Ed Keppelmann
University of Nevada Reno
keppelma@unr.edu



How do you play?

Some basic issues of strategy

Some sample matches analyzed

A different kind of math circle inquiry



BOARDGAMEGEEK.COM

Log Play 🛡 4

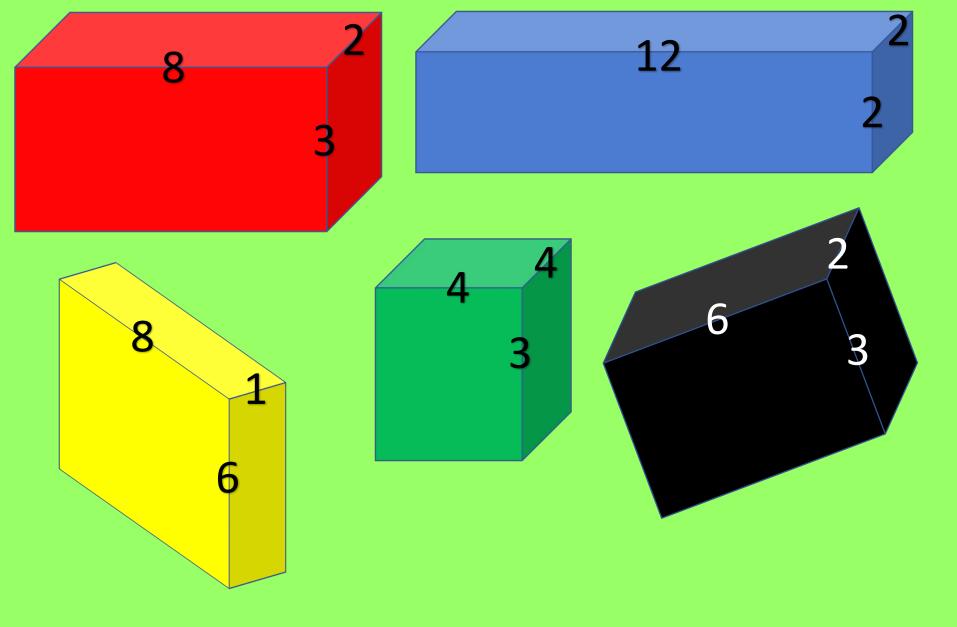
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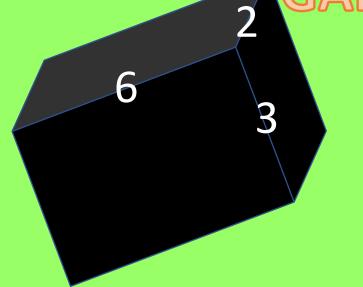
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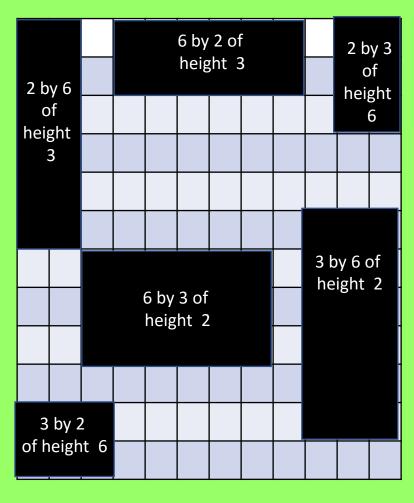


EACH PLAYER HAS 1 OF EACH

GAME BOARD 12 x 12 GRID

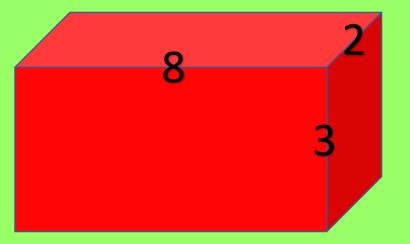


When played this piece has 6 possible orientations and many positions



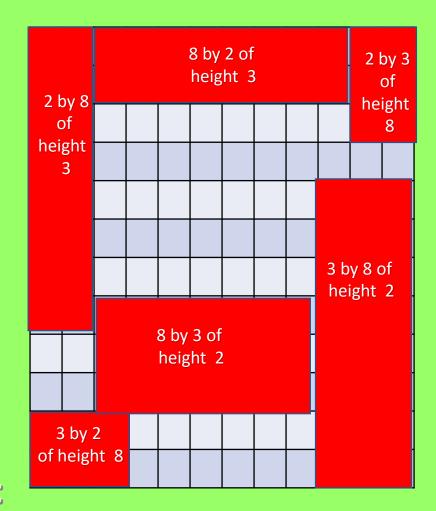
If your opponent has already played their piece then when you play the same piece your height must be different



