

Re: Chess boards & connections.

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- *From:* "Toshi ikutsu?" <[nospam@xxxxxxxxxx](mailto:nospam@xxxxxxxxxx)>
  - *Date:* Sat, 22 Apr 2006 11:55:31 -0500
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<[dynamics@xxxxxxxxxx](mailto:dynamics@xxxxxxxxxx)> wrote in message  
<news:1145600495.849018.281690@xx>

Toshi ikutsu? wrote:

<[dynamics@xxxxxxxxxx](mailto:dynamics@xxxxxxxxxx)> wrote in message  
<news:1145569228.272184.92380@xx>

Michael Stemper wrote:

In article  
<[114555339.841442.203250@xx](mailto:114555339.841442.203250@xx)>,  
dynamics writes:

Trying to calculate if I can  
write a Chess AI.

I need to define all possible  
boards.

I have a total of 64 different  
pieces, 16 for Black  
and 16 for White to start,  
and since each pawn  
can be promoted, to either a  
Queen or Knight, a

They can't be promoted to a bishop or a  
rook?

LOL, then you'll totally fuck my math, actually  
I have a patch, but you're right ;-).

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what about "in passing" for pawns?  
and castling?

further 16 for B&W's 8  
pawns for another 32.

There are 65 locations on  
the board,  $8*8 + 1$  for  
non-existence called the  
side bar.

So I dimension an Array,  
(64,65) where the 64  
provides the \*serial  
number\* for all possible  
pieces and each of those can  
be in 65 locations,  
providing  $64*65=4160$   
boards.

Nope.

Place the first of the 64 pieces. How many  
choices for a square do  
you have? 65. Now, for each of those  
possibilities, you have 64  
choices  
for placing the second piece. So, two pieces  
already uses up your 4160  
boards. If you place a third piece, you'll have  
63 available squares  
for each of those 4160 possibilities, or  
 $65*64*63 = 262080$ . To place  
64 pieces on 65 squares -- even with  
disallowing two pieces on the  
same  
square from the start -- you're going to have  
65! possible boards.

I'd say that, since each player can only have  
16 pieces at any time,  
you number the pieces 1-16 (or 0-15 if you  
prefer), and keep track of  
what type of piece (Q, K, Kt, p, etc.) each  
one is. This way, you only  
have 32 pieces to deal with. Then, you  
probably should get rid of your

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"sidebar" and just not necessarily have all of the pieces included in the board at any time.

You are too complicated. All I needed was the 2D Array I defined by matrix (64,65) defining all boards.

too limited. try checkers instead.

Ok, you might be right, I was thinking we could go through all 64 Pieces (as defined in the OP) and output a Location (0-64) like,

Location (P) = L

where P => 1 to 64 and L=>0 to 64,

to describe any possible chess board.

Is that true?

you are approaching it as a linear array problem, and that will lead to complications (slowdown) when calculating possible moves. (indexing simplifies – 2 D array for board position)

You also need to evaluate possible moves per map, 3 to 10 moves ahead

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