Rajalakshmi Engineering College

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Batch: 2028

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NeoColab_REC_CS23231_DATA STRUCTURES

REC_DS using C_Week 7_MCQ_Updated

Attempt : 1 Total Mark : 20

Marks Obtained: 17

Section 1: MCQ

1. Which of the following best describes linear probing in hashing?

Answer

Resolving collisions by linearly searching for the next free slot

Status: Correct Marks: 1/1

2. What is the output of the mid-square method for a key k = 123 if the hash table size is 10 and you extract the middle two digits of k * k?

Answer

2

Status: Wrong Marks: 0/1

3. What would be the result of folding 123456 into three parts and summing: (12 + 34 + 56)?

Answer

102

Status: Correct Marks: 1/1

4. What does a deleted slot in linear probing typically contain?

Answer

A special "deleted" marker

Status: Correct Marks: 1/1

5. In C, how do you calculate the mid-square hash index for a key k, assuming we extract two middle digits and the table size is 100?

Answer

((k * k) / 10) % 100

Status: Wrong Marks: 0/1

6. In the division method of hashing, the hash function is typically written as:

Answer

h(k) = k % m

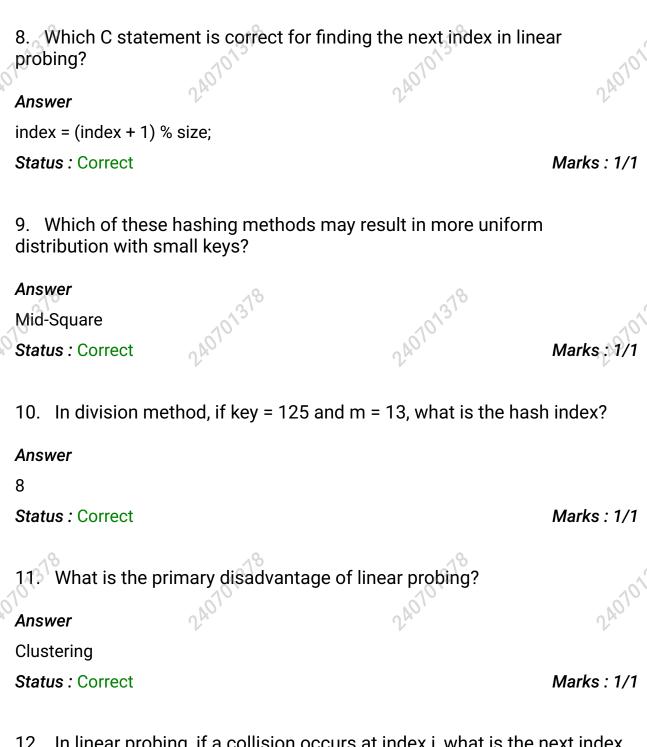
Status: Correct Marks: 1/1

7. Which situation causes clustering in linear probing?

Answer

Poor hash function

Status: Wrong Marks: 0/1



12. In linear probing, if a collision occurs at index i, what is the next index checked?

Answer

(i + 1) % table_size

Status: Correct Marks: 1/2

13. In the folding method, what is the primary reason for reversing alternate parts before addition?

Answer

To reduce the chance of collisions caused by similar digit patterns

Status: Correct Marks: 1/1

14. What is the initial position for a key k in a linear probing hash table?

Answer

k % table_size

Status: Correct Marks: 1/1

15. Which folding method divides the key into equal parts, reverses some of them, and then adds all parts?

Answer

Folding reversal method

Status: Correct Marks: 1/1

16. Which of the following statements is TRUE regarding the folding method?

Answer

It divides the key into parts and adds them.

Status: Correct Marks: 1/1

17. What happens if we do not use modular arithmetic in linear probing?

Answer

Index goes out of bounds

Status: Correct Marks: 1/1

18. Which of the following values of 'm' is recommended for the division method in hashing? Answer A prime number Status: Correct Marks: 1/1 19. Which data structure is primarily used in linear probing? **Answer** Array Marks : 1/1 Status: Correct 20. What is the worst-case time complexity for inserting an element in a hash table with linear probing? **Answer** O(n)Status: Correct Marks: 1/1

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