Started on	Tuesday, 12 March 2024, 10:07 AM
State	Finished
Completed on	Tuesday, 12 March 2024, 10:14 AM
Time taken	6 mins 58 secs
Grade	**30.00** out of 30.00 (**100**%)

Question **1**

Correct

Mark 1.00 out of 1.00

How many queues are needed to implement stack?

- a. 3
- b. 0
- c. 1
- d. 2 ✔
- e. 4

Your answer is correct.

The correct answer is:
2

Question **2**

Correct

Mark 1.00 out of 1.00

What is the overflow condition of circular Queue?

- a. Front = 0 and Rear = Max-1 ✔
- b. Front = -1 and Rear = Max+1
- c. Front = 1 and Rear = Max-1
- d. None of these
- e. Front = 0 and Rear = Max

Your answer is correct.

The correct answer is:
Front = 0 and Rear = Max-1

Question **3**

Correct

Mark 1.00 out of 1.00

In a circular queue implementation using array of size 5, the array index starts with 0 where front and rear values are 3 and 4 respectively. What is the array index at which the insertion of the next element take place?

- a. 5
- b. 1
- c. 0 ✔
- d. 2
- e. 3

Your answer is correct.

The correct answer is:
0

Question **4**

Correct

Mark 1.00 out of 1.00

The stack and Queue operations follows the principle of _____ and _____ respectively.

- a. None of these
- b. FIFO and LIFO
- c. LIFO and LIFO
- d. FIFO and FIFO
- e. LIFO and FIFO ✔

Your answer is correct.

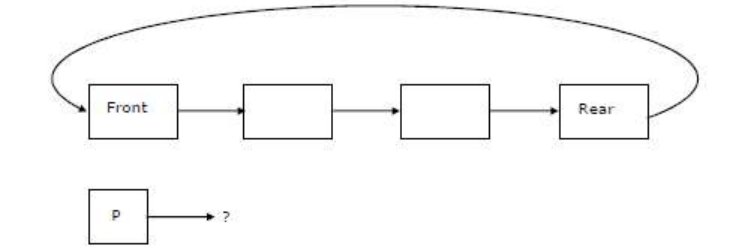
The correct answer is:
LIFO and FIFO

Question **5**

Correct

Mark 1.00 out of 1.00

A circular linked list is used to represent a Queue. A single variable "p" is used to access the queue. To which node should the "p" point such that both the operations enQueue and deQueue are performed in constant time?



- a. None of these
- b. Rear node ✔
- c. Node Next to Front
- d. Not possible with single pointer
- e. Front Node

Your answer is correct.

The correct answer is:
Rear node

Question **6**

Correct

Mark 1.00 out of 1.00

Which of the following statement is true?

- a. We can convert a stack to a queue
- b. We can convert a queue to a stack
- c. Both of the above ✔
- d. None of the above

Your answer is correct.

The correct answer is:
Both of the above

Question **7**

Correct

Mark 1.00 out of 1.00

What is the time complexity to insert an element into the queue?

- a. *O(nlgn)*
- b. *O*🥊
- c. *O(1)* ✔
- d. *O(√n)*

Your answer is correct.

The correct answer is:
O(1)

Question **8**

Correct

Mark 2.00 out of 2.00

A Max-heap initially has 5 elements. The level-order traversal of the heap is: 10, 8, 5, 3, 2. Two new elements 1 and 7 are inserted into the heap in that order. The level-order traversal of the heap after the insertion of the elements is:

Select one:

- 1. 10, 8, 7, 5, 3, 2, 1
- 2. 10, 8, 7, 1, 2, 3, 5

3. 10, 8, 7, 3, 2, 1, 5 ✔ Correct

4. 10, 8, 7, 2, 3, 1, 5

Correct

The correct answer is: 10, 8, 7, 3, 2, 1, 5

Question **9**

Correct

Mark 1.00 out of 1.00

Consider a binary max-heap tree implemented using an array. Which one of the following array represents a binary max-heap tree?

Select one:

1. 34,12,16,13,10,9,14

2. 34,14,16,13,10,9,12 ✔ Correct

3. 34,14,12,13,10,8,16

4. 34,12,16,13,10,9,14

Correct

The correct answer is: 34,14,16,13,10,9,12

Question **10**

Correct

Mark 1.00 out of 1.00

Consider a simple Queue with a size of 20. If 20 elements are inserted and then 5 elements are deleted. Now can I insert 5 new elements in queue?

Select one:

1. Yes

2. No ✔ Correct

Correct

The correct answer is: No

Question **11**

Correct

Mark 1.00 out of 1.00

Heap is always a

Select one:

- 1. Binary search tree
- 2. Full binary tree
- 3. Complete binary tree ✔ Correct
- 4. None of these

Correct

The correct answer is: Complete binary tree

Question **12**

Correct

Mark 1.00 out of 1.00

How are the elements with the same priority get processed according to the Priority Queue mechanism?

Select one:

- 1. After the processing of other elements with highest priority
- 2. Before the processing of other elements with lower priority
- 3. None of the these
- 4. On the basis of 'First-Come-First Served' ✔ Correct

Correct

The correct answer is: On the basis of 'First-Come-First Served'

Question **13**

Correct

Mark 1.00 out of 1.00

How many stacks are needed to implement a queue? Consider the situation where no other data structure like arrays, linked list is available to you.

