Quiz Submissions - Symbols Tables and Sets Reading Quiz

Chork Hieng (username: gt9182iu)

Retaken Attempt 2

Written: Mar 26, 2022 2:29 AM - Mar 26, 2022 2:29 AM

Submission View

Your quiz has been submitted successfully.

Show All Questions   ⌄

Section 3.1 - Symbol Tables

For these questions we will use the author's convention of using the ST<Key,Value> type for a symbol table. We'll see in class that Map<Key,Value> is more common.

Question 1 Correct on previous attempt(s)   **5 / 5 points**

Match the symbol table API function with what it does:

1. Adds a new key/value pair to the symbol table.

✔ __5__   size()

2. Retrieves the value currently associated with the given key.

✔ __1__   put(key)

3. Returns true if there is a value in the symbol table associated with the given key

✔ __4__   isEmpty()

contains(key)

✓ __3__

4. Returns true if there are no key/value pairs in the symbol table

✓ __2__ get(key)

5. Returns the number of key/value pairs in the symbol table.

Question 2 Correct on previous attempt(s)   **1 / 1 point**

How many values may be associated with a given key?

○ 0

✓ ◉ 1

○ any number

Question 3 Correct on previous attempt(s)   **1 / 1 point**

According to the conventions used by the text (and this class), what happens if you add a new value for a key that already exists in the symbol table?

✓ ◉ It overwrites the old value with the new one.

○ It ignores the attempt to add the new value.

○ It generates an error.

Question 4 Correct on previous attempt(s)   **3 / 3 points**

For a symbol table implemented using an ordered array, match the operation with its order of growth.

1. $lg\ N$

✓ __1__ contains(key)

2. N

get(key)

✓ __1__   3. $N \lg N$

✓ __2__ put(key   4. N^2

→ **Question 5** Retaken   **1 / 1 point**

For a symbol table implemented using an ordered array, what is the order of growth for adding N items (with no deletions)?

○ 1

○ $N \lg N$

○ N

○ $N \lg N$

✓◉ N^2

Section 3.2 - Binary Search Trees

For those questions, any reference to comparing Nodes within a tree refer to comparison of the keys associated with those nodes.

For example, we will say "The parent must be greater than the left child." instead of "The node associated with the parent must be greater than the node associated with the left child."

Question 6 Correct on previous attempt(s)   **1 / 1 point**

For a symbol table implemented using a binary search tree, which of these is the restriction on the key type?

✔️◉ It must implement Comparable<Key>.

⭕ It must implement the equals() method.

⭕ It must implement Predicate<Key>.

⭕ It must be String.

Question 7 Correct on previous attempt(s)   **1 / 1 point**

What must be true of each node in a binary search tree?

✔️◉ The parent must be greater than the left child and less than the right child.

⭕ The parent must be less than the left child and greater than the right child.

⭕ The parent must be less than both children.

⭕ The parent must be greater than both children.

Question 8 Correct on previous attempt(s)   **1 / 1 point**

If keys are added to a binary search tree in random order, it can be searched in $lg\ N$ time.

✔️◉ True

⭕ False

→ **Question 9** Retaken   **1 / 1 point**

The order of growth for searching a binary search tree can be as high as N^2.

✔️◉ True

⭕ False

Attempt Score: ⬤ 15 / 15 - 100 %

Overall Grade (highest attempt): 15 / 15 - 100 %

Done