Hashing Quiz: Test your understanding of Hashing

The most commonly asked interview questions about hashing will be covered in this lesson in the form of a quiz.

1 While inserting a new value to a hash key that is already occupied, we find some other position to assign to it. What is this process called?

- A) Address space resolution
- Your Answer
- B) Collision resolution
- C) Chaining resolution
- D) None of the above

2 We can avoid collisions by using the following strategy:

- Your Answer
- A) Chaining

Explanation

Values with the same hash key can be stroed in a bucket at that index.

- B) Sorting
- C) Using Stacks/Queues
- D) None of the above

3 A hash table is a structure in which each value points to a key.

A) True

Your Answer

B) False

Explanation

A hash table has key-value pairs and indexes keys to values. Not the other way around.

4 The performance of a hash table depends upon the following factors:

A) Hash function

B) Size of the table

C) Collision handling method

Your Answer

D) All of the above

5 What is a hash function?

A) A function that creates a hash table

Correct Answer

B) A function that calculates the index of a key in the table

C) A function to sort keys in table

Your Answer

D) None of the above

6 Following is a type of Hash function:

A) Arithmetic Modular

B) Truncation

C) Folding

Your Answer

D) All of the above

7 What is the time complexity of the search operation in a hash table?

Your Answer

A) $O(1)$

Explanation

Indexing means that we do not have to traverse a list.

B) $O(nlogn)$

C) $O(n)$

D) $O(logn)$

8 What type of hash function does the following action?

“Divide the key into smaller chunks and apply an arithmetic operation on each chunk”

$$key = 456789 \;\; -> \;\; index = 45 + 67 + 89$$

A) Arithmetic Modular

B) Truncation

Your Answer

C) Folding

D) None of the above

9 What type of hash function does the following action?

“Selecting part of the key instead of the whole key”

$$key = 1234 \;\; -> \;\; index = 23$$

A) Arithmetic Modular

Your Answer

B) Truncation

C) Folding

D) None of the above

10 What type of hash function does the following action?

“Take modulo of the table size with the key”

$index = N \ mod \ k$

Here, N is the size of the hash table and k is the key

Your Answer

A) Arithmetic Modular

B) Truncation

C) Folding

Correct Answer

D) None of the above

11 A drawback of Tries over Hash Tables is:

Correct Answer

A) Tries may require more space than hash tables.

Your Answer

B) Tries may need more lookup time than hash tables in the worst case.

C) Tries may face collisions between different keys.

D) There is no alphabetical ordering in tries.

12 Choose an advantage of Tries over Hash Tables:

Not Selected

A) Tries are more space efficient if we are storing a large number of keys with significant sized prefixes among them

Not Selected

B) Tries allow longest prefix matching.

C) Tries require a less complicated hash function.

Selected Option

D) Hash tables can face key collisions.

SUMMARY

Correct	8
Incorrect	4

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