Started on	Tuesday, 12 March 2024, 10:35 AM
State	Finished
Completed on	Tuesday, 12 March 2024, 10:38 AM
Time taken	2 mins 44 secs
Grade	**10.00** out of 11.00 (**91**%)

Question **1**

Correct

Mark 1.00 out of 1.00

The height of the root of a nonempty tree *T*, according to the recursive definition, _____ the maximum depth among all leaves of tree *T*.

- a. Equals ✔
- b. All of these
- c. None of these
- d. More than
- e. Less than

Your answer is correct.

The correct answer is:
Equals

Question **2**

Correct

Mark 1.00 out of 1.00

Which one of the following array also represents a heap?

- a. 20,14,16,13,10,8,12 ✔
- b. 18,14,12,13,10,8,16
- c. 19,12,16,13,10,8,14
- d. 17,12,16,13,10,8,14

Your answer is correct.

The correct answer is:
20,14,16,13,10,8,12

Question **3**

Correct

Mark 1.00 out of 1.00

Consider a binary min heap containing n numbers. The cost of inserting two elements followed by deletion of 3 elements is _____.

a. $O(lg^5(n))$

b. $O(n)$

c. $O(lgn)$ ✔

d. $O(lglgn)$

Your answer is correct.

The correct answer is:
$O(lgn)$

Question **4**

Incorrect

Mark 0.00 out of 1.00

Given two max heaps of size n each. What is the minimum time complexity to merge the two heaps into one heap of size 2n?

a. O(n) ✖

b. O(nloglogn)

c. O(logn)

d. O(nlogn)

Your answer is incorrect.

The correct answer is:
O(logn)

Question **5**

Correct

Mark 1.00 out of 1.00

In the heap having 6 nodes if we add 7^{th} node, how much maximum swaps may be done?

a. 1

b. 2 ✔

c. 3

d. 0

Your answer is correct.

The correct answer is:
2

Question **6**

Correct

Mark 1.00 out of 1.00

Consider the following array of elements.

⟨89,19,50,17,12,15,2,5,7,11,6,9,100⟩

The minimum number of interchanges needed to convert it into a max-heap is

- a. 3 ✔
- b. 2
- c. 4
- d. 5

Your answer is correct.

The correct answer is:
3

Question **7**

Correct

Mark 1.00 out of 1.00

In a binary max heap containing n numbers, the smallest element can be found in time

- a. $\theta(loglogn)$
- b. $\theta(n)$ ✔
- c. $\theta(logn)$
- d. $\theta(1)$

Your answer is correct.

The correct answer is:
$\theta(n)$

Question **8**

Correct

Mark 1.00 out of 1.00

Which one of the following array elements represents a binary min heap?

- a. 25 17 14 12 10 8
- b. 12 10 8 25 14 17
- c. 14 17 25 10 12 8
- d. 8 10 12 25 14 17 ✔

Your answer is correct.

The correct answer is:
8 10 12 25 14 17

Question **9**

Correct

Mark 1.00 out of 1.00

Given an array of elements 5, 7, 9, 1, 3, 10, 8, 4. Which of the following is the correct sequences of elements after inserting all the elements in a min-heap?

- a. 1,3,4,5,7,8,9,10 ✔
- b. 1,3,7,4,8,5,9,10
- c. 1,3,4,5,8,7,9,10
- d. 1,4,3,9,8,5,7,10

Your answer is correct.

The correct answer is:
1,3,4,5,7,8,9,10

Question **10**

Correct

Mark 1.00 out of 1.00

We have a Max heap with n elements and wish to insert n more elements (not necessarily one after another) into the heap. The total time required for this is _____.

- a. $O(nlogn)$ ✔
- b. $O(logn)$
- c. $O(n)$
- d. $O(n^2)$

Your answer is correct.

The correct answer is:
$O(nlogn)$

Question **11**

Correct

Mark 1.00 out of 1.00

Consider the following statements about Max-heap tree and choose the correct option:

I. Values of a node is greater than every value in left sub tree and smaller than right sub tree nodes

II. Values of a node is greater than every value of children nodes

Select one:

- 1. Both (I) and (II) are true
- 2. (I) is false but (II) is true ✔
- 3. (I) is true but (II) is false
- 4. Both (I) and (II) are false

The correct answer is: (I) is false but (II) is true

◄ Tree (New)

Jump to...

BST (New) ►