Progress Mentor

Due on 2019-10-02, 23:59 IST.

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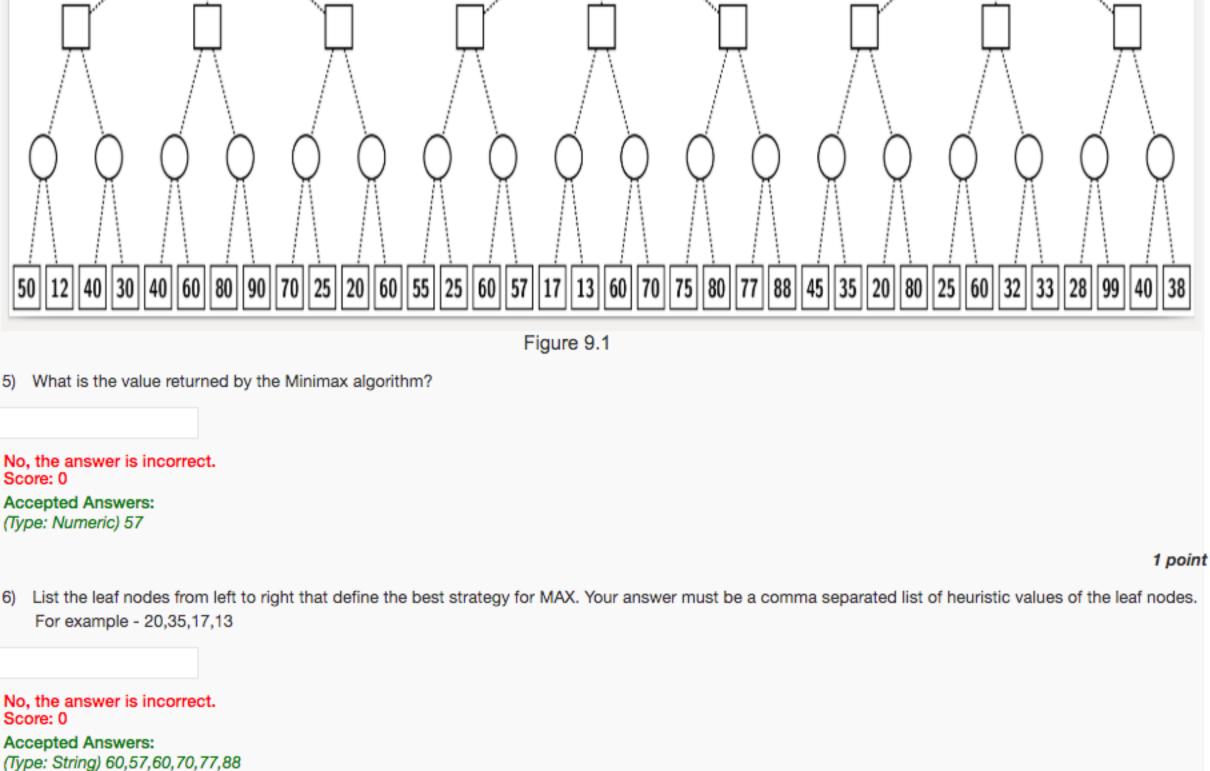
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## NPTEL » Artificial Intelligence Search Methods For Problem Solving Announcements **Unit 11 - Week 9** Course outline Assignment 9 How to access the portal The due date for submitting this assignment has passed. As per our records you have not submitted this assignment. Pre-requisite Assignment Topics: Game Playing: Algorithms Minimax, Alpha-Beta, SSS\* Week 1 NOTE: Wherever you are required to type in the answer (instead of clicking on a button) please DO NOT ENTER ANY BLANKS. This assessment is evaluated Week 2 by a program that does exact string matching. An extra blank in the answer will result in even a correct answer being evaluated as wrong. Week 3 This "no blanks" policy will hold THROUGHOUT this course. Week 4 If a game tree is seen as an AND/OR tree, identify the true statements An AND node corresponds to a node where MIN has to play Week 5 An AND node corresponds to a node where MAX has to play An OR node corresponds to a node where MIN has to play Week 6 An OR node corresponds to a node where MAX has to play None of the above is true Week 7 No, the answer is incorrect. Score: 0 Week 8 Accepted Answers: An AND node corresponds to a node where MIN has to play Week 9 An OR node corresponds to a node where MAX has to play Game Playing- Minimax An evaluation function is needed in a game like Chess because Search Game Playing - AlphaBeta even though the game tree can be fully explored we can still harness human knowledge the game tree is too big to be fully explored and we need to evaluate non-leaf nodes Game Playing-SSS \* to be able to generate an explanation for the move played by the computer Week 9 Feedback : Artificial none of the above Intelligence Search Methods No, the answer is incorrect. for problem Solving Score: 0 Quiz : Assignment 9 Accepted Answers: the game tree is too big to be fully explored and we need to evaluate non-leaf nodes Week 10 When the algorithms MiniMax, AlphaBeta and SSS\* search a game tree with k-ply lookahead Week 11 They compute the same minimax value MiniMax computes a more accurate value because it searches the entire tree Week 12 SSS\* computes a more accurate values because it searches in a best first manner Week 13 AlphaBeta computes a more accurate value when searching right to left. None of the above. Week 14 No, the answer is incorrect. Score: 0 Week 15 Accepted Answers: They compute the same minimax value DOWNLOAD VIDEOS Let MM, AB and SSS be the number of nodes explored by the game playing algorithms MIN-MAX, alpha-Beta and SSS\* on a game tree. Which of 1 point Live Sessions the following inequalities are true? $\bigcirc$ MM $\geq$ AB $\geq$ SSS $\bigcirc$ MM $\leq$ AB $\leq$ SSS $\bigcirc$ MM = AB = SSS $\bigcirc$ MM $\geq$ AB = SSS No, the answer is incorrect. Score: 0 Accepted Answers: $MM \ge AB \ge SSS$ Consider the game tree in Figure 9.1. Each leaf is labeled with an integer that is the value returned by the evaluation function. In the subsequent questions, wherever there is more than one node that can be picked, we pick the leftmost node.



