Problem 1.

In this problem, we consider a system of $n$ processes.

An $(m,n)$-assignment object, where $n \geq m > 1$, has $n$ fields (for instance, an $n$-element array) and two operations: assign() and read(). The `assign()` operation takes as arguments $m$ values $v_1, \ldots, v_m$ and $m$ indices $i_1, \ldots, i_m$ and atomically assigns value $v_j$ to array element $i_j$, for $j = 1, \ldots, m$. Note: the entire sequence of $m$ assignments is atomic. The `read()` operation takes an index argument $i$ and returns the $i^{th}$ array element.

Your task is to prove that atomic $(n, \frac{n(n+1)}{2})$-assignment objects, where $n > 1$, have consensus number at least $n$. 