**Data Structures and Algorithms**

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# Data Structures

## Stacks

## Queues and Priority Queues

## Linked Lists

Linked List implements an ordered collection of values.

Singly Linked List contains a sequence of nodes such that each node contains an object and a reference to the next node in the list. First node is head. Last node is tail.

Doubly Linked List has a link to its predecessor, or previous node.

Linked list is like an array, in which it contains objects in a linear order.

Inserting and Deleting Elements: O(1)

Obtaining the kth element in the list is expensive, having O(n) complexity.

Each node has two entries, a data field and a next field.

## Binary Trees

## Hash Maps and Hash Tables

## Graphs

# Algorithms

## Greedy Algorithms

### TSP

### Kruskal

### Dijkstra

## Sorting Algorithms

### Bubble Sort

### Insertion Sort

### Merge Sort

### Quick Sort

## Linked Lists