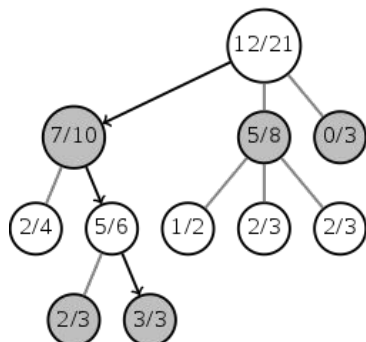


Tablut challenge 2020

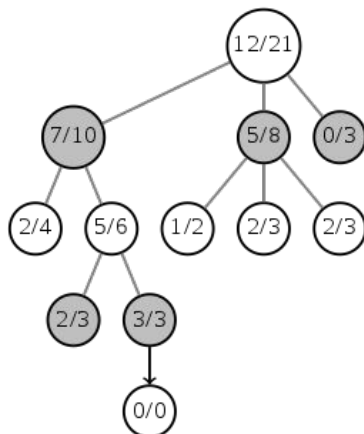
Player name: TaPrut

Monte Carlo Tree Search

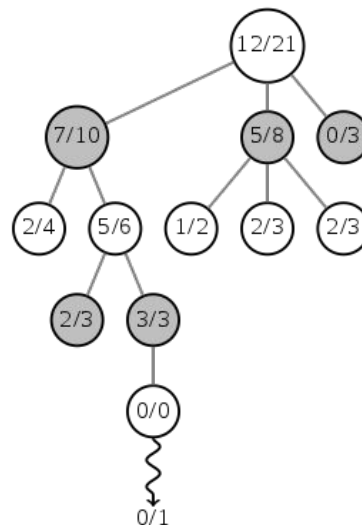
Selection



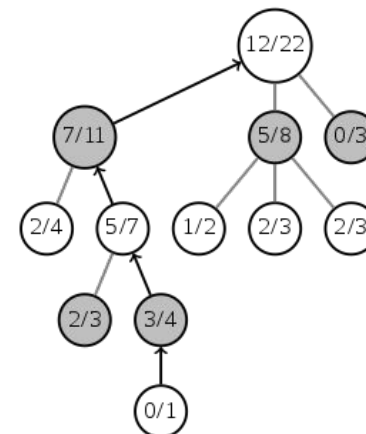
Expansion



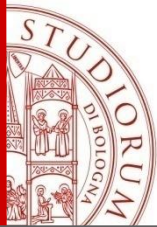
Simulation



Backpropagation

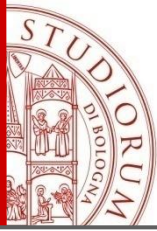


- Using **UCT** function for selection phase.
- If we choose pure random moves during the **simulation** phase, the information about the payout will be useless.
- A good **move selection policy** will produce a more consistent result



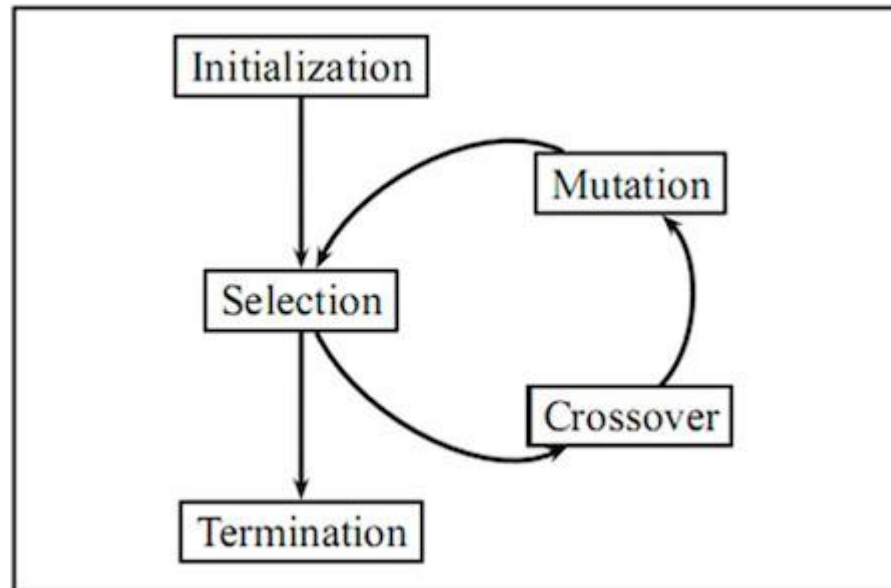
Move policy for simulations

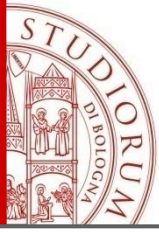
- Discard useless moves, for example the ones that will not prevent a loose.
- If winning, win!!
- Divide the game in early game (king in throne) and end game.
- Classify some type of moves:
 - Positioning move (early game)
 - King leaves the throne (early game -> end game)
 - Capture move (always)
 - White to border (end game)
 - King check (always)
 - Early game to end game move
 - Black attack/block king (end game)
 - ...
- Assign to each classified move a probability to be chosen during the simulation.



Optimization: Genetic algorithm

- Genetic algorithm utilized to optimize the probabilities assigned to each classified move





Thank you for your attention!