

Homework Exercise #8
Due: February 18, 2009

7. Consider the standard asynchronous shared-memory model where n processes have unique ids from $\{1, \dots, n\}$ and can communicate using shared registers. Processes may experience halting failures. Give a linearizable, wait-free implementation of a *maxometer*, which stores an integer value and supports two operations:
- **WRITE**(v): changes the state of the maxometer from x to $\max(x, v)$ and returns ack.
 - **READ**: returns the state of the maxometer without changing it.

Do not worry too much about the efficiency of your implementation, but prove that your answer is correct.