HW03: Game Playing *

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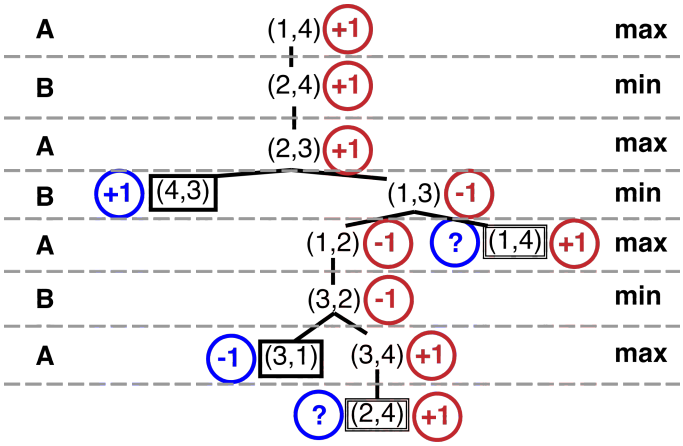
1 Game Trees & Minimax

I have drawn **a.** and **b.** simultaneously. Initial values indicated in **blue**; backed up minimax indicated in **red**.

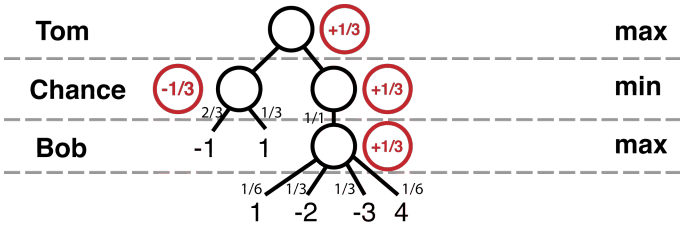


There are two positions that are maked with a '?'. Because these states occurred previously in the tree, and the moves available are exactly the same. So I have annotated them with the same values. This is not actually uncommon—Markov chains are often infinitely recursive as well.

2 More Minimax

n/a

3 Unfair Wagers



*CS 5300 AI; Spring 2012 Instructor: Jur van den Berg, University of Utah

3. Changing the number 4 to the number 3 makes the expected outcome of that particular node $1 \cdot \frac{1}{6} - 2 \cdot \frac{1}{3} - 3 \cdot \frac{1}{6} + 3 \cdot \frac{1}{3} = 0$; changing the 4 to a 2 changes the expected outcome to $1 \cdot \frac{1}{6} - 2 \cdot \frac{1}{3} - 3 \cdot \frac{1}{6} + 2 \cdot \frac{1}{3} = -\frac{1}{3}$.

Thus, in order for Bob to con his friend out of his soda (in expectation at least), the number we'd like to change 4 into is **2**.