Quiz 1: atomic snapshots

1. Prove that one-shot atomic snapshot satisfies self-inclusion and containment:

   ✓Self-inclusion: for all i: v_i is in S_i

   ✓Containment: for all i and j: S_i is subset of S_j or S_j is subset of S_i

2. Show that the atomic snapshot is subject to the ABA problem (affecting correctness) in case the written values are not unique

Quiz 2

1. Would the (one-shot) IS algorithm be correct if we replace $A_r.update_i(v_i)$ with $U_r[i].write(v_i)$ and $A_r.snapshot()$ with $scan(U_r[1],\ldots,U_r[N])$?

2. Would it be possible to use only one array of N registers?

3. Complete the proofs of Lemma 2 and Corollaries 1 and 2