## Rajalakshmi Engineering College

Name: Divya darshini S

Email: 241501051@rajalakshmi.edu.in

Roll no: 241501051 Phone: 6383045036

Branch: REC

Department: I AIML FA

Batch: 2028

Degree: B.E - AI & ML



## NeoColab\_REC\_CS23231\_DATA STRUCTURES

REC\_DS using C\_Week 7\_MCQ\_Updated

Attempt : 1 Total Mark : 20

Marks Obtained: 20

Section 1: MCQ

1. 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

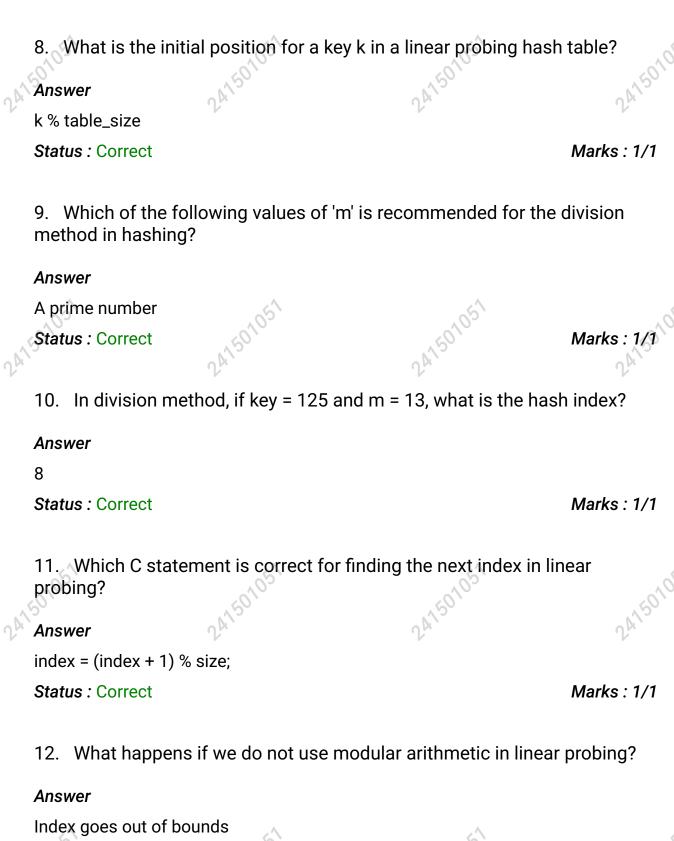
2. Which of the following statements is TRUE regarding the folding method?

**Answer** 

It divides the key into parts and adds them.

Status: Correct Marks: 1/1

241	3. Which situation causes clustering in linear probing?  Answer  All the mentioned options  Status: Correct	րդեն <sup>1</sup> Marks : 1/1
	4. Which folding method divides the key into equal parts, reverse of them, and then adds all parts?	es some
24	Answer Folding reversal method Status: Correct	Marks : 1/1
	5. In the division method of hashing, the hash function is typical as: Answer	ly written
	h(k) = k % m  Status: Correct	Marks : 1/1
241	6. Which of these hashing methods may result in more uniform distribution with small keys?  Answer	24,1501
	Mid-Square  Status: Correct	Marks : 1/1
	7. Which data structure is primarily used in linear probing?	
241	Answer Array Status: Correct	Marks : 1/1



Status: Correct Marks: 1/1

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 Marks: 1/1 Status: Correct 14. What is the primary disadvantage of linear probing? Answer Clustering Marks : 1/1 Status: Correct 15. 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 16. What would be the result of folding 123456 into three parts and summing: (12 + 34 + 56)? Answer 102 Status: Correct Marks: 1/1 17. What does a deleted slot in linear probing typically contain? Answer A special "deleted" marker

Status: Correct

18. 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

19. 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

20. 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

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