

# Pawn chess agent

- NegaMax with  $\beta$  pruning
- Linear evaluation function
- Sorting of figures according to its board state and processing those figures with highest priority first

# NegaMax

- As chess is a zero-sum game we can invert the values and don't check which player is currently playing
- Start with `negaMax( $\alpha$ ,  $\beta$ )`
- In recursive step  
`negaMax(- $\beta$ , -max(bestScore,  $\alpha$ ))`
- When bubbling up, invert the current result score (for checking scores appropriately to current player)
- If `bestScore >= beta` //Then prune

# Linear evaluation function

- RETURN 1000 for win or -1000 for loss
- Otherwise compute as follows
  - $\text{PROCEED\_WEIGHT} * \text{ROW\_OF\_FURTHEST\_FIGURE} + \text{ATTACK\_WEIGHT} * \text{NUMBER\_OF\_CAPTURES}$
  - Weights change according to board state

# Sorting of figures

- 2 (descendent) sorting
  - One comparator which sorts according to the number of captures
  - One comparator which sorts according to the nearest position at the opposite side