Exercise Session 5
Consensus

October 29, 2012

Problem 1

Consider all our fail-stop consensus algorithms (Consensus Algorithm I and Consensus Algorithm II). Explain why none of those algorithms would be correct if the failure detector turns out not to be perfect.

Problem 2

Explain why any fail-noisy consensus algorithm (one that uses a $\diamond P$ failure detector) actually solves uniform consensus.

Problem 3

Explain why any fail-noisy consensus algorithm (one that uses a $\diamond P$ failure detector) requires a majority of the correct processes. More precisely, provide a "bad run" in the case where there is no correct majority.