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# Data Structure Questions and Answers – Queue Operations

« Prev                                                                                          Next »

This set of Data Structure Multiple Choice Questions & Answers (MCQs) focuses on "Queue Operations".

1. A linear list of elements in which deletion can be done from one end (front) and insertion can take place only at the other end (rear) is known as a ?
a) Queue
b) Stack
c) Tree
d) Linked list

  View Answer

  Answer: a
  Explanation: Linear list of elements in which deletion is done at front side and insertion at rear side is called Queue. In stack we will delete the last entered element first.

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2. The data structure required for Breadth First Traversal on a graph is?
a) Stack
b) Array
c) Queue
d) Tree

  View Answer

  Answer: c
  Explanation: In Breadth First Search Traversal, BFS, starting vertex is first taken and adjacent vertices which are unvisited are also taken. Again, the first vertex which was added as an unvisited adjacent vertex list will be considered to add further unvisited vertices of the graph. To get first unvisited vertex we need to follows First In First Out principle. Queue uses FIFO principle.

3. A queue follows _____
a) FIFO (First In First Out) principle
b) LIFO (Last In First Out) principle
c) Ordered array

d) Linear tree

View Answer

Answer: a

Explanation: Element first added in queue will be deleted first which is FIFO principle.

4. Circular Queue is also known as _____

a) Ring Buffer
b) Square Buffer
c) Rectangle Buffer
d) Curve Buffer

View Answer

Answer: a

Explanation: Circular Queue is also called as Ring Buffer. Circular Queue is a linear data structure in which last position is connected back to the first position to make a circle. It forms a ring structure.

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5. 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

View Answer

Answer: a

Explanation: Queue follows FIFO approach. i.e. First in First Out Approach. So, the order of removal elements are ABCD.

6. A data structure in which elements can be inserted or deleted at/from both the ends but not in the middle is?

a) Queue
b) Circular queue
c) Dequeue
d) Priority queue

View Answer

Answer: c

Explanation: In dequeuer, we can insert or delete elements from both the ends. In queue, will follow first in first out principle for insertion and deletion of elements. Element with le priority will be deleted in a priority queue.

7. 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

View Answer

Answer: a
Explanation: When Rear = MAX_SIZE – 1, there will be no space left for the elements to be added in queue. Thus queue becomes full.

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8. 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

View Answer

Answer: c
Explanation: Simulation of recursion uses stack data structure. Simulation of arbitrary linked lists uses linked lists. Simulation of resource allocation uses queue as first entered data needs to be given first priority during resource allocation. Simulation of heap sort uses heap data structure.

9. Which of the following is not the type of queue?
a) Ordinary queue
b) Single ended queue
c) Circular queue
d) Priority queue

View Answer

Answer: b
Explanation: Queue always has two ends. So, single ended queue is not the type of queue.

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