

# Design and Analysis of Algorithms

## Graphs 3.2.8

Daniel Shannon

April 20th, 2022

Once created, how long does it take to check if an edge exists?

I think it would take  $O(N)$  time because first you have to find the node -  $O(1)$  - then you have to traverse the sibling nodes from that node -  $O(N)$ .

Once created, how long does it take to add an edge.

I takes  $O(1)$  time to add an edge since we just need to add a node the end of the linked list.  $O(1)$