Rajalakshmi Engineering College

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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. 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

2. Which of these hashing methods may result in more uniform distribution with small keys?

Answer

Mid-Square

Status: Correct Marks: 1/1

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

Answer
(i + 1) % table_size
Status: Correct

Marks: 1/1

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

Answer
Index goes out of bounds
Status: Correct

Marks: 1/1

5. 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. Which C statement is correct for finding the next index in linear probing?

Answer

index = (index + 1) % size;

Status: Correct Marks: 1/1

7. Which of the following values of 'm' is recommended for the division method in hashing?

Answer

A prime number

Status: Correct Marks: 1/1

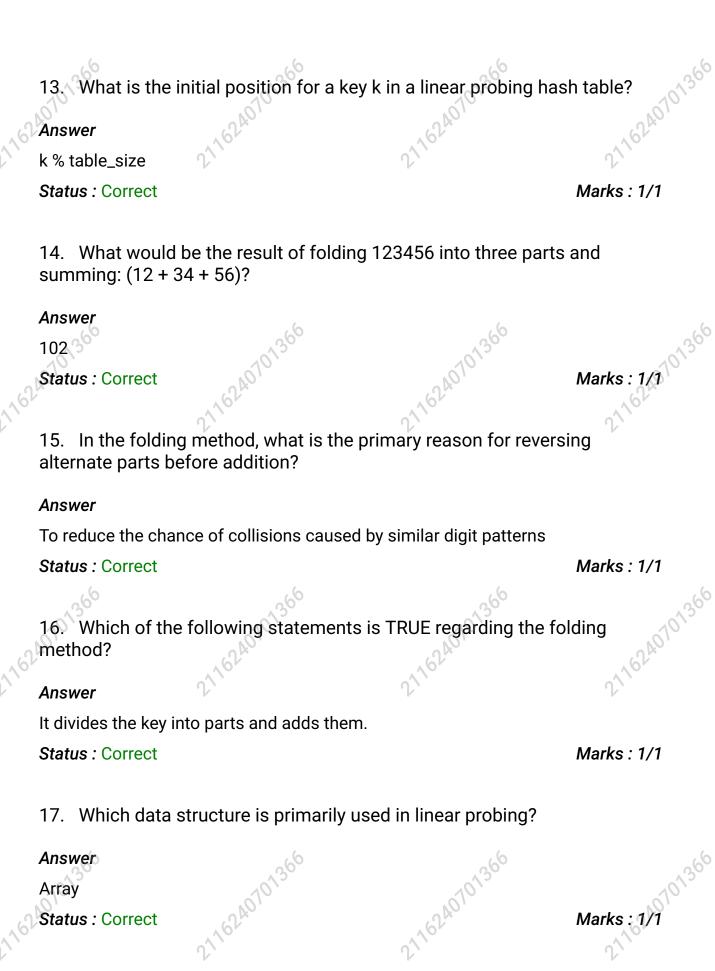
8. In the division method of hashing, the hash function is typically written **Answer** h(k) = k % mStatus: Correct Marks: 1/1 9. What is the output of the mid-square method for a key k = 123 if the hash table size is 10 and you extract the middle two digits of k * k? Answer Status: Wrong Marks: 0/ 10. What is the primary disadvantage of linear probing? Answer Clustering Status: Correct Marks: 1/1 What does a deleted slot in linear probing typically contain? Answer A special "deleted" marker Status: Correct Marks: 1/1

12. 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



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

Answer

Marks: 1/1 Status: Correct

19. Which situation causes clustering in linear probing?

Answer

Poor hash function

Marks: 0/1 Status: Wrong

20. 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