## Solved MCQ On Stack And Queue In Data Structure

1) ......... form of access is used to add and remove nodes from a queue.  
  
A. LIFO, Last In First Out  
  
B. FIFO, First In First Out  
  
C. Both a and b  
  
D. None of these  
  
  
2) In liked representation of stack ....... holds the elements of the stack.  
  
A. INFO fields  
  
B. TOP fields  
  
C. LINK fields  
  
D. NULL fields  
  
  
3) ........ form of access is used to add remove nodes from a stack.  
  
A. LIFO  
  
B. FIFO  
  
C. Both A and B  
  
D. None of these  
  
  
4) In the linked representation of the stack ......... behaves as the top pointer variable of stack.  
  
A. Stop pointer  
  
B. Begin pointer  
  
C. Start pointer  
  
D. Avail pointer  
  
  
5) New nodes are added to the ......... of the queue.  
  
A. Front  
  
B. Back  
  
C. Middle  
  
D. Both A and B  
  
  
6) In linked representation of stack the null pointer of the last node in the list signals ..........  
  
A. Beginning of the stack  
  
B. Bottom of the stack  
  
C. Middle of the stack  
  
D. In between some value  
  
  
7) What happens when you push a new node onto a stack?  
  
A. The new node is placed at the front of the linked list  
  
B. The new node is placed at the back of the linked list  
  
C. The new node is placed at the middle of the linked list  
  
D. No Changes happens  
  
  
8) A queue is a .........  
  
A. FIFO  
  
B. LIFO  
  
C. FILO  
  
D. LOFI  
  
  
9) Which of the following name does not relate to stacks?  
  
A. FIFO lists  
  
B. LIFO lists  
  
C. Piles  
  
D. Push down lists  
  
  
10) The retrieval of items in a stack is ........... operation.  
  
A. push  
  
B. pop  
  
C. retrieval  
  
D. access  
  
  
  
11) The term push and pop is related to  
  
A. Array   
  
B. Lists  
  
C. Stacks  
  
D. Trees  
  
  
12) Which is the pointer associated with the stack?  
  
A. FIRST  
  
B. FRONT  
  
C. TOP   
  
D. REAR  
  
  
13) The elements are removal from a stack in .......... order.  
  
A. Reverse  
  
B. Hierarchical  
  
C. Alternative  
  
D. Sequential  
  
  
14) The insertion operation in the stack is called .........  
  
A. insert  
  
B. push  
  
C. pop   
  
D. top  
  
  
15) ...... is the term used to insert an element into stack.  
  
A. Push  
  
B. Pull  
  
C. Pop  
  
D. Pump  
  
  
16) Stack follows the strategy of ........  
  
A. LIFO  
  
B. FIFO  
  
C. LRU  
  
D. RANDOM   
  
  
17) .......... is the term used to delete an element from the stack.  
  
A. Push  
  
B. Pull  
  
C. Pop  
  
D. Pump  
  
  
18) Deletion operation is done using ......... in a queue.  
  
A. front  
  
B. rear  
  
C. top   
  
D. list  
  
  
19) A pointer variable which contains the location at the top element of the stack is called .....  
  
A. Top  
  
B. Last  
  
C. Final  
  
D. End  
  
  
20) Which of the following is an application of stack?  
  
A. finding factorial  
  
B. tower of Hanoi  
  
C. infix to postfix  
  
D. all of the above

**Answers:**

1. B. FIFO, First In First Out   
   2) A. INFO fields   
   3) A. LIFO   
   4) C. Start pointer   
   5) B. Back   
   6) B. Bottom of the stack  
   7) A. The new node is placed at the front of the linked list   
   8) A. FIFO   
   9) A. FIFO lists   
   10) B. pop   
   11) C. Stacks   
   12) C. TOP   
   13) A. Reverse   
   14) B. push   
   15) A. Push   
   16) A. LIFO   
   17) C. Pop   
   18) A. front   
   19) A. Top   
   20) D. all of the above

## Solved MCQ On List And Linked List In Data Structure

1) Linked lists are best suited .....

A. for relatively permanent collections of data.

B. for the size of the structure and the data in the structure are constantly changing.

C. data structure

D. for none of above situation

2) The operation of processing each element in the list is known as ......

A. sorting

B. merging

C. inserting

D. traversal

3) The situation when in a linked list START=NULL is ....

A. Underflow

B. Overflow

C. Houseful

D. Saturated

4) Each node in singly linked list has ........ fields.

A. 2

B. 3

C. 1

D. 4

5) Which of the following is two way lists?

A. Grounded header list

B. Circular header list

C. Linked list with header and trailer nodes

D. List traversed in two directions

6) Which is the pointer associated with the availability list?

A. FIRST

B. AVAIL

C. TOP

D. REAR

7) Value of first linked list index is ....

A. 0

B. 1

C. -1

D. 2

8) In linked lists there are no NULL links in

A. single linked list

B. linear doubly linked list

C. circular linked list

D. linked list

9) Each node in a linked list must contain at least .....

A. Three fields

B. Two fields

C. Four fields

D. Five fields

10) The dummy header in linked list contain .....

