Rajalakshmi Engineering College

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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:

Marks Obtained: 19

Section 1: MCQ

1. 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) % 100

Status: Correct Marks: 1/1

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

Answer

It divides the key into parts and adds them.

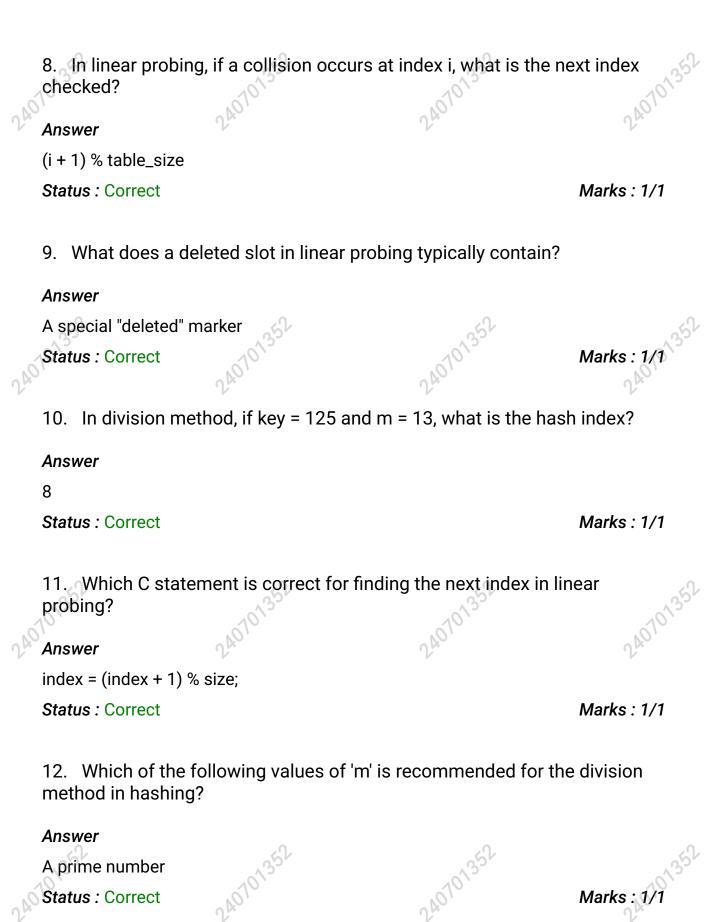
Status: Correct Marks: 1/1

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. Which of the following best describes linear probing in hashing? Answer Resolving collisions by linearly searching for the next free slot Marks: 1/1 Status: Correct 5. Which of these hashing methods may result in more uniform distribution with small keys? Answer **Folding** Status: Wrong Marks: 0/1 6. 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 Marks: 1/1 Status: Correct 7. What is the initial position for a key k in a linear probing hash table?

Answer

k % table_size

Status: Correct Marks: 1/1



Marks: 1

13. What happens if we do not use modular arithmetic in linear probing? Answer Index goes out of bounds Status: Correct Marks: 1/1 14. What is the worst-case time complexity for inserting an element in a hash table with linear probing? **Answer** O(n)Marks : 1/1 Status: Correct 15. In the division method of hashing, the hash function is typically written as: Answer h(k) = k % mStatus: Correct Marks: 1/1 16. 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 17. Which data structure is primarily used in linear probing? Answer Array Status : Correct Marks : 1

18. 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 19. What is the primary disadvantage of linear probing? **Answer** Marks: 1/1 Clustering Status: Correct 20. Which situation causes clustering in linear probing? **Answer** All the mentioned options Status: Correct Marks: 1/1

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