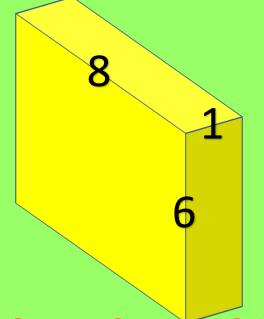


When played this piece has 6 possible orientations and many positions

If your opponent has already played their piece then when you play the same piece your height must be different

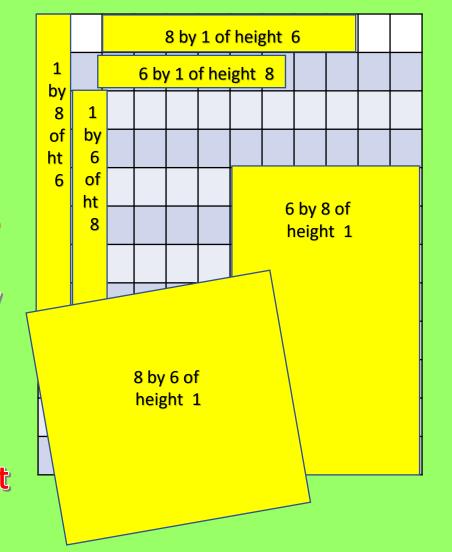






When played this piece has 6 possible orientations

and many positions
If your opponent has already
played their piece
then when you play
the same piece
your height must be different

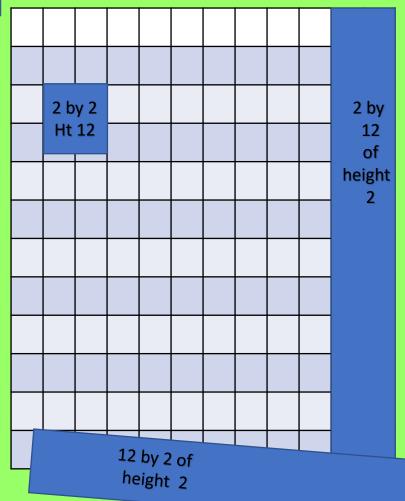


GAME BOARD 12 x 12 GRID

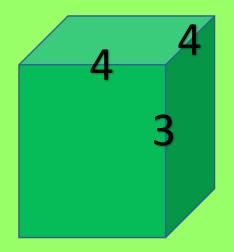
12 2

When played this piece has 3 possible orientations and many positions

If your opponent has already played their piece then when you play the same piece your height must be different

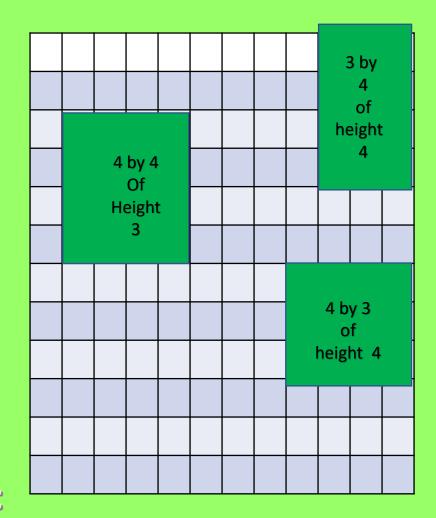






When played this piece has 3 possible orientations and many positions

If your opponent has already played their piece then when you play the same piece your height must be different



Players take turns playing on the grid
(1) If your opponent has already played their piece
then when you play the same piece
your height must be different
(2) Pieces of the same color cannot share a side