A. first record of the actual data

B. last record of the actual data

C. pointer to the last record of the actual data

D. middle record of the actual data

11) In a linked list the .......... field contains the address of next element in the list.

A. Link field

B. Next element field

C. Start field

D. Info field

12) LLINK is the pointer pointing to the ...

A. successor node

B. predecessor node

C. head node

D. last node

13) .......... refers to a linear collection of data items.

A. List

B. Tree

C. Graph

D. Edge

14) A run list is ......

A. small batches of records from a file

B. number of elements having same value

C. number of records

D. number of files in external storage

15) A ...... indicates the end of the list.

A. Guard

B. Sentinel

C. End pointer

D. Last pointer

16) A ........ is a linear list in which insertions and deletions are made to from either end of the structure.

A. circular queue

B. random of queue

C. priority

D. dequeue

17) Indexing the ........ element in the list is not possible in linked lists.

A. middle

B. first

C. last

D. any where in between

18) A linear list in which the pointer points only to the successive node is ......

A. singly linked list

B. circular linked list

C. doubly linked list

D. none of the above

19) .......... may take place only when there is some minimum amount(or) no space left in free storage list.

A. Memory management

B. Garbage collection

C. Recycle bin

D. Memory management

20) A linear list in which the last node points to the first node is ........

A. singly linked list

B. circular linked list

C. doubly linked list

D. none of the above

**Answers:**

1) B. for the size of the structure and the data in the structure are constantly changing.

2) D. traversal

3) A. Underflow

4) A. 2

5) D. List traversed in two directions

6) B. AVAIL

7) A. 0

8) C. circular linked list

9) B. Two fields

10) A. first record of the actual data

11) A. Link field

12) B. predecessor node

13) A. List

14) A. small batches of records from a file

15) B. Sentinel

16) D. dequeue

17) A. middle

18) A. singly linked list

19) B. Garbage collection

20) B. circular linked list

## Solved MCQ On Tree And Graph In Data Structure

1) The operation of processing each element in the list is known as ......  
  
A. sorting  
  
B. merging  
  
C. inserting  
  
D. traversal  
  
  
2) Other name for directed graph is ..........  
  
A. Direct graph  
  
B. Digraph  
  
C. Dir-graph  
  
D. Digraph  
  
  
3) Binary trees with threads are called as .......  
  
A. Threaded trees  
  
B. Pointer trees  
  
C. Special trees  
  
D. Special pointer trees  
  
  
4) Graph G is .............. if for any pair u, v of nodes in G there is a path from u to v or path from v to u.  
  
A. Leterally connected  
  
B. Widely Connected  
  
C. Unliterally connected  
  
D. Literally connected  
  
  
5) In Binary trees nodes with no successor are called ......  
  
A. End nodes  
  
B. Terminal nodes  
  
C. Final nodes  
  
D. Last nodes  
  
  
6) A connected graph T without any cycles is called ........  
  
A. free graph  
  
B. no cycle graph  
  
C. non cycle graph  
  
D. circular graph  
  
  
7) Trees are said .......... if they are similar and have same contents at corresponding nodes.  
  
A. Duplicate  
  
B. Carbon copy  
  
C. Replica  
  
D. Copies  
  
  
8) A connected graph T without any cycles is called a ........  
  
A. A tree graph  
  
B. Free tree  
  
C. A tree d  
  
D. All of the above  
  
  
9) Every node N in a binary tree T except the root has a unique parent called the ......... of N.  
  
A. Antecedents  
  
B. Predecessor  
  
C. Forerunner  
  
D. Precursor  
  
  
10) In a graph if E=(u,v) means ......  
  
A. u is adjacent to v but v is not adjacent to u  
  
B. e begins at u and ends at v  
  
C. u is processor and v is successor  
  
D. both b and c  
  
  
  
11) Sequential representation of binary tree uses ........  
  
A. Array with pointers  
  
B. Single linear array  
  
C. Two dimentional arrays  
  
D. Three dimentional arrays  
  
  
12) In a graph if e=[u,v], Then u and v are called ........  
  
A. End points of e  
  
B. Adjacent nodes  
  
C. Neighbours  
  
D. All of the above  
  
  
13) TREE[1]=NULL indicates tree is ........  
  
A. Overflow  
  
B. Underflow  
  
C. Empty  
  
D. Full  
  
  
14) A binary tree whose every node has either zero or two children is called .......  
  
A. complete binary tree  
  
B. binary search tree  
  
C. extended binary tree  
  
D. data structure  
  
  
15) Linked representation of binary tree needs ......... parallel arrays.  
  
A. 4  
  
B. 2  
  
C. 3  
  
D. 5  
  
  
16) The depth of complete binary tree is given by ......  
  
A. Dn = n log2n  
  
B. Dn= n log2n+1  
  
C. Dn = log2n  
  
D. Dn = log2n+1  
  
  
17) In a 2-tree, nodes with 0 children are called ............  
  
A. Exterior node  
  
B. Outside node  
  
C. Outer node  
  
D. External node  
  
  
18) Which indicates pre-order traversal?  
  
