Rajalakshmi Engineering College

Name: KEERTHI PRIYA T

Email: 240701258@rajalakshmi.edu.in

Roll no: 2116240701258 Phone: 7397397221

Branch: REC

Department: I CSE FC

Batch: 2028

Degree: B.E - CSE



NeoColab_REC_CS23231_DATA STRUCTURES

REC_DS using C_Week 7_MCQ_Updated

Attempt: 1 Total Mark: 20

Marks Obtained: 12

Section 1: MCQ

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

Answer

k % table_size

Status: Correct Marks: 1/1

2. What is the primary disadvantage of linear probing?

Answer

Clustering

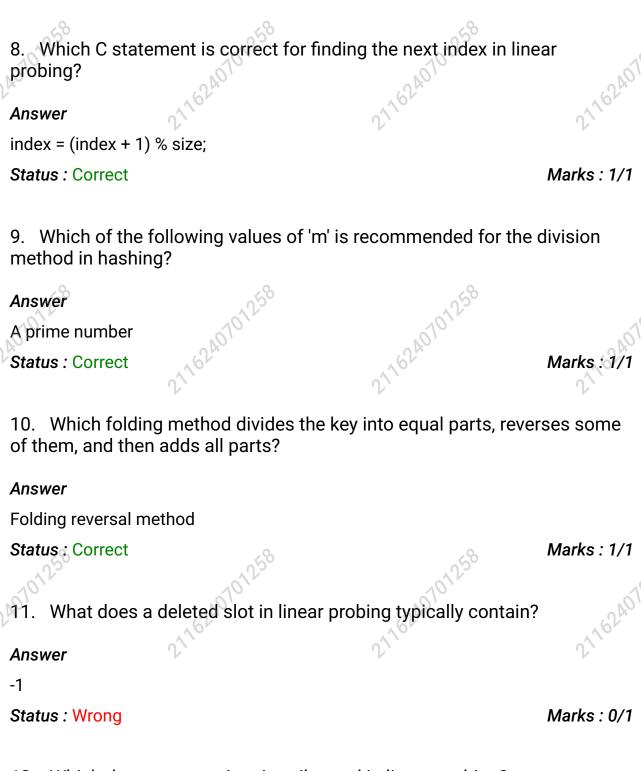
Which situation causes clustering in linear probing? Answer Sequential key insertion Status: Wrong Marks: 0/1 4. Which of these hashing methods may result in more uniform distribution with small keys? **Answer** Mid-Square Marks : 1/1 Status: Correct Which of the following best describes linear probing in hashing? Answer Resolving collisions by linearly searching for the next free slot Status: Correct Marks: 1/1 6. 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 7. Which of the following statements is TRUE regarding the folding

method?

Answer

It uses square of key values.

Status : Wrong



12. Which data structure is primarily used in linear probing?

Answer

Linked List

Status: Wrong Marks: 0/1

13. 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

1

Status: Correct Marks: 1/1

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

Answer

Index goes out of bounds

Status: Correct Marks: 1/1

15. 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) % 100

Status: Wrong Marks: 0/1

16. In division method, if key = 125 and m = 13, what is the hash index?

Answer

6

Status: Wrong Marks: 0/1

17. 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

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

Answer

h(k) = k - m

Status: Wrong Marks: 0/1

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

Answer

(i + key) % table_size

Status: Wrong Marks: 0/1

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

Answer

102

Status: Correct Marks: 1/1

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