

INF5150 Exercises 28/9-2007

The sequence diagrams for the exercises are on the next page.

1. Calculate the semantics of each of the sequence diagrams Ex1, Ex2 and Ex3.
2. Answer the following with reference to the definitions on foil 31 from 21/9-2007:
 - a. Is Ex2 a refinement of Ex1?
 - b. Is Ex1 a refinement of Ex2?
 - c. Is Ex3 a refinement of Ex1?
 - d. Is Ex1 a refinement of Ex3?
3. Make a specification called MySpec that is a refinement of Ex3.
 - a. Is Ex1 a refinement of MySpec?
 - b. Is MySpec a refinement of Ex1?
4. Is Ex7 a refinement of Ex6?
5. Consider the sequence diagrams Ex1, Ex6 and Ex8. Does the refinement relation hold between any of these specifications? (Note that to address Ex8 you need to confer the STAIRS-papers in the syllabus since refinement of specifications with xalt has not yet been covered).
6. (Difficult?) Consider only for the sake of this exercise an alternative refinement relation $\rightsquigarrow_{\text{new}}$ for interaction obligations defined by: $(p,n) \rightsquigarrow_{\text{new}} (p',n')$ if and only if $p \cup n = p' \cup n'$ & $p' \subseteq p$. What would this correspond to in pre/post-specifications?
 - a. Weakening the pre-condition
 - b. Strengthening the post-condition
 - c. Both weakening the pre-condition and strengthening the post-condition
 - d. None of the above

