CS4344 Networked and Mobile Games
Quiz 2

Answer ALL questions in the space provided. Please state your assumptions (if any) clearly.

1. In lockstep protocol, a player does not reveal his action to all other players until he has received commitments from all other players.

Someone modifies lockstep protocol slightly to improve its performance: if a player A has already sent his commitment to player B, and he has received commitment to B, then A can reveal his action to B, even though A has not received commitments from some other players yet.

Is look-ahead cheat possible in this modified version? Explain.
2. Let $C$ be the set of all cells in a game map and $\text{PVS}(c) \in C$ for a cell $c$ be the set of all cells visible from $c$. A scheme is proposed to reduce the number of location update exchanges between two players $A$ and $B$ and it works as follows. Let $c_A$ and $c_B$ be the cells that $A$ and $B$ are in respectively. $A$ computes $\text{PVS}(c_B)$ and $B$ computes $\text{PVS}(c_A)$. Then as long as $A$ is moving in a cell that belongs to $C - \text{PVS}(c_B)$, $A$ needs not update $B$. Similarly, as long as $B$ is moving in a cell that belongs to $C - \text{PVS}(c_A)$, $B$ needs not update $A$.

Is there anything wrong in this scheme? Explain.