(3) Pieces of the same height cannot share a side



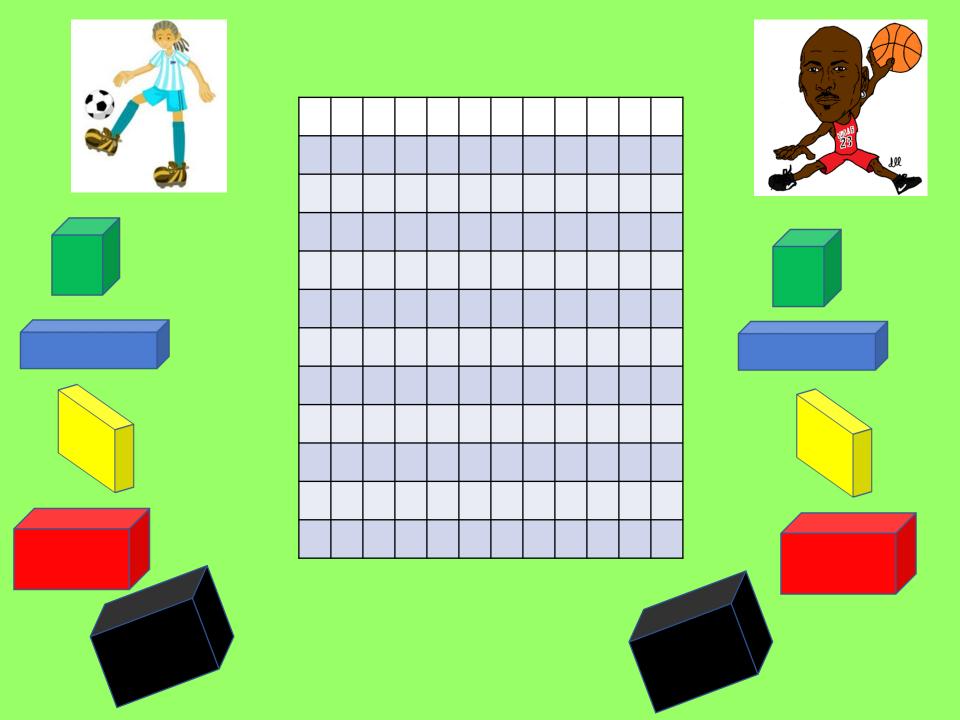
Basic Strategy tradeoffs

PIECES CAN TAKE UP MORE OR LESS BOARD SPACE DEPENDING ON WHETHER THEIR HEIGHT IS LARGEST OR SMALLEST DIMENSION

PLAYING A PIECE TO TAKE LOTS OF SPACE DOES RESTRICT FUTURE PLACEMENTS OF OTHER PIECES BUT PLAYING A PIECE SMALL FORCES OPPONENT TO PLACE BIG IN AN EVER MORE CROWDED BOARD.



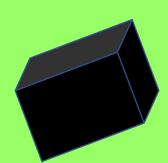
A Full row or column







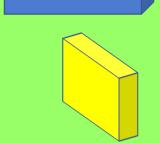




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2	2	2	2	2	2	2	2		
2	2	2	2	2	2	2	2		

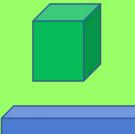


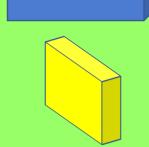








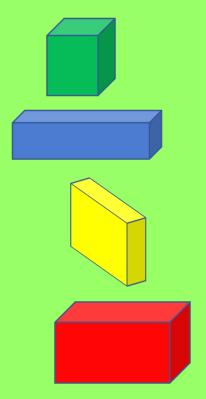






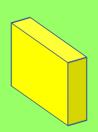
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2	2	2	2	2	2	2	2		
2	2	2	2	2	2	2	2		
			6	6	6	6			
			6	6	6	6			







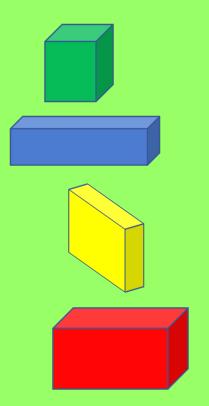






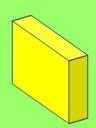
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2	2	2	2	2	2	2	2		
2	2	2	2	2	2	2	2		
			6	6	6	6			
			6	6	6	6			
12	12								
12	12								

