

NADAR SARASWATHI COLLEGE OF ENGINEERING AND TECHNOLOGY, THENI.

Course/Branch : B.E/ECE	Year / Semester :II/III	Format No.	NAC/TLP-07a.13
Subject Code :EC8393	Subject Name :Fundamentals of Data Structures in C	Rev. No.	02
Unit No :3	Unit Name :Linear Data Structures	Date	30.09.2020

OBJECTIVE TYPE QUESTION BANK

S. No.	Objective Questions (MCQ /True or False / Fill up with Choices)	BTL
1.	Process of inserting an element in stack is called _____ a) Create b) Push c) Evaluation d) Pop	L2
2.	In a stack, if a user tries to remove an element from empty stack it is called _____ a) Underflow b) Empty collection c) Overflow d) Garbage Collection	L4
3.	Pushing an element into stack already having five elements and stack size of 5, then stack becomes a) Overflow b) Crash c) Underflow d) User flow	L5
4.	Which of the following is not the application of stack? a) A parentheses balancing program b) Tracking of local variables at run time c) Compiler Syntax Analyzer d) Data Transfer between two asynchronous process	L1
5.	Here is an infix expression: $4 + 3*(6*3-12)$. Suppose that we are using the usual stack algorithm to convert the expression from infix to postfix notation. The maximum number of symbols that will appear on the stack AT ONE TIME during the conversion of this expression? a) 1 b) 2 c) 3 d) 4	L3
6.	The postfix form of the expression $(A+ B)*(C*D- E)*F / G$ is? a) $AB+ CD*E - FG /**$ b) $AB + CD* E - F **G /$ c) $AB + CD* E - *F *G /$ d) $AB + CDE * - * F *G /$	L2
7.	What data structure would you mostly likely see in a non recursive implementation of a recursive algorithm? a) Linked List b) Stack c) Queue d) Tree	L1
8.	Which of the following statement(s) about stack data structure is/are NOT correct? a) Linked List are used for implementing Stacks b) Top of the Stack always contain the new node c) Stack is the FIFO data structure d) Null link is present in the last node at the bottom of the stack	L2
9.	What does the following function check for? (all necessary headers to be included and function is called	L1

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		<p>from main)</p> <pre style="background-color: #f0f0f0; padding: 10px;"> #define MAX 10 typedef struct stack { int top; int item[MAX]; }stack; int function(stack *s) { if(s->top == -1) return 1; else return 0; } </pre> <p>a) full stack b) invalid index c) empty stack d) infinite stack</p>	
10.		<p>Consider these functions: push() : push an element into the stack pop() : pop the top-of-the-stack element top() : returns the item stored in top-of-the-stack-node What will be the output after performing these sequence of operations</p> <pre style="background-color: #f0f0f0; padding: 10px;"> push(20); push(4); top(); pop(); pop(); pop(); push(5); top(); </pre> <p>a) 20 b) 4 c) stack underflow d) 5</p>	L3
11.		<p>Which of the following properties is associated with a queue?</p> <p>a) First In Last Out b) First In First Out c) Last In First Out d) Last In Last Out</p>	L4
12.		<p>In a circular queue, how do you increment the rear end of the queue?</p> <p>a) rear++ b) (rear+1) % CAPACITY c) (rear % CAPACITY)+1 d) rear-</p>	L5

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13.	What is the need for a circular queue? a) effective usage of memory b) easier computations c) to delete elements based on priority d) implement LIFO principle in queues	L3
14.	In linked list implementation of queue, if only front pointer is maintained, which of the following operation take worst case linear time? a) Insertion b) Deletion c) To empty a queue d) Both Insertion and To empty a queue	L4
15.	In linked list implementation of a queue, where does a new element be inserted? a) At the head of link list b) At the centre position in the link list c) At the tail of the link list d) At any position in the linked list	L2
16.	In linked list implementation of a queue, front and rear pointers are tracked. Which of these pointers will change during an insertion into EMPTY queue? a) Only front pointer b) Only rear pointer c) Both front and rear pointer d) No pointer will be changed	L1
17.	If the elements "A", "B", "C" and "D" are placed in a queue and are deleted one at a time, in what order will they be removed? a) ABCD b) DCBA c) DCAB d) ABDC	L1
18.	Queues serve major role in _____ a) Simulation of recursion b) Simulation of arbitrary linked list c) Simulation of limited resource allocation d) Simulation of heap sort	L2
19.	A normal queue, if implemented using an array of size MAX_SIZE, gets full when a) Rear = MAX_SIZE - 1 b) Front = (rear + 1)mod MAX_SIZE c) Front = rear + 1 d) Rear = front	L2
20.	What is a dequeue? a) A queue with insert/delete defined for both front and rear ends of the queue b) A queue implemented with a doubly linked list c) A queue implemented with both singly and doubly linked lists d) A queue with insert/delete defined for front side of the queue	L3
21.	Which of the following data structures can be used for parentheses matching? a) n-ary tree b) queue c) priority queue d) stack	L3

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22.	Minimum number of queues to implement stack is _____ a) 3 b) 4 c) 1 d) 2	L2
23.	What is the other name for a postfix expression? a) Normal polish Notation b) Reverse polish Notation c) Warsaw notation d) Infix notation	L4
24.	What is the result of the following postfix expression? ab*cd*+ where a=2,b=2,c=3,d=4. a) 16 b) 12 c) 14 d) 10	L5
25.	Which of these best describes an array? a) A data structure that shows a hierarchical behaviour b) Container of objects of similar types c) Arrays are immutable once initialised d) Array is not a data structure	L1
26.	How do you initialize an array in C? a) int arr[3] = (1,2,3); b) int arr(3) = {1,2,3}; c) int arr[3] = {1,2,3}; d) int arr(3) = (1,2,3);	L1
27.	What are the advantages of arrays? a) Objects of mixed data types can be stored b) Elements in an array cannot be sorted c) Index of first element of an array is 1 d) Easier to store elements of same data type	L1
28.	Assuming int is of 4bytes, what is the size of int arr[15];? a) 15 b) 19 c) 11 d) 60	L3
29.	Which of the following is a correct way to declare a multidimensional array in Java? a) int[] arr; b) int arr[[]]; c) int[][]arr; d) int[[]] arr;	L1
30.	In general, the index of the first element in an array is _____ a) 0 b) -1 c) 2 d) 1	L2