About Queue(Using Linked List)

Queue is an abstract data structure, somewhat similar to Stacks. Unlike stacks, a queue is open at both its ends. One end is always used to insert data (enqueue) and the other is used to remove data (dequeue). Queue follows First-In-First-Out methodology, i.e., the data item stored first will be accessed first.

A queue can be defined as an ordered list which enables insert operations to be performed at one end called **REAR** and delete operations to be performed at another end called **FRONT**.

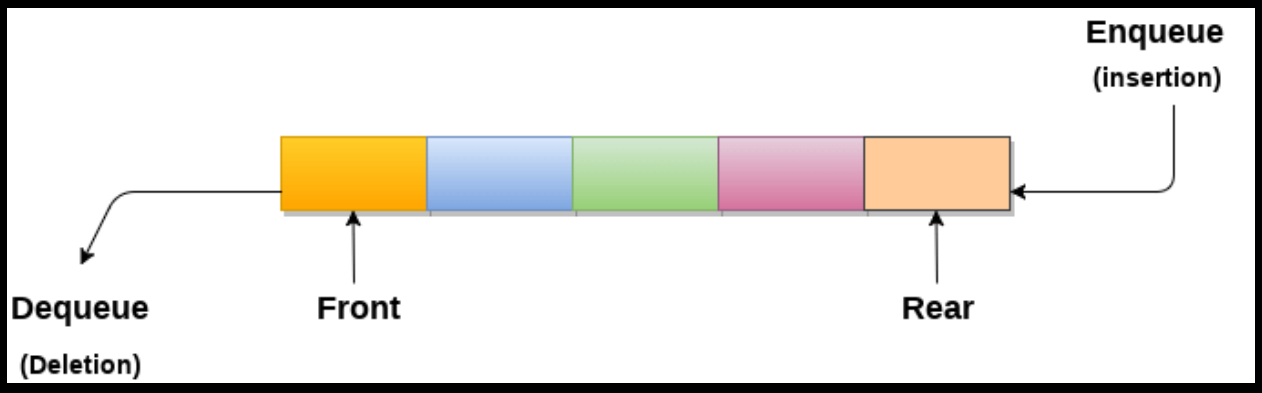
Queue is referred to as First In First Out list.

Insertion is known as **enqueue**

Deletion is known as **dequeue**

Benefit of using Linked List over array for implementing Queue

Unlimited Size
dequeue() operation is constant O(1)



enque()

To add element in the queue from the rear
Big O: O(1) constant

dequeue()

To remove an element from the queue from the front.
Big O: O(1) constant

peek()

To read in front of the queue.
Big O: O(1) constant

isFull()

To read in front of the queue.
Big O: O(1) constant

isEmpty()

To read in front of the queue.
Big O: O(1) constant

References

Geeksforgeeks
Programiz