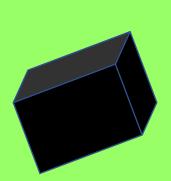






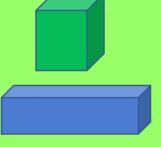


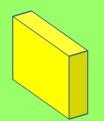




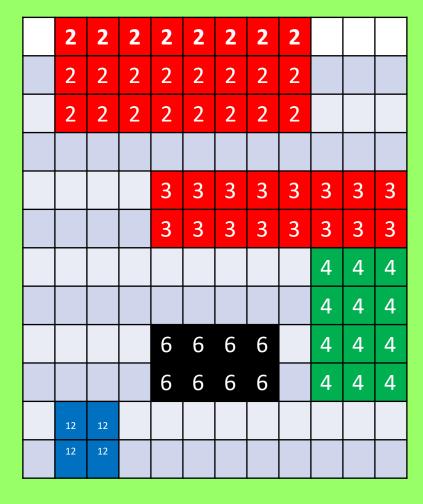
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2	2	2	2	2	2	2	2			
2	2	2	2	2	2	2	2			
			3	3	3	3	3	3	3	3
			3	3	3	3	3	3	3	3
			6	6	6	6				
			6	6	6	6				
12	12									
12	12									



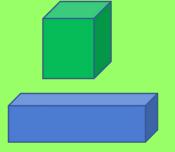


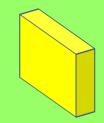


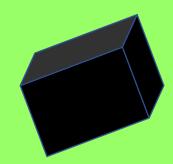




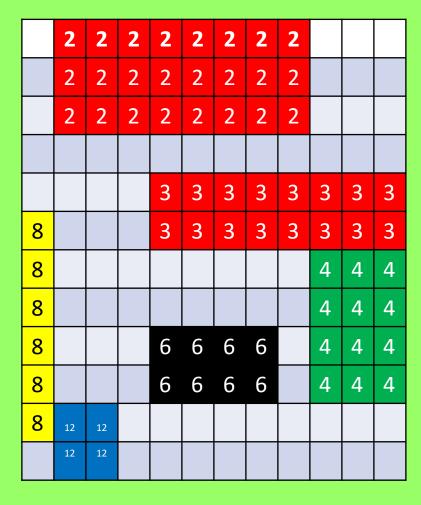




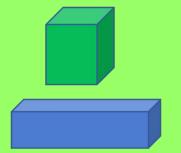


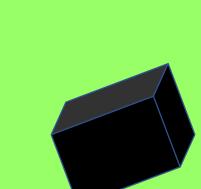










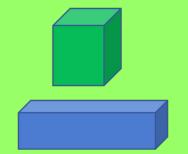




WINNER!

	2	2	2	2	2	2	2	2			
	2	2	2	2	2	2	2	2			
	2	2	2	2	2	2	2	2			
				3	3	3	3	3	3	3	3
8				3	3	3	3	3	3	3	3
8									4	4	4
8									4	4	4
8				6	6	6	6		4	4	4
8				6	6	6	6		4	4	4
8	12	12									
	12	12		6	6	6	6	6	6	6	6





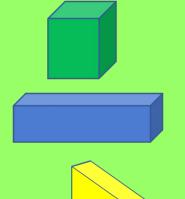


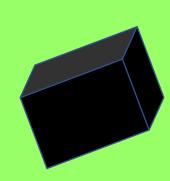


LET'S GO BACK

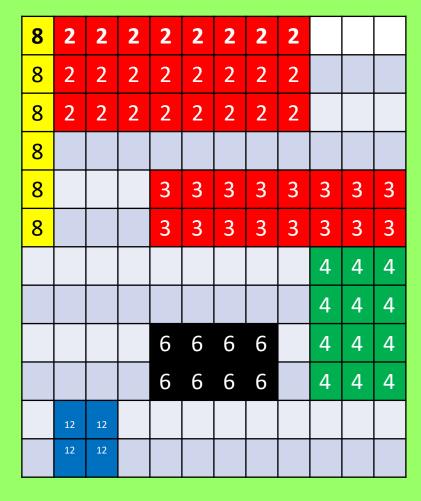
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2	2	2	2	2	2	2	2			
2	2	2	2	2	2	2	2			
			3	3	3	3	3	3	3	3
			3	3	3	3	3	3	3	3
								4	4	4
								4	4	4
			6	6	6	6		4	4	4
			6	6	6	6		4	4	4
12	12									
12	12									



