

Feedback — Exercise 7.1

You submitted this quiz on **Thu 28 Nov 2013 12:22 PM PST**. You got a score of **10.00** out of **10.00**.

Click [here](#) to see a sample game tree for a single player game. Use this tree to answer the following questions.

Question 1

(2 points) What is the utility of the root of the tree?

You entered:

8

Your Answer	Score	Explanation
8	✓ 2.00	This is indeed the best score the player can get from the initial node.
Total	2.00 / 2.00	

Question Explanation

Remember that for a single-player game, the utility of a node is simply the best score the player can achieve from this node.

Question 2

(2 points) What is the value returned by depth-limited search with a depth limit of 3?

You entered:

4

Your Answer	Score	Explanation
4	✓ 2.00	It is indeed your best option at depth
Total	2.00 / 2.00	

Question Explanation

For a single-player game, the value returned by depth-limited search with a depth limit of 3 should be the highest score among all terminal nodes at depth

Question 3

How many nodes are examined by depth-first search with a depth-limit of 3, i.e. how many times is maxscore called?

You entered:

11

Your Answer	Score	Explanation
11	✓ 2.00	There are exactly 11 nodes in the tree at depth - The root - 2 nodes at depth 1 - 4 nodes at depth 2 - 4 nodes at depth 3
Total	2.00 / 2.00	

Question Explanation

Depth first search will examine all nodes with depth

Question 4

How many nodes are examined by breadth-first search with a depth-limit of 3, i.e. how many

times is maxscore called?

You entered:

11

Your Answer	Score	Explanation
11	✓ 2.00	There are exactly 11 nodes in the tree at depth - The root - 2 nodes at depth 1 - 4 nodes at depth 2 - 4 nodes at depth 3
Total	2.00 / 2.00	

Question Explanation

Breadth first search behaves just like depth first search in terms of what nodes are examined, only the order changes ! Therefore, it will examine all nodes with depth

Question 5

How many nodes are examined by iterative-deepening search with a depth-limit of 3 and a depth increment of 1, i.e. how many times is maxscore called?

You entered:

22

Your Answer	Score	Explanation
22	✓ 2.00	- depth-0 search will examine 1 node (the root). - depth-1 search will examine 3 nodes (1 + 2). - depth-2 search will examine 7 nodes (1 + 2 + 4). - depth-3 search will examine 11 nodes (1 + 2 + 4 + 4). A total of $1 + 3 + 7 + 11 = 22$ nodes will be examined !
Total	2.00 / 2.00	

Question Explanation

Iterative deepening with a depth-limit of 3 and a depth increment of 1 will perform the depth-limited searches with the following depth-limits: 0, 1, 2 and 3.
You should determine how many nodes are examined in each depth-limited search and sum these up !