Exercise 1 - Majority voting

Explain why every process needs to maintain a copy of the register value in the “Majority voting”(1) algorithm.

(1) [ABD95, slides 24 and following]
Consider a system with two processes, $\pi$ and $\rho$. Give a register execution such that each process performs at most two operations and the execution is unsafe.
Exercise 3 - Safe execution

Consider a system with two processes, $\pi$ and $\rho$. Give a register execution such that each process performs at most two operations and the execution is safe but not regular.
Exercise 4 - Regular execution

Consider a system with two processes, $\pi$ and $\rho$. Give a register execution such that each process performs at most two operations and the execution is regular but not atomic.
Exercise 5 - Timestamps

Explain why a timestamp is needed in the “Majority voting” (1) algorithm, but not in the “Read-one, write-all” (2) algorithm.

(1) [ABD95, slides 24 and following]
(2) [Slides 16 and following]