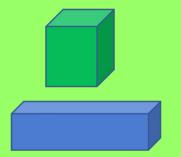


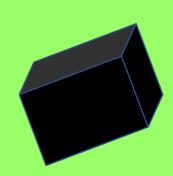










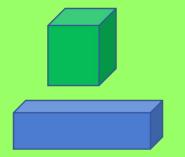




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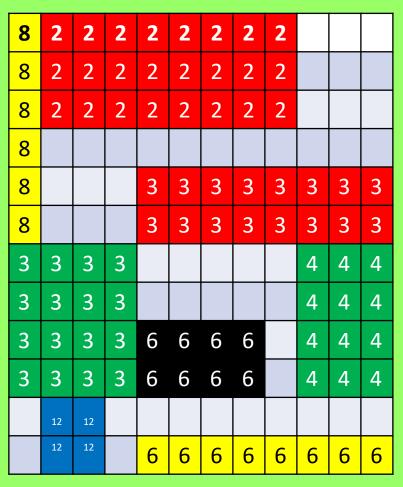
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8	2	2	2	2	2	2	2	2			
8	2	2	2	2	2	2	2	2			
8											
8				3	3	3	3	3	3	3	3
8				3	3	3	3	3	3	3	3
									4	4	4
									4	4	4
				6	6	6	6		4	4	4
				6	6	6	6		4	4	4
	12	12									
	12	12		6	6	6	6	6	6	6	6













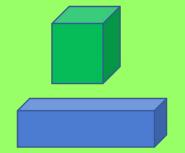


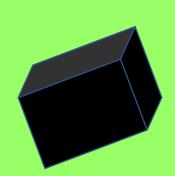


GO BACK AGAIN

8	2	2	2	2	2	2	2	2			
8	2	2	2	2	2	2	2	2			
8	2	2	2	2	2	2	2	2			
8											
8				3	3	3	3	3	3	3	3
8				3	3	3	3	3	3	3	3
									4	4	4
									4	4	4
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				6	6	6	6		4	4	4
	12	12									
	12	12									



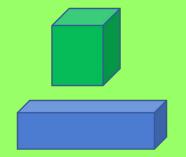






8	2	2	2	2	2	2	2	2			
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8	2	2	2	2	2	2	2	2			
8											
8				3	3	3	3	3	3	3	3
8				3	3	3	3	3	3	3	3
	6	6	6	6	6	6	6	6	4	4	4
									4	4	4
				6	6	6	6		4	4	4
				6	6	6	6		4	4	4
	12	12									
	12	12									







QUESTIONS ABOUT INVERSÉ



Benedikt Rosenau Designer @Zickzack - Jul 5, 2010

I have played with Niek, the inventor. He played quickly and won every time. He attributed it to being an architect and having a strong three-dimensional imagination. But I bet there was strategy involved as well.

ply Qu

Quote

What is the winning strategy? Does this involve going first or not?

Can the strategy be described reasonably?

Answer to the above might not exist – after all Games like chess and checkers don't really have winning strategies – just tips on playing well.

What is the geometric significance of each piece?

Could the game be enhanced?

How can a computer help analyze INVERSÉ?

HOW WOULD YOU LIST THE POSSIBLE PLACEMENTS FOR A PIECE?

HOW MANY WAYS CAN A PIECE BE PLACED ON A BLANK BOARD?

HOW MANY WAYS COULD A PIECE BE PLACED IN A PARTIALLY FILLED BOARD?

HOW TO TELL IF A WINNING MOVE EXISTS FROM A GIVEN PLACE IN A GAME?

Think about a tedious but SYSTEMATIC procedure that a machine can do

HOW TO TELL IF WINNING IS GUARANTEED IN TWO MOVES FROM A GIVEN PLACE IN A GAME?

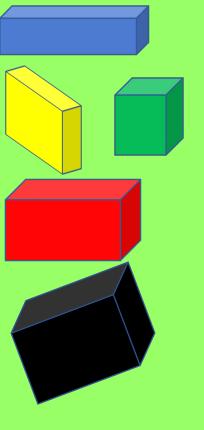
HOW TO TELL IF WINNING IS GUARANTEED IN THREE MOVES
FROM A GIVEN PLACE IN A GAME?
HOW TO TELL IF WINNING IS GUARANTEED IN FOUR MOVES
FROM A GIVEN PLACE IN A GAME? HOW MANY CHECKS ARE INVOLVED?
ARE THERE SHORTCUTS?

