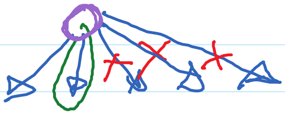
More on Move Ordering

Thursday, April 16, 2020 11:02 PM

```
PROCEDURE maxValue( s : state, d, α , β )
  IF cutoffTest( s, d ) THEN RETURN HEval( s )
  v := -∞
  FOREACH a in actions( s ) DO
    v := MAX( v, minValue( result( s, a), d+1, α , β )
    if v >= β THEN RETURN v
    α := MAX(α,v)
  RETURN v
```

In which order to try the actions?

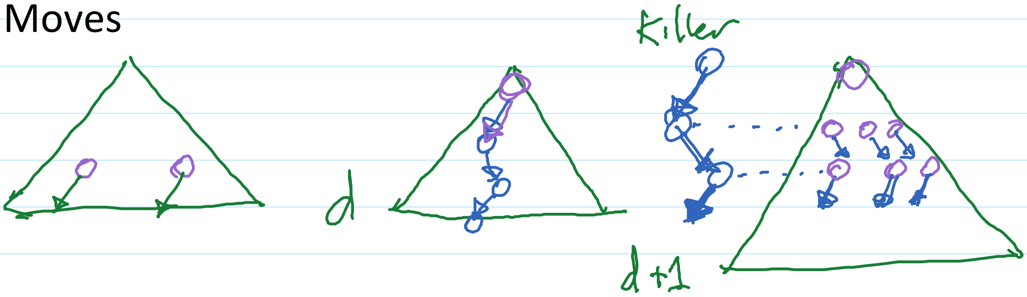


- try better actions first...

- Knowledge Based

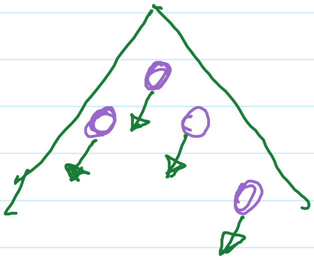
1 - captures
2 - threats
3 - forward moves
4 - backward moves

- Killer Moves



- Store the "best" sequence of actions found, try that sequence first on the next iteration.

- History Table



- whenever an action is good, store it, and try it again

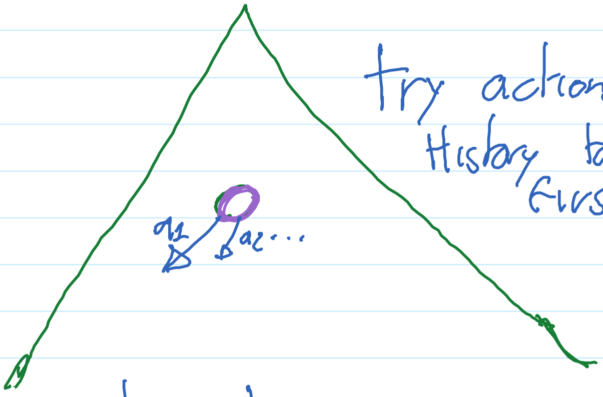
"good" action:

- it's the optimal action at a node
- it causes a cutoff

History table

table of good actions

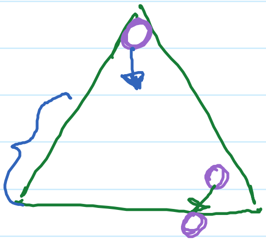
action	score
a1	#
a2	#
a3	#
⋮	
an	#



try actions on History table first.

if a_n is optimal or causes a cutoff, increment score

How much to increment score?



- 1
- depth^2
- 2^{depth}

depth at which action was used.

action : [from ; to]

Puting it all togather

- Evaluation function
- Transposition table
- Quiescence Search
- alpha-beta-
- move ordering.

5-6 moves ahead

10 moves ahead.

14+ moves ahead