CS-49: Game Theory

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Problem 4.

Read ***Chapter*** 0 *of Lessons in Play, and do* ***Problem*** 1 *at the end of the chapter.*

Consider the position:

(a) Draw the complete game trees for both CRAM and DOMINEERING . The leaves (bottoms) of the tree should all be positions in which neither player can move. If two left (or right) options are symmetrically identical, you may omit one.

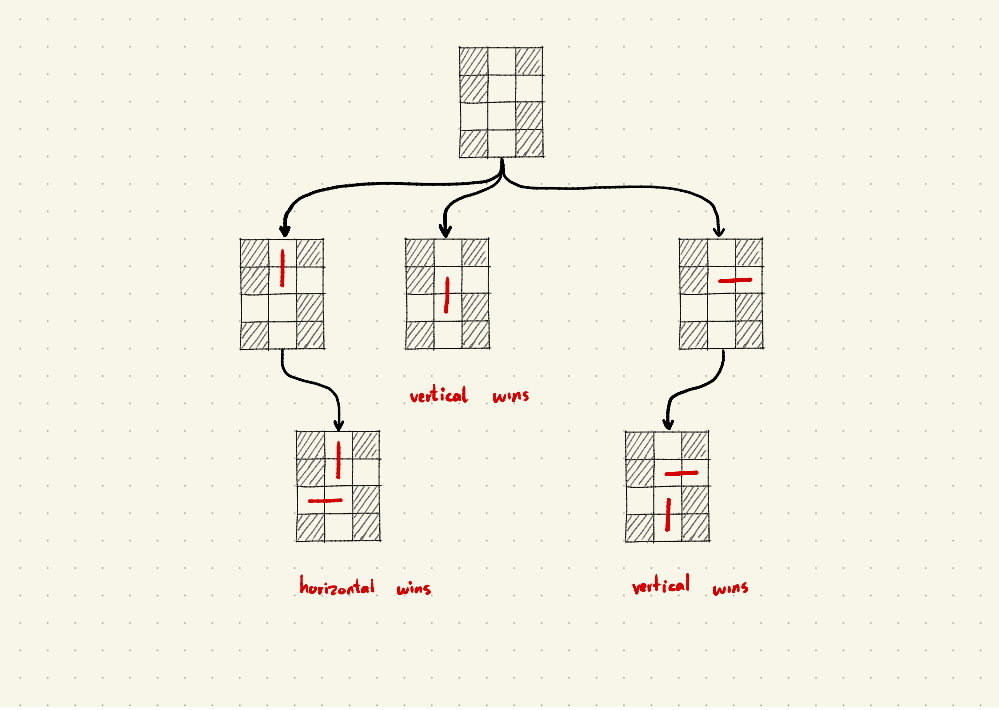

FIGURE 1. Game Trees for Given Position in CRAM and DOMINEERING

(b) Who wins at DOMINEERING if;

(i) Vertical plays first?

Vertical can force a win by playing the second (middle) branch of the game tree.

(ii) Horizontal plays first? Horizontal one unique move (third branch of the game tree), which sets up Vertical to win on the next move. Therefore, If Horizontal plays first then Vertical wins.

(c) Who wins at CRAM ?

Whomever plays first in CRAM can force a win by playing the second (middle) branch of the game tree.