

# NADAR SARASWATHI COLLEGE OF ENGINEERING AND TECHNOLOGY, THENI.

Course/Branch : B.E/CSE	Year / Semester :II/III	Format No.	NAC/TLP-07a.13
Subject Code :CS8391	Subject Name :Data Structures	Rev. No.	02
Unit No :5	Unit Name : Searching, Sorting And Hashing Techniques	Date	30.09.2020

## OBJECTIVE TYPE QUESTION BANK

S. No.	Objective Questions (MCQ /True or False / Fill up with Choices )	BTL
1.	Where is linear searching used? a) When the list has only a few elements b) When performing a single search in an unordered list c) Used all the time <b>d) When the list has only a few elements and When performing a single search in an unordered list</b>	L1
2.	Which of the following is a disadvantage of linear search? a) Requires more space <b>b) Greater time complexities compared to other searching algorithms</b> c) Not easy to understand d) Not easy to implement	L3
3.	Linear search(recursive) algorithm used in _____ <b>a) When the size of the dataset is low</b> b) When the size of the dataset is large c) When the dataset is unordered d) Never used	L3
4.	Which of the following is not an application of binary search? a) To find the lower/upper bound in an ordered sequence b) Union of intervals c) Debugging <b>d) To search in unordered list</b>	L2
5.	Binary Search can be categorized into which of the following? a) Brute Force technique <b>b) Divide and conquer</b> c) Greedy algorithm d) Dynamic programming	L4
6.	Given an array arr = {45,77,89,90,94,99,100} and key = 100; What are the mid values(corresponding array elements) generated in the first and second iterations? <b>a) 90 and 99</b> b) 90 and 100 c) 89 and 94 d) 94 and 99	L2
7.	How many passes does an insertion sort algorithm consist of? a) N <b>b) N-1</b> c) N+1 d) N <sup>2</sup>	L1
8.	Which of the following algorithm implementations is similar to that of an insertion sort? <b>a) Binary heap</b> b) Quick sort c) Merge sort d) Radix sort	L3
9.	For the following question, how will the array elements look like after second pass? 34, 8, 64, 51, 32, 21 a) 8, 21, 32, 34, 51, 64 b) 8, 32, 34, 51, 64, 21	L2

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	c) 8, 34, 51, 64, 32, 21 <b>d) 8, 34, 64, 51, 32, 21</b>	
10.	What is an external sorting algorithm? <b>a) Algorithm that uses tape or disk during the sort</b> b) Algorithm that uses main memory during the sort c) Algorithm that involves swapping d) Algorithm that are considered 'in place'	L1
11.	Which of the following is not an advantage of optimised bubble sort over other sorting techniques in case of sorted elements? a) It is faster b) Consumes less memory <b>c) Detects whether the input is already sorted</b> d) Consumes less time	L3
12.	In the following scenarios, when will you use selection sort? a) The input is already sorted b) A large file has to be sorted <b>c) Large values need to be sorted with small keys</b> d) Small values need to be sorted with large keys	L1
13.	What is the advantage of selection sort over other sorting techniques? <b>a) It requires no additional storage space</b> b) It is scalable c) It works best for inputs which are already sorted d) It is faster than any other sorting technique	L3
14.	What is the other name for a shell sort algorithm? <b>a) Diminishing increment sort</b> b) Diminishing decrement sort c) Insertion sort d) Selection sort	L4
15.	Which of the following should be used to sort a huge database on a fixed-length key field? a) Insertion sort b) Merge sort <b>c) LSD radix sort</b> d) Quick sort	L2
16.	What is an internal sorting algorithm? a) Algorithm that uses tape or disk during the sort <b>b) Algorithm that uses main memory during the sort</b> c) Algorithm that involves swapping d) Algorithm that are considered 'in place'	L3
17.	Which of the following is not an advantage of optimised bubble sort over other sorting techniques in case of sorted elements? a) It is faster b) Consumes less memory <b>c) Detects whether the input is already sorted</b> d) Consumes less time	L5
18.	Which of the following is correct with regard to insertion sort? <b>a) insertion sort is stable and it sorts In-place</b> b) insertion sort is unstable and it sorts In-place	L3

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	c) insertion sort is stable and it does not sort In-place d) insertion sort is unstable and it does not sort In-place	
19.	Insertion sort is an example of an incremental algorithm. a) <b>True</b> b) False	L3
20.	Which of the following is good for sorting arrays having less than 100 elements? a) Quick Sort b) Selection Sort c) Merge Sort d) <b>Insertion Sort</b>	L2
21.	What is a hash table? a) A structure that maps values to keys b) <b>A structure that maps keys to values</b> c) A structure used for storage d) A structure used to implement stack and queue	L4
22.	If several elements are competing for the same bucket in the hash table, what is it called? a) Diffusion b) Replication c) <b>Collision</b> d) Duplication	L1
23.	What is a hash function? a) A function has allocated memory to keys b) <b>A function that computes the location of the key in the array</b> c) A function that creates an array d) A function that computes the location of the values in the array	L3
24.	Which of the following is not a technique to avoid a collision? a) Make the hash function appear random b) Use the chaining method c) Use uniform hashing d) <b>Increasing hash table size</b>	L2
25.	What is the load factor? a) Average array size b) Average key size c) <b>Average chain length</b> d) Average hash table length	L1
26.	What is simple uniform hashing? a) <b>Every element has equal probability of hashing into any of the slots</b> b) A weighted probabilistic method is used to hash elements into the slots c) Elements has Random probability of hashing into array slots d) Elements are hashed based on priority	L1
27.	The case in which a key other than the desired one is kept at the identified location is called? a) Hashing b) <b>Collision</b> c) Chaining d) Open addressing	L4
28.	What data organization method is used in hash tables? a) Stack	L2

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	b) Array c) <b>Linked list</b> d) Queue	
29.	Which of the following is not a collision resolution technique? a) Separate chaining b) Linear probing c) Quadratic probing d) <b>Hashing</b>	L3
30.	Which of the following operations are done in a hash table? a) Insert only b) Search only c) <b>Insert and search</b> d) Replace	L1