8) What is the twelfth leaf node inspected by the AlphaBeta algorithm searching from left to right. Your answer must be an integer (i.e. the heuristic value of the

9) What is the last leaf node inspected by the AlphaBeta algorithm searching from left to right. Your answer must be an integer (i.e. the heuristic value of the

13) For the game tree in Fig 9.1 list the leaf nodes that form the initial clusters in the order inspected by the algorithm SSS\*. At all times if there is a choice

more than one candidate node, always select the node on the left. Your answer must be comma separated list of integers, where each integer is the

14) For the game tree in Fig 9.1 list the leaf nodes till termination that are inspected after the initial clusters are formed in the order inspected by the algorithm

AlphaBeta algorithm searching from left to right explored less number of leaf nodes as compared to AlphaBeta algorithm searching from right to left AlphaBeta algorithm searching from left to right explored more number of leaf nodes as compared to AlphaBeta algorithm searching from right to left AlphaBeta algorithm searching from left to right explored equal number of leaf nodes as compared to AlphaBeta algorithm searching from right to left

SSS\* would explore more number of nodes as compared to the number of nodes it explored in the given game tree in Fig 9.1, if the heuristic value 19th

At all times if there is a choice between more than one candidate node, always select the node on the left. Your answer must be comma separated list of

7) What is the sixth leaf node inspected by the AlphaBeta algorithm searching from left to right. Your answer must be an integer (i.e. the heuristic value of the leaf node inspected). For example: 20

(Type: String) 60, 57, 60, 70, 77, 88

No, the answer is incorrect. Score: 0 Accepted Answers: (Type: Numeric) 60

node inspected). For example: 20

node inspected). For example: 20

No, the answer is incorrect.

Accepted Answers: (Type: Numeric) 60

Score: 0

leaf

leaf

Score: 0

Score: 0

Score: 0

Score: 0

between

heuristic

SSS\*.

integers,

leaf

10) What is the sixth leaf node inspected by the AlphaBeta algorithm searching from right to left. Your answer must be an integer (i.e. the heuristic value of the leaf node inspected). For example: 20

No, the answer is incorrect.

Accepted Answers: (Type: Numeric) 32

No, the answer is incorrect.

Accepted Answers: (Type: Numeric) 20

11) What is the twelfth leaf node inspected by the AlphaBeta algorithm searching from right to left. Your answer must be an integer (i.e. the heuristic value of the leaf node inspected). For example: 20

Accepted Answers: (Type: Numeric) 45 12) What is the last leaf node inspected by the AlphaBeta algorithm searching from right to left. Your answer must be an integer (i.e. the heuristic value of the

No, the answer is incorrect.

Accepted Answers: (Type: Numeric) 25

node inspected). For example: 20

No, the answer is incorrect.

value of the leaf node inspected. No, the answer is incorrect. Score: 0

(Type: String) 50,40,55,60,45,20

(Type: String) 50, 40, 55, 60, 45, 20

where each integer is the heuristic value of the leaf node inspected

Accepted Answers:

No, the answer is incorrect. Score: 0 Accepted Answers: (Type: String) 57,17,60,70,75,77,80 (Type: String) 57,17,60,70,75,80 (Type: String) 57, 17, 60, 70, 75, 77, 80

(Type: String) 57, 17, 60, 70, 75, 80

(Type: String) 57,17,60,70,75,80

(Type: String) 57,17,60,70,75,77,80,88

node from the left is changed from 60 to 15 No, the answer is incorrect. Score: 0 Accepted Answers: AlphaBeta algorithm searching from left to right explored less number of leaf nodes as compared to AlphaBeta algorithm searching from right to left SSS\* would explore more number of nodes as compared to the number of nodes it explored in the given game tree in Fig 9.1, if the heuristic value 19th node from the left is changed from 60 to 15

15) On the basis of your answers to the previous questions (Q6-14) which of the following statements are true?