A. Left sub-tree, Right sub-tree and root  
  
B. Right sub-tree, Left sub-tree and root  
  
C. Root, Left sub-tree, Right sub-tree  
  
D. Right sub-tree, root, Left sub-tree  
  
  
  
19) In a extended-binary tree nodes with 2 children are called ........  
  
A. Interior node  
  
B. Domestic node  
  
C. Internal node  
  
D. Inner node  
  
  
20) A terminal node in a binary tree is called ............  
  
A. Root  
  
B. Leaf  
  
C. Child  
  
D. Branch

**Answers:**

1) D. traversal

2) D. Digraph

3) A. Threaded trees  
4) C. Unliterally connected  
5) B. Terminal nodes  
6) A. free graph  
7) D. Copies  
8) D. All of the above  
9) B. Predecessor  
10) D. both b and c  
11) A. Array with pointers  
12) D. All of the above  
13) C. Empty  
14) C. extended binary tree  
15) C. 3  
16) D. Dn = log2n+1  
17) D. External node

18) C. Root, Left sub-tree, Right sub-tree

19) C. Internal node  
20) B. Leaf

## Solved MCQ On Searching And Sorting Algorithms In Data Structure

1) The worst case occur in linear search algorithm when .......

A. Item is somewhere in the middle of the array

B. Item is not in the array at all

C. Item is the last element in the array

D. Item is the last element in the array or item is not there at all

2) If the number of records to be sorted is small, then ...... sorting can be efficient.

A. Merge

B. Heap

C. Selection

D. Bubble

3) The complexity of sorting algorithm measures the ...... as a function of the number n of items to be sorter.

A. average time

B. running time

C. average-case complexity

D. case-complexity

4) Which of the following is not a limitation of binary search algorithm?

A. must use a sorted array

B. requirement of sorted array is expensive when a lot of insertion and deletions are needed

C. there must be a mechanism to access middle element directly

D. binary search algorithm is not efficient when the data elements more than 1500.

5) The Average case occurs in linear search algorithm ..........

A. when item is somewhere in the middle of the array

B. when item is not the array at all

C. when item is the last element in the array

D. Item is the last element in the array or item is not there at all

6) Binary search algorithm cannot be applied to ...

A. sorted linked list

B. sorted binary trees

C. sorted linear array

D. pointer array

7) Complexity of linear search algorithm is .........

A. O(n)

B. O(logn)

C. O(n2)

D. O(n logn)

8) Sorting algorithm can be characterized as ......

A. Simple algorithm which require the order of n2 comparisons to sort n items.

B. Sophisticated algorithms that require the O(nlog2n) comparisons to sort items.

C. Both of the above

D. None of the above

9) The complexity of bubble sort algorithm is .....

A. O(n)

B. O(logn)

C. O(n2)

D. O(n logn)

10) State True or False for internal sorting algorithms.

i) Internal sorting are applied when the entire collection if data to be sorted is small enough that the sorting can take place within main memory.

ii) The time required to read or write is considered to be significant in evaluating the performance of internal sorting.

A. i-True, ii-True

B. i-True, ii-False

C. i-False, ii-True

D. i-False, ii-False

11) The complexity of merge sort algorithm is ......

A. O(n)

B. O(logn)

C. O(n2)

D. O(n logn)

12) .......... is putting an element in the appropriate place in a sorted list yields a larger sorted order list.

A. Insertion

B. Extraction

C. Selection

D. Distribution

13) ............order is the best possible for array sorting algorithm which sorts n item.

A. O(n logn)

B. O(n2)

C. O(n+logn)

D. O(logn)

14) ......... is rearranging pairs of elements which are out of order, until no such pairs remain.

A. Insertion

B. Exchange

C. Selection

D. Distribution

15) ............ is the method used by card sorter.

A. Radix sort

B. Insertion

C. Heap

D. Quick

16) Which of the following sorting algorithm is of divide and conquer type?

A. Bubble sort

B. Insertion sort

C. Merge sort

D. Selection sort

17) ........ sorting algorithm is frequently used when n is small where n is total number of elements.

A. Heap

B. Insertion

C. Bubble

D. Quick

18) Which of the following sorting algorithm is of priority queue sorting type?

A. Bubble sort

B. Insertion sort

C. Merge sort

D. Selection sort

19) Which of the following is not the required condition for binary search algorithm?

A. The list must be sorted

B. There should be the direct access to the middle element in any sub list

C. There must be mechanism to delete and/or insert elements in list.

D. Number values should only be present

20) Partition and exchange sort is ........

A. quick sort

B. tree sort

C. heap sort

D. bubble sort

**Answers:**

1) D. Item is the last element in the array or item is not there at all

2) C. Selection

3) B. running time

4) D. binary search algorithm is not efficient when the data elements more than 1500.

5) A. when item is somewhere in the middle of the array

6) D. pointer array

7) A. O(n)

8) C. Both of the above

9) C. O(n2)

10) B. i-True, ii-False

11) D. O(n logn)

12) A. Insertion

13) C. O(n+logn)

14) B. Exchange

15) A. Radix sort

16) C. Merge sort

17) B. Insertion

18) D. Selection sort

19) C. There must be mechanism to delete and/or insert elements in list.

20) A. quick sort