Attempt

Attempt 1

Attempt 1

Due on Sep 15, 2024 10:00 PM

Available on Sep 12, 2024 10:00 PM until Sep 17, 2024 10:00 PM

Written: Sep 14, 2024 11:57 PM - Sep 15, 2024 12:36 AM Quizzes

Event Log

Timing

Time Spent: 0:39:41

Time Limit: 1:20:00. Not exceeded

Evaluation Summary

Reset Evaluation

Attempt Grade

31 / 31

Student View Preview

31 / 31 - 100 %

Attempt Feedback

Quiz Results

Question 1

Assume that you have an empty stack. Write the values that are in the stack after the following operations:

```
INSERT( A )
INSERT( L )
DELETE()
INSERT( G )
INSERT( O )
```

Update Retract

```
INSERT( T )
DELETE()
DELETE()
INSERT( H )
DELETE()
DELETE()
INSERT( M )
INSERT( S )
DELETE()
```

(For example, if the stack contents were A, B, C, D, E, F (where A was the first item in the stack), then write A B C D E F).

Answer: A G M ✓

Save Time

12:36 AM

Expand question 1 feedback

Question 2

Assume that you have an empty queue. Write the values that are in the queue after the following operations:

```
INSERT( A )
INSERT( L )
DELETE()
INSERT( G )
INSERT( O )
INSERT( R )
DELETE()
INSERT( I )
INSERT( T )
DELETE()
DELETE()
INSERT( H )
DELETE()
DELETE()
INSERT( M )
INSERT( S )
DELETE()
```

(For example, if the queue contents were A, B, C, D, E, F (where A was the first item in the queue), then write A B C D E F).

Answer: H M S ✓

Save Time

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Expand question 2 feedback

Question 3

What is the worst case time complexity to search for an element in a binary search tree (BST) with n nodes?

- [x] O(n)
- [ ] O(logn)
- [ ] O(1)
- [ ] O(nlogn)

Save Time

12:36 AM

Score

2 / 2 (auto-graded)

Expand question 3 feedback

Question 4

What is the time complexity for enqueuing and dequeuing elements from a queue implemented using a linked list?

- [ ] O(n)
- [x] O(1)
- [ ] O(nlogn)

12:36 AM

Score

2 / 2 (auto-graded)

Expand question 4 feedback

Question 5

For stack implementation using array, the incremental strategy is better than double strategy to extend the array.

- ○ True
- ✓ ○ False

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Score

2 / 2 (auto-graded)

Expand question 5 feedback

Question 6

In a stack implemented using a linked list, what is the time complexity for reversing the entire stack in place, assuming you can only use stack operations (push, pop) and a single additional stack?

- ✓ ○ O(n)
- ○ O(n^2)

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Score

4 / 4 (auto-graded)

Expand question 6 feedback

Question 7

You are given a binary search tree with unique integer keys. If you delete the root node, what will be the time complexity of finding its in-order successor?

- O(n)
- O(logn)
- ✓ O(logn) in a balanced BST, O(n) in a skewed tree
- O(1)

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Score

3 / 3 (auto-graded)

Expand question 7 feedback

Question 8

The array based tree implementation is better when

- [x] the tree is a Complete Binary Tree.
- [x] the tree requires many insertions and deletion operations.

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Score

3 / 3 (auto-graded)

Expand question 8 feedback

Question 9

You are given two sorted integer arrays A and B such that no integer is contained twice in the same array. A and B are nearly identical. However, B is missing exactly one number. What will be the order of time complexity for the best algorithm to find the missing number in B. Assume that ***n*** is the number of elements in A.

- ( ) O(n)
- (x) O(logn)
- ( ) O(nlogn)
- ( ) O(n^2)

Save Time

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Score

5 / 5 (auto-graded)

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Elementary Data Structures and BST

Due: 9/15/2024 10:00 PM • Algorithms Analysis and Design

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