Quiz 3 - Results

Attempt 4 of 4

Written Sep 3, 2024 7:48 PM - Sep 3, 2024 7:48 PM

Released Sep 4, 2024 12:01 AM

Attempt Score **1 / 4 - 25 %**

Overall Grade (Highest Attempt) **2 / 4 - 50 %**

Question 1 — 0 / 1 point

Consider the following array:

$$A = \langle 45, 33, 25, 28, 36, 22, 19, 24, 17, 30, 26, 32, 27, 15, 11 \rangle.$$

How many nodes violate the max heap property in *A* because of the values of their children?

- 0
- 1
- ➡ 2
- ✖ 3
- 4

Question 2 — 1 / 1 point

Consider the following array, which represents a priority queue.

$$A = \langle 39, 37, 25, 20, 36, 22, 19, 15, 17, 30, 26, 12, 7, 15, 11 \rangle.$$

If 21 is inserted into this queue, what will it's parent be?

- ✔ ◯ 37
- ◯ 45
- ◯ 22
- ◯ 36
- ◯ 26

Question 3 **0 / 1 point**

Which of the following is a useful loop invariant for Insert(S,x)?

- ➡ ◯ For all descendants *j* of node *i*, *j*'s key is ≤ x.
- ◯ For all ancestors *j* of node *i*, *j*'s key is ≥ x.
- ✖ ◯ For all *j* ≥ *i*, *j*'s key is ≤ x.
- ◯ For all ancestors *j* ≤ *i*, *j*'s key is ≥ x.

Question 4 **0 / 1 point**

True or false: Build-Max-Heap would still be correct if the loop went from 1 to ⌊n/2⌋ instead of ⌊n/2⌋ downto 1.

- ✖ ◯ True
- ➡ ◯ False

Done