Exercise Session 6
Non-Blocking Atomic Commit

Problem 1

Devise two algorithms that, without consensus, implement weaker specifications of NBAC by replacing the termination property with the following ones:

1. Weak termination: Let p_i be a distinguished process, known to all other processes. If p_i does not crash then all correct processes eventually decide. Your algorithm may use a perfect failure detector.

2. Very weak termination: If no process crashes, then all processes decide. Is a failure detector needed to implement this algorithm?

Problem 2

Can we implement NBAC with the eventually perfect failure detector $\diamond P$ if we assume that at least one process can crash? What if we consider a weaker specification of NBAC where the agreement property is not required?