ILLINOIS

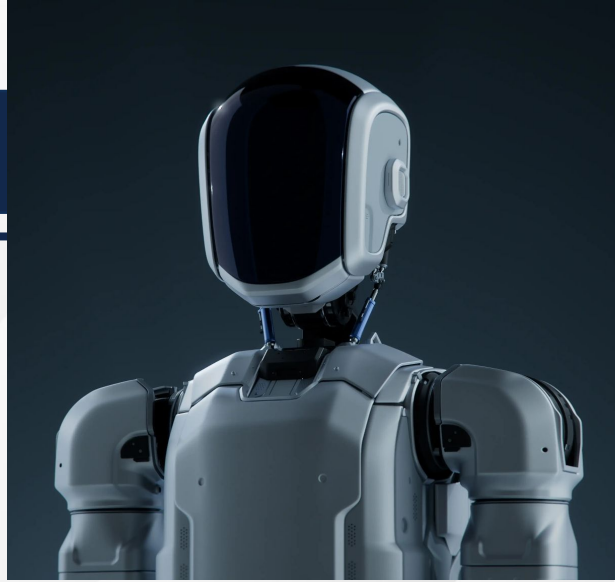
Priority Queue

Learning Objectives

1. Understand how a priority queue from a user perspective
2. Consider how to implement a priority queue previous data structures

Priority Queue

Chores	Priority
Take out trash	3
Feed the cat	10
Water the plants	6
Get the mail	2
Fold laundry	8



Priority Queue ADT

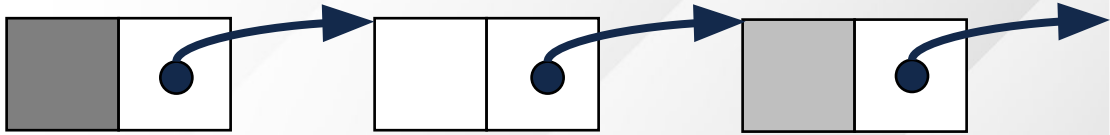
Insert(task, priority)