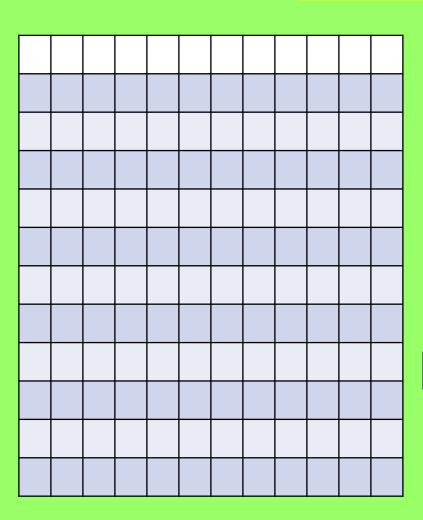
SUPPOSE THERE IS NO GUARANTEED WAY TO WIN IN 4 MOVES BUT YOU WANT TO GET AS LARGE ADVANTAGE AS POSSIBLE – WHAT SHOULD YOU LOOK AT?

DO YOU THINK THAT THE GAME DEVELOPER THOUGHT OF IT THIS WAY?

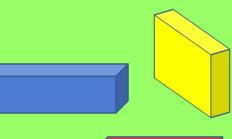


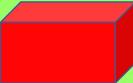
Can see 4 moves ahead To either win or avoid loosing But otherwise plays randomly

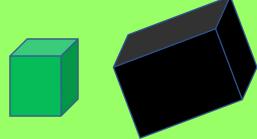








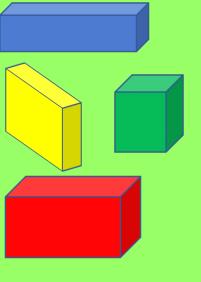


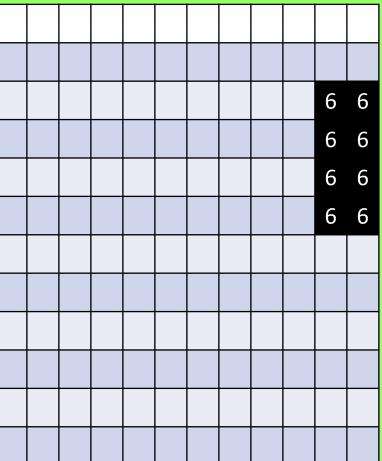


Can see 1 move ahead To either win or avoid loosing.

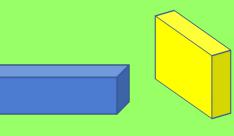


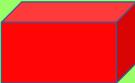
Can see 4 moves ahead To either win or avoid loosing But otherwise plays randomly

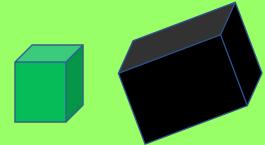








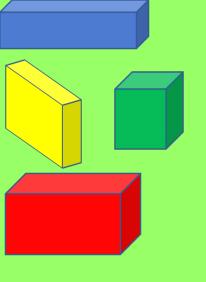


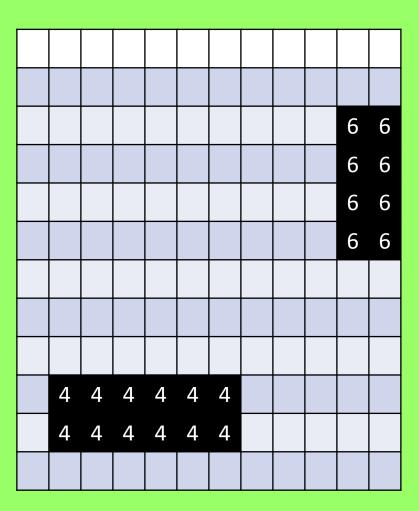


Can see 1 move ahead
To either win or avoid loosing.

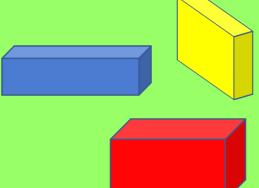


Can see 4 moves ahead
To either win or avoid loosing
But otherwise plays randomly









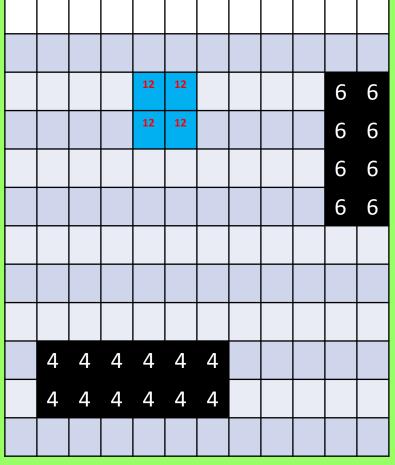


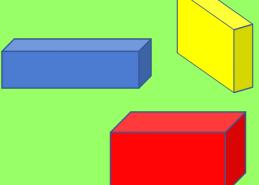


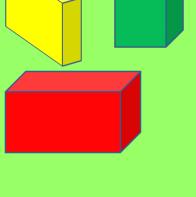
Can see 1 move ahead To either win or avoid loosing.



