



## Review Test Submission: Module 12 Quiz

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Course	CSC 385 D: Data Structures & Algorithms (Spring 2020)
Test	Module 12 Quiz
Started	5/6/20 2:04 AM LATE
Submitted	5/6/20 2:10 AM LATE
Due Date	4/20/20 11:00 PM
Status	Completed
Attempt Score	10 out of 10 points
Time Elapsed	5 minutes
Results Displayed	Submitted Answers, Correct Answers, Feedback

### Question 1

2 out of 2 points

The index of the right child of a given node, X, in a binary heap is given by what formula?

Selected Answer:   $\text{index}(X) * 2 + 1$

Correct Answer:   $\text{index}(X) * 2 + 1$


### Question 2

2 out of 2 points

Which of the following statements are true (select all that apply):

Selected 


Answers: A complete binary tree is a binary tree in which every level in the tree is full except for possibly the level containing the leaf nodes. A full binary tree is a binary tree in which every node except the leaf nodes has exactly two child nodes.

 Complete binary trees can be used to construct a priority queue.

 Full binary trees can be used to construct a priority queue.

Correct 

Answers: A complete binary tree is a binary tree in which every level in the tree is full except for possibly the level containing the leaf nodes. A full binary tree is a binary tree in which every node except the leaf nodes has exactly two child nodes.

 Complete binary trees can be used to construct a priority queue.

 Full binary trees can be used to construct a priority queue.

### Question 3

2 out of 2 points

The worst case running time for adding an item to a binary heap is:

Selected Answer: ☒  $O(\log N)$ Correct Answer: ☒  $O(\log N)$ **Question 4**

2 out of 2 points

In a priority queue based on a binary heap implementation, the root node contains (select all that apply):

Selected Answers: ☒ the item with the highest priority



either the item with the least value or the item with the greatest value, depending on whether the priority queue is based on a min heap or a max heap

Correct Answers: ☒ the item with the highest priority

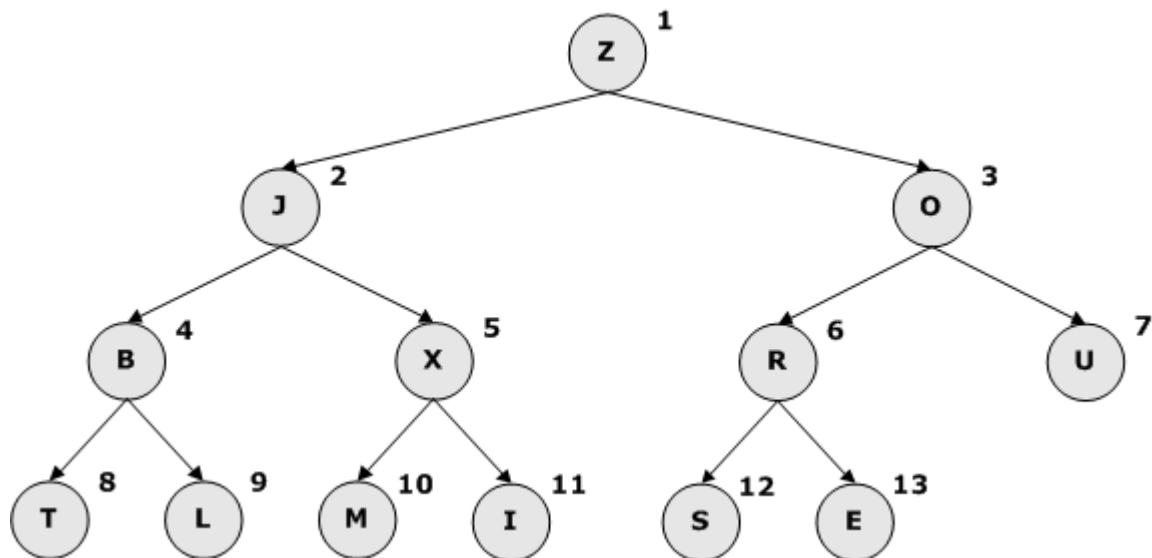


either the item with the least value or the item with the greatest value, depending on whether the priority queue is based on a min heap or a max heap

**Question 5**

2 out of 2 points

For the priority queue below, shown as a binary tree, which of the following is the correct representation of the priority queue's internal array?



Selected Answer: ☒

0	1	2	3	4	5	6	7	8	9	10	11	12	13
	Z	J	O	B	X	R	U	T	L	M	I	S	E

Correct Answer: ☒

0	1	2	3	4	5	6	7	8	9	10	11	12	13
	Z	J	O	B	X	R	U	T	L	M	I	S	E

Tuesday, May 12, 2020 11:25:26 AM CDT

