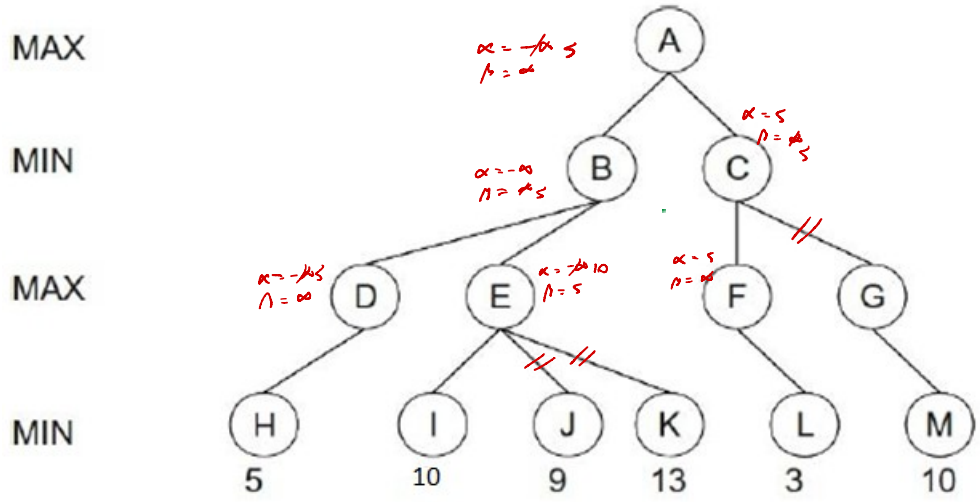
Question 1

Perform **alpha-beta pruning** on the following game tree. Write the nodes, in the order they are assigned minimax value, in the table below. Also write the minimax value assigned to each node.



Your Answers
Minimax

Nodes*	H	D	I	J	B	E	B	L	F	M	G	C	A					
Minimax Value	5	5	10	9	13	13	5	3	3	10	10	3	5					

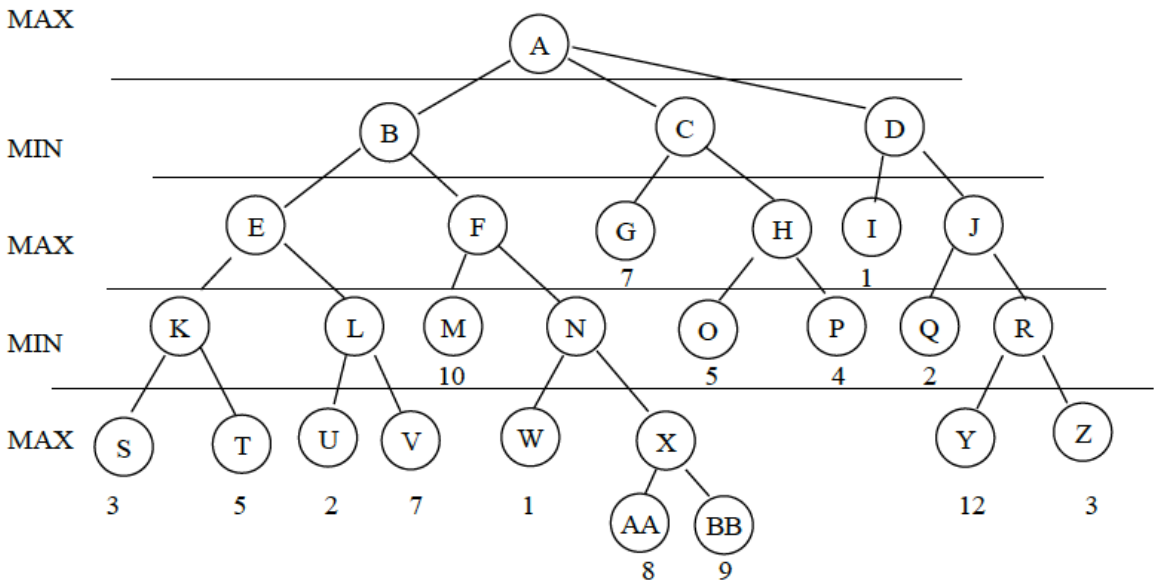
*Write nodes in the order they are assigned minimax value

Alpha-Beta pruning

Nodes*	H	D	I	E	B	L	F	C	A							
Minimax Value	5	5	10	10	5	3	3	3	5							

Question 2

In the game tree below, the values below the nodes are the static evaluations at those nodes. MAX next to a horizontal line of nodes means that the maximizer is choosing on that turn, and MIN means that the minimizer is choosing on that turn.



Q 1(a)

Which of the three possible moves should the maximizer take at node A?