Can see 4 moves ahead To either win or avoid loosing But otherwise plays randomly





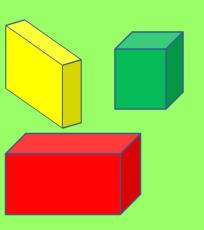


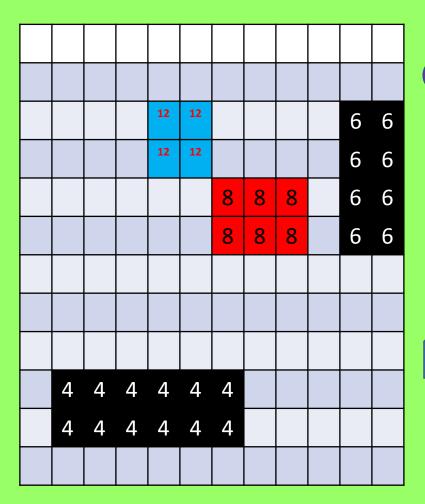


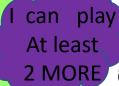
OPENING MOVE IS RANDOM



Can see 4 moves ahead To either win or avoid loosing But otherwise plays randomly





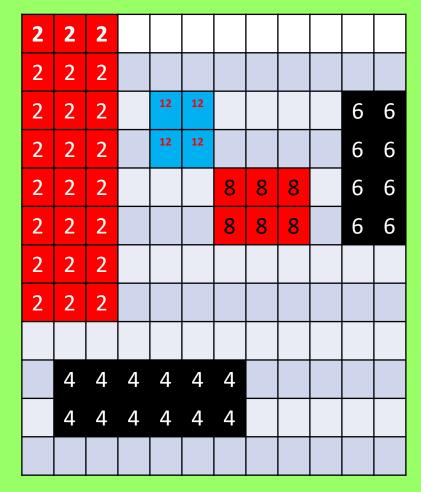


Can see 1 move ahead
To either win or avoid loosing.



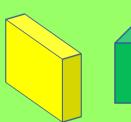


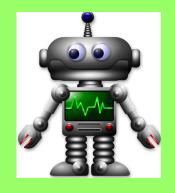


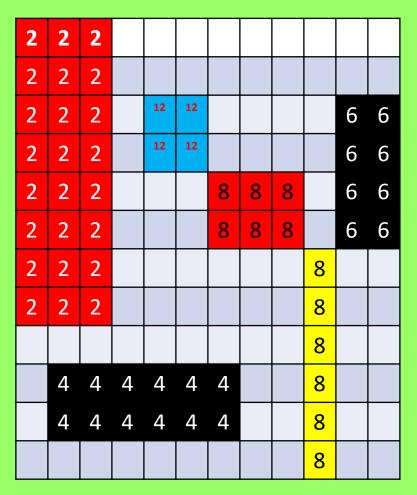




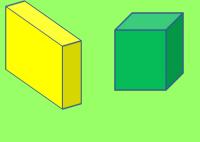






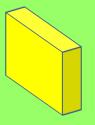








WINNER!



2	2	2					4	4	4		
2	2	2					4	4	4		
2	2	2		12	12		4	4	4	6	6
2	2	2		12	12		4	4	4	6	6
2	2	2				8	8	8		6	6
2	2	2				8	8	8		6	6
2	2	2							8		
2	2	2							8		
									8		
	4	4	4	4	4	4			8		
	4	4	4	4	4	4			8		
									8		





WINNER!

BONUS POINTS

2	2	2					4	4	4		
2	2	2					4	4	4		
2	2	2		12	12		4	4	4	6	6
2	2	2		12	12		4	4	4	6	6
2	2	2				8	8	8		6	6
2	2	2				8	8	8		6	6
2	2	2							8		
2	2	2							8		
6	6	6	6	6	6	6	6		8		
	4	4	4	4	4	4			8		
	4	4	4	4	4	4			8		
									8		

