Minimax with alpha-beta pruning (fill out the values at each step, any updated values for α , β or v and determine if pruning takes place

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	Node	alpha	beta	V	Updat ed alpha	Updat ed beta	Updat ed v	Prunin g (O/ X)	Nodes ignore d
1	Α	-inf	+inf	-inf					
2	В	-inf	+inf	+inf					
3	E	-inf	+inf	-inf					
4	J	-inf	+inf	+inf					
5	R	-inf	+inf	0 √					
6	J	-inf	+inf	+inf		0 1	0 1		
7	S	-inf	0 1	1 √					
8	J	-inf	0 √	0 √					
9	Е	-inf	+inf	-inf	0 1		0 √		
10	K	0 1	+inf	+inf	,		<u> </u>		
11	T	0 √	+inf	-1 √					
12	K	0 √	+inf	+inf		-1 X	-1 √	0 1	U√
13	E	0 √	+inf	0 √			<u> </u>	- ,	- ,
14	В	-inf	+inf	+inf		0 √	0 √		
15	F	-inf	0 1	-inf		- 1			
16	L	-inf	0 1	-2 √					
17	F	-inf	0 1	-inf	-2 √		-2 √		
18	В	-inf	0 √	0 √	- '	-2 √	<u>-</u> -2 √		
19	Α	-inf	+inf	-inf	-2 √		-2 √		
20	C	-2 √	+inf	+inf	_ ,		_ ,		
21	G	-2 √	+inf	-inf					
22	M	-2 √	+inf	+inf					
23	V	-2 √	+inf	1 √					
24	M	-2 √	+inf	+inf		1 √	1 √		
25	G	-2 √	+inf	-inf	1 √		1 1		
26	N	1 √	+inf	+inf	T				
27	W	1 1	+inf	1 √					
28	N	1 1	+inf	+inf			1 √	0 √	X√
29	G	1 1	+inf	1 1					
30	С	-2 √	+inf	+inf		1 √	1 √		
31	Α	-2 √	+inf	-2 √	1 √		1 √		
32	D	1 1	+inf	+inf	, , , , , , , , , , , , , , , , , , ,		,		
33	Н	1 1	+inf	1 -inf					
34	0	1 1	+inf	0 1					
35	Н	1 √	+inf	0 -inf			0 √		
36	D	1 √	+inf	+inf		0 <u>X</u>	0 1	0	I, P, Y, √ Q, Z
37	Α	1 √	+inf	1 √					
31	, ·	· v	- 1111	· v	+				

2. Suppose a game ending in 0 is a draw, anything above 0 is a win for Mork and anything below 0 is a win

for Mindy, can Mork win this game if both play optimally? Provide the steps taken from A that would lead to the optimal game play and what the final outcome is.

Answer:

Final outcome is 1 which is above 0, and it means that Mork wins this game.

The optimal path from A is: A - C - G - M - V

Therefore, if both players play optimally, Mork will choose moves leading to node V, securing a win.

Yes, all those nodes have final value

5.2/6

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