

Queues (Time Complexity)

best, average and worst case time complexity of the various queue functions (Reading time: under 1 minute)

| Type | T I M E | | S P A C E |
|-----------------------|---------|--------|-----------|
| | Average | Worst | Worst |
| Get, Search, Deletion | $O(n)$ | $O(n)$ | $O(n)$ |
| Insertion | $O(1)$ | $O(1)$ | |

Get and Search:

To get or search for a certain value, we'd have to walk over all the items in the queue. The time needed is directly proportional to the number of items in the queue.

Insertion:

When we insert new data into the queue, we push it to the end of the queue.

Deletion:

Due to the internals of the JavaScript shift method, which walks over the entire array and returns the last item, the time complexity for deletion is linear.

Worst space:

The more items, the bigger the queue array.

In the next lesson, I will discuss linked lists.