Build an Adversarial Game Playing Agent

Custom Heuristic Experiment

The feature that the proposed heuristic uses is the number of movements that land on the board's border. I think being a knight on the board's border makes it hard to maneuver. So, the heuristic tries to push the opponent's knight to the border while keeping mine away from the border.

Experiments

In addition to the original problem (i.e. H0: #my_moves - #opponent_moves), I checked the following heuristic with two different weights:

H1: (#my_moves - #my_moves_on_boarder) - (#opponent_moves - # opponent_moves_on_boarder)

H2: (#my_moves - #my_moves_on_boarder) - (#opponent_moves - # opponent_moves_on_boarder)

Results

The number of matches is **200** with 150 ms of time limit.

Heuristics	**Result (%)**
H0	67.0
H1	71.5
H2	79.0

When I changed the time limit to 300 ms to increase the depth (which also slows the speed) and ran the experiment of H2 again (with 200 matches) I got 76.5%. From this we can conclude that increasing the depth doesn't enhance the performance.