Select one:

- 1. 1
- 2. 2 ✔ Correct
- 3. 3
- 4. 4

Correct

The correct answer is: 2

Question **14**

Correct

Mark 2.00 out of 2.00

If 1 is insert and 0 is delete operation in circular queue of SIZE 5, identify in which of the following sequence of operations either overflow or underflow occurs.
i. 1101111100000
ii. 1010101010111
iii. 101011110000
iv. 1110001100100

Select one:

- 1. i, iv ✔ Correct
- 2. i, iii
- 3. iii, iv
- 4. ii , iv

Correct

The correct answer is: i, iv

Question **15**

Correct

Mark 1.00 out of 1.00

In a circular queue implementation, few element are already inserted and deleted. Now I am inserting the new element, so the appropriate updation in rear variable should be done. Which among the following is a correct way to do it ? ['size' is the total size of queue]

Select one:

- 1. rear = (rear+1)%size ✔ Correct
- 2. rear = rear%size
- 3. rear = rear%(size+1)
- 4. rear = front+1%size

Correct

The correct answer is: rear = (rear+1)%size

Question **16**

Correct

Mark 1.00 out of 1.00

In a double ended queue, while trying to insert the elements from the front. What set of condition should be taken? Assume starting index as 0 and 'size' is the total size of queue.

Select one:

- 1. if (front = 0) then (front = size-1) else (front = front-1) ✔ Correct
- 2. if (front = 0) then (front = front+1) else (rear = front-1)
- 3. if (front = n) then (front = size-1) else (front = front-1)
- 4. if (front = n) then (front = rear+1) else (front = front-1)

Correct

The correct answer is: if (front = 0) then (front = size-1) else (front = front-1)

Question **17**

Correct

Mark 1.00 out of 1.00

In a Priority Queue, the following is the order of current elements in order [Data:Priority] - [A:1],[B:1],[C:1],[D:2],[E:2],[F:3]. I insert one more element in the queue, X with a priority 1. Now I want to entirely empty the queue. Which among the following is the order of data removal?

Select one:

- 1. A B C D E X F

2. X A B C D E F

3. A B C X D E F ✔ Correct

4. A B C D E F X

Correct

The correct answer is: A B C X D E F

Question **18**

Correct

Mark 1.00 out of 1.00

In simple queue implementation, initially queue is full and then all elements are deleted. What would be the value of Front and Rear after last deletion operation ? Assume starting index as '0'. [Size is the total size of queue]

Select one:

1. Front = Rear

2. Front = Rear = -1 ✔ Correct

3. Front = -1, Rear = Size

4. Front = Size, Rear = -1

Correct

The correct answer is: Front = Rear = -1

Question **19**

Correct

Mark 1.00 out of 1.00

Insert the following nodes in an empty Binary Max-heap tree in the given order 3, 2, 1, 4, 5, 8, 7 How many swaps are required?

Select one:

1. 8

2. 7 ✔ Correct

3. 4

4. 3

Correct

The correct answer is: 7

Question **20**

Correct

Mark 1.00 out of 1.00

Items V, W, X, Y and Z are added to an empty circular queue in this order. Then three elements are removed from the queue and pushed to an empty stack. Then two elements are popped from the stack and added to the queue. Finally one element is removed from the queue. The removed element is _____ .

Select one:

- 1. X
- 2. Z
- 3. Y ✔ Correct
- 4. W

Correct

The correct answer is: Y

Question **21**

Correct

Mark 1.00 out of 1.00

Suggest an appropriate data structure for the following cases-"When a key of keyboard is pressed, the character is printed on the monitor screen".

Select one:

- 1. Queue ✔ Correct
- 2. Stack
- 3. Priority queue
- 4. Linked list

Correct

The correct answer is: Queue

Question **22**

Correct

Mark 2.00 out of 2.00

Suppose each of push and pop operations on stack takes 1 unit of time and insert and delete operations on queue take 2 units of time each. Assuming n elements are in a stack, find the minimum time to reverse the elements in a stack using queue.

Select one:

- 1. 8n units
- 2. 4n units
- 3. 6n units ✔ Correct
- 4. 9n units

Correct

The correct answer is: 6n units

Question **23**

Correct

Mark 1.00 out of 1.00

Suppose we have a circular queue DATA with 17 items in the queue stored at DATA[3] through DATA[19]. The capacity of queue is 20. Where does the insert method place the new entry in the queue? Assume array indexing starts from 0(zero).

Select one:

- 1. DATA[16]
- 2. DATA[1]
- 3. DATA[0] ✔
- 4. DATA[15]

The correct answer is: DATA[0]

Question **24**

Correct

Mark 1.00 out of 1.00

The initial configuration of circular queue is as follows: X _ _ Y Z what is the status of queue content after the following sequence of steps are performed on the circular queue: enqueue P, dequeue, enqueue Q, dequeue, enqueue R, dequeue

Select one:

- 1. PQR_ _
- 2. _PQR_ ✔
- 3. P_RQZ

4. _PQ_R

The correct answer is: _PQR_

Question **25**

Correct

Mark 1.00 out of 1.00

What will be the position of 15, when a max heap is constructed on the input elements 15, 80, 55, 17, 22, 25, 23, 75, 40, 35?

Select one:

1. 15 will be at last level ✔ Correct
2. 15 can be anywhere in heap
3. 15 will be at second level
4. 15 will be at root

Correct

The correct answer is: 15 will be at last level

Question **26**

Correct

Mark 1.00 out of 1.00

Which of the following data structure may give overflow error, even though the current number of elements in it is less than its size?

Select one:

1. array
2. stack
3. simple queue ✔ Correct
4. circular queue

Correct

The correct answer is: simple queue

Question **27**

Correct

Mark 1.00 out of 1.00

Which operation is not supported in O(1) time by a double-ended queue (deque)?

Select one:

- 1. Deletion of the front or rear item
- 2. Insertion at the front or rear
- 3. Access and deletion of the minimum item ✔ Correct
- 4. Access the front or rear item

Correct

The correct answer is: Access and deletion of the minimum item

◄ Stack (New)

Jump to...

Trees (New) ►