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 $\mathrm{PVS}(c) \in C$ for a cell c be the set of all cells visible from c. A scheme is proposed to reduced the number of location update exchanges between two player 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 $PVS(c_B)$ and B computes $PVS(c_A)$. Then as long as A is moving in a cell that belongs to $C - PVS(c_B)$, A needs not update B. Similarly, as long as B is moving in a cell that belongs to $C - PVS(c_A)$, B needs not update A.

   Is there anything wrong in this scheme? Explain.

END OF PAPER