

• Intuition



- Table (Transposition table). - stores previously calculated Heuristic Minimax Values.
- Very good for iterative deepening search
- Chess has many transpositions

• What is stored in a Transposition table?

state s : depth d ⇒ Hash Table //
 HValue of s
 best move

key value

• How to use information in a Transposition Table ?

s	$d', HValue(s), \text{bestmove}$
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s is encountered again! at d , then

$d' \geq d \rightarrow$ retrieve $HValue(s)$

$d' < d \rightarrow$ use "bestmove" as the starting action to re-evaluate s .

How to update Table ?

action to re-evaluate s .

How to update Table ?

When state s is re-evaluated:



Less preferred than this.



Hashing a game board?

"Zobrist" Keys. chess-go.

$s \xrightarrow{a} s'$
 $zhash(s) \longrightarrow zhash(s')$

very efficient
for board games.