Quiz Submissions - Hash Tables Reading Quiz

Chork Hieng (username: gt9182iu)

Retaken Attempt 2

Written: Apr 9, 2022 11:03 PM - Apr 9, 2022 11:03 PM

Submission View

Your quiz has been submitted successfully.

Show All Questions

Question 1 Retaken 1 / 1 point

A hash function (select all that apply):

- [x] transforms a key into an array index.
- [x] is implemented in Java using the hashCode() method.
- [ ] can only work on strings.
- [ ] can only work on integers.

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

Modular hashing transforms an integer K into an array index by computing K % M, where M is usually a prime number.

- (•) True
- ( ) False

Question 3 Retaken 1 / 1 point

If k1 and k2 are key values, then

- (•) if k1.equals(k2) is true, then k1.hashCode() must be equal to k2.hashCode().
- ( ) if k1.equals(k2) is false, then k1.hashCdoe() must not be equal to k2.hashCode().

- ○ if k1.hashCode() is equal to k2.hashCode(), then k1.equals(k2) must be true.

Question 4 Correct on previous attempt(s) 1 / 1 point

Ideally, a hash function should uniformly distribute keys among the integers in the range [0,M), where M is the size of the hash table. This is refered to as the uniform hashing assumption.

- ◉ True
- ○ False

Question 5 Retaken 1 / 1 point

It is always possible to guarantee that two unequal keys will always hash to different hash table array indices.

- ○ True
- ◉ False

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

A collision occurs when two unequal keys hash the same array index.

- ◉ True
- ○ False

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

Separate chaining handles hash table collisions by:

- ○ storing the new key in the next available empty entry in the hash table.
- ◉ having each hash table entry be a linked list of keys that hash to that index.
- ○ overwriting the hash table entry with the new key.

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

Linear probing handles hash table collisions by:

- ○ having each hash table entry be a linked list of keys that hash to that index.
- ○ overwriting the hash table entry with the new key.

- (•) storing the new key in the next available empty entry in the hash table.

Question 9 Retaken — 1 / 1 point

The load factor, alpha, of a hash table is alpha = N / M, where:

- ( ) N is the hash table size, and M is the number of entries in the hash table.
- ( ) N is the number of entries in the hash table, and M is the number of empty slots in the hash table.
- (•) N is the number of entries in the hash table, and M is the hash table size.

Question 10 Correct on previous attempt(s) — 1 / 1 point

With separate chaining, alpha may be greater than 1.

- (•) True
- ( ) False

Question 11 Correct on previous attempt(s) — 1 / 1 point

With linear probing, alpha may be greater than 1.

- ( ) True
- (•) False

Attempt Score: 11 / 11 - 100 %

Overall Grade (highest attempt): 11 / 11 - 100 %

Done