Exercises for next session

1. The following sentences are semantically ambiguous. Give paraphrases that precisely describe the different readings.

   (a) *John and Mary are married.*

   (b) *Five examiners marked six scripts.*

   (c) *John kissed his wife, and so did Sam.*

   (d) *John paints Mary more often than Sam.*

   (e) *Paul wants to buy a poodle.*

   (f) *Smith's murderer must be insane.*

   (g) *John often wins on Sunday.*

   (h) *I love you too.*

2. The meanings of which natural language sentences do the following formulas represent?

   (a)

   $$\exists u \exists t \exists t' \exists s \exists e(\textsc{sing}(s, \textsc{Lea}) \wedge t \subseteq s \wedge t = n \wedge u = \textsc{Lea} \wedge \textsc{meet}(e, u, \textsc{Luc}) \wedge t' < n \wedge e \subseteq t')$$

   (b)

   $$\exists x \exists y \exists t \exists t' \exists s(\textsc{man}(x) \ \wedge \ t \subseteq s \ \wedge \ t = n \ \wedge \ \textsc{love}(s, x, y) \ \wedge \ t' = n \wedge \textsc{woman}(y) \ \wedge \ \neg(\exists s'(\textsc{love}(s', y, y) \ \wedge \ t' \subseteq s')))$$

3. The meaning of the sentence *Next week, Paul will come.* may be represented by the following formula.

   $$\exists t \exists t' \exists e(\textsc{come}(e, \textsc{Paul}) \ \wedge \ e \subseteq t \ \wedge \ t < n \ \wedge \ \textsc{week}(t) \ \wedge \ \textsc{week}(t') \wedge n \subseteq t' \wedge \ t < t' \wedge \neg \exists t''(\textsc{week}(t'') \ \wedge \ t < t'' < t') \ )$$

   (a) Give a paraphrase for the meaning representation of *next week*.

   (b) Draw a time line with the temporal periods t and t' as well as the event e on it.

   (c) Give a similar representation for the sentence *Yesterday, Paul will come.* and show that this leads to an inconsistency by again drawing a time line. Which conjuncts of the formal are responsible for the inconsistency?