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CS355 – Beyond Search

Search In Games Homework

1. Diagram

Root:

A Turn 1:

B Turn 1:

A Turn 2:

B Turn 2:
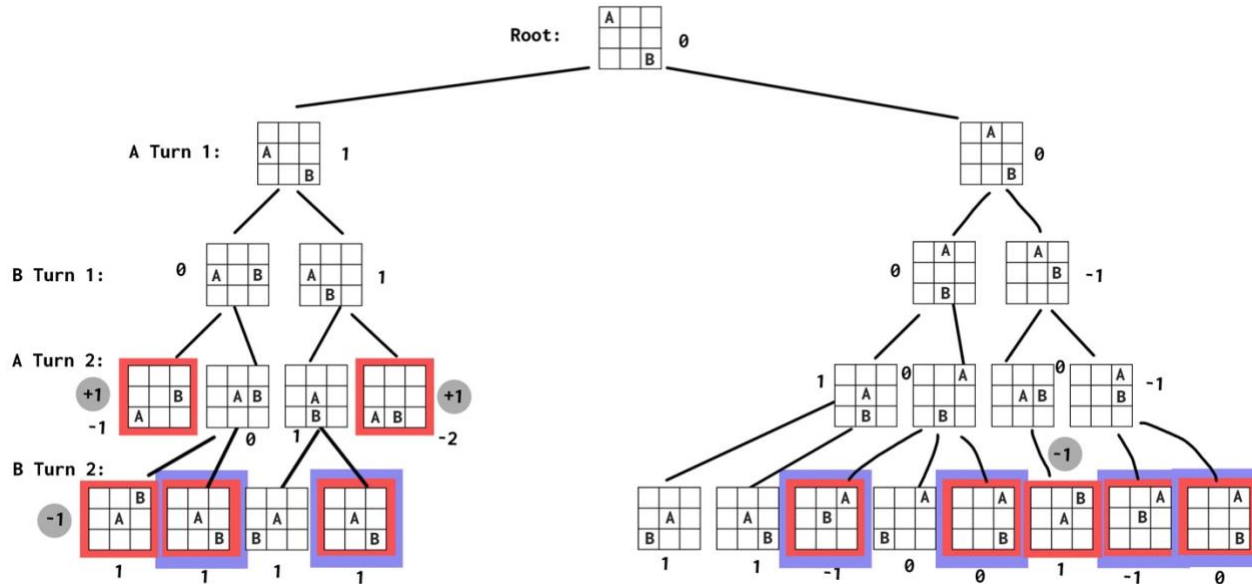
If the game were to continue until one player reached the end, the standard minimax would fail due to the potential to get stuck in a recursive loop. Since there are some repeating constates as you go down the state tree. The game tree would need to be modified to account for these loop scenarios by linking them together.

2. True or False

False, it absolutely does help the first player to know the second player's move as this will also determine the options the first player will have on his or her tern, therefore giving a competitive advantage. If the first player does not know the second player's move then this adds an element of chance and randomness to the players' strategies.

True. In a partially observable game, the randomness is decided by the game and not the competing player, thus knowing the second player's move does not help the first player since each move creates a new state for state players and the end state is not known yet.

False. Backgammon is a partially observable game so even a perfectly rational agent may still lose due to chance.