Alma Mater Studiorum – Università di Bologna

BRAINMATES

for Tablut Challenge 2020

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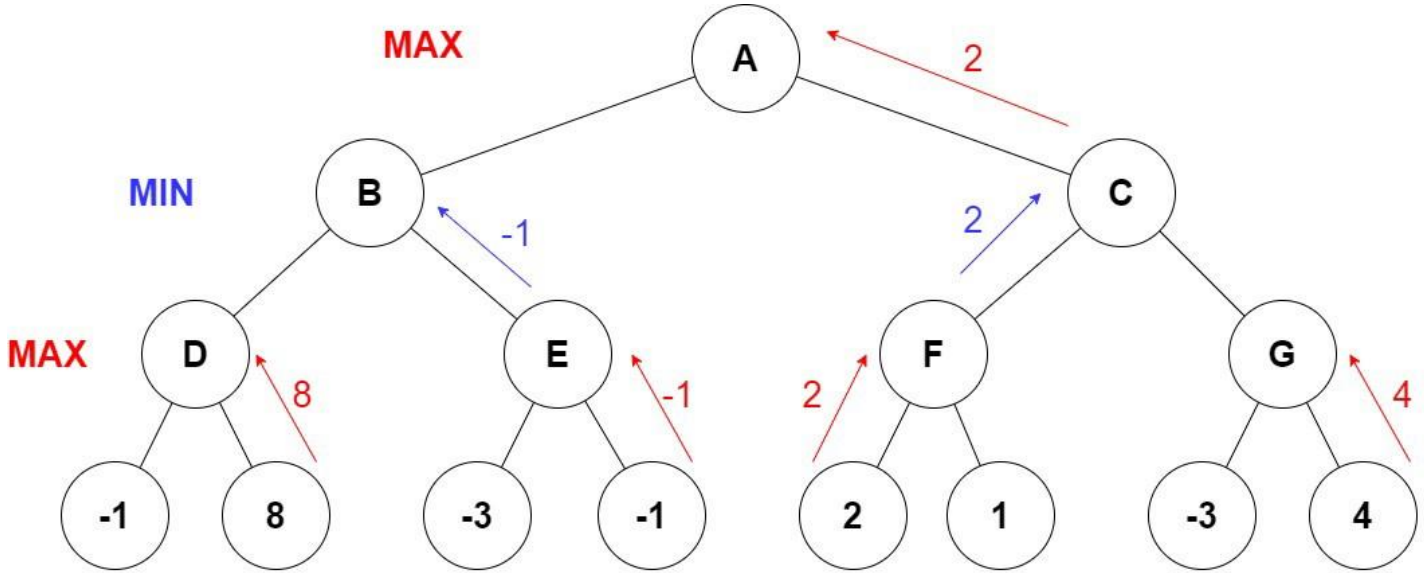
Searching algorithm

- MinMax with Iterative deepening has been implemented using AIMA library
- Depth is increased until time out occurs (60 seconds)



MINMAX ALGORITHM

Black Heuristics

BLACK ALIVE (35 % Influence)

Number of black pawns

WHITE EATEN (48 % Influence)

Number of white pawns eaten by our player

BLACK SURROUND KING(15 % Influence)

Number of black pawns which surround the king

RHOMBUS POSITIONS (2 % Influence)

Rhombus-shape configuration used to block escaping tiles

The returned values of these characteristics have been normalized between 0 and 1 to have the most accurate and the clearest evaluation of states

White Heuristics

The returned values of these characteristics have been normalized between 0 and 1 to have the most accurate and the clearest evaluation of states

BEST POSITION (2 % INFLUENCE)

Preferable white positions in the first stages of the game

BLACK EATEN (20 % INFLUENCE)

Number of black pawns eaten by our player

BLACK SURROUND KING (7 % INFLUENCE)

Number of black pawns which surround the king

WHITE ALIVE (35 % INFLUENCE)

Number of white pawns

NUM ESCAPES KING (18 % INFLUENCE)

Number of escape tiles accessible to the king

PROTECTION KING (18 % INFLUENCE)

If king could be easily eaten (2 pawns), it considers white pawn protecting the opposite side and its neighbours

THANKS FOR YOUR ATTENTION

BrAInmates