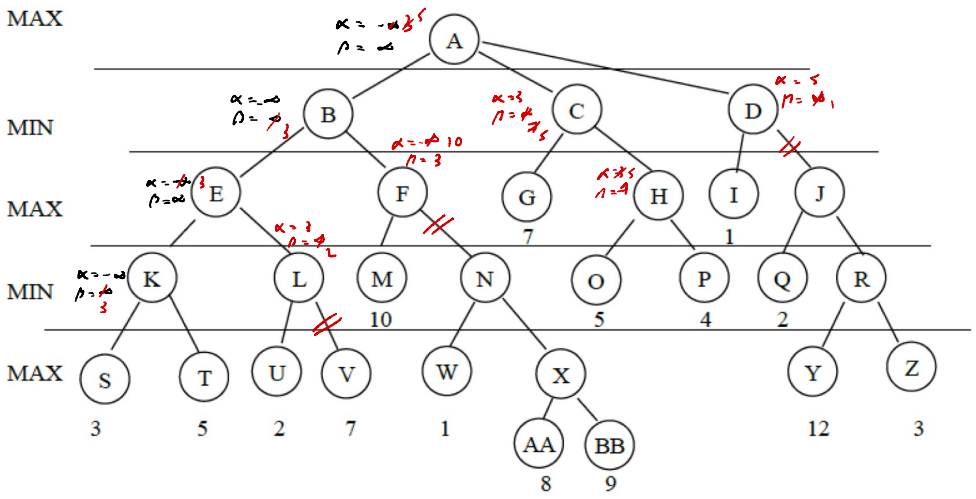
A ⟶ 5 go to node C

What will be the final minimax value of node A?

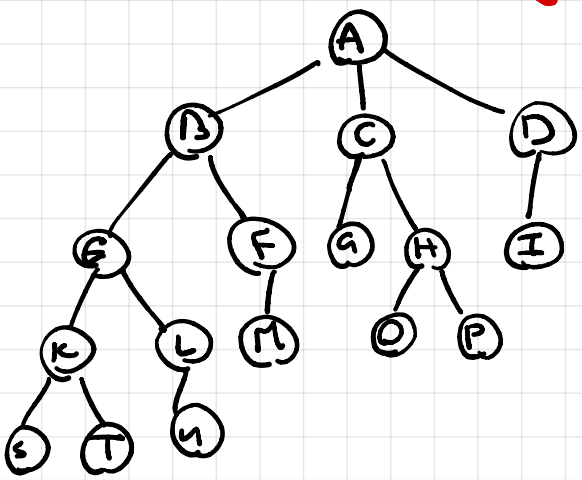
5

Q 1(b)

Perform a minimax search with alpha-beta pruning, and list all the nodes that you statically evaluate, in the order of evaluation, below:



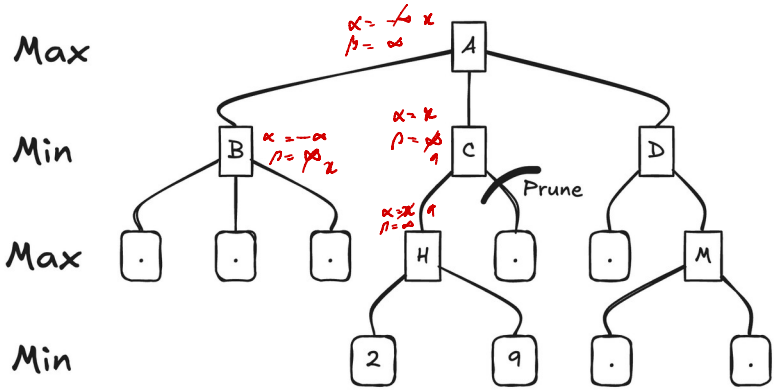
New tree after pruning:



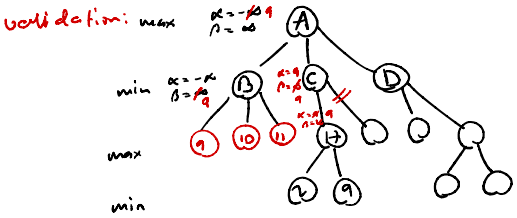
Order of excl.: S T K U L E M F B G O P H C I D A

Question 3

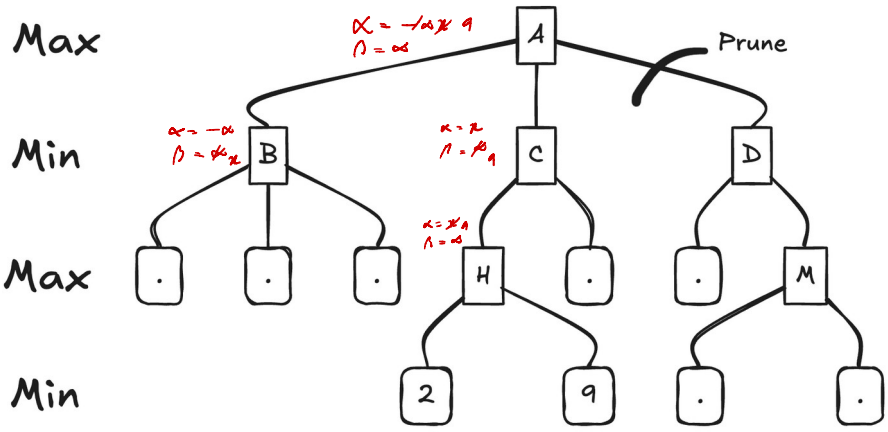
1. Specify terminal values in the boxes below such that alpha-beta would prune the indicated node or argue it cannot possibly be the result of alpha-beta pruning.



any values ≥ 9 causes that to be pruned.



2. **[3pts]** Specify terminal values in the boxes below such that alpha-beta would prune the indicated node or argue it cannot possibly be the result of alpha-beta pruning.



There's nothing you can do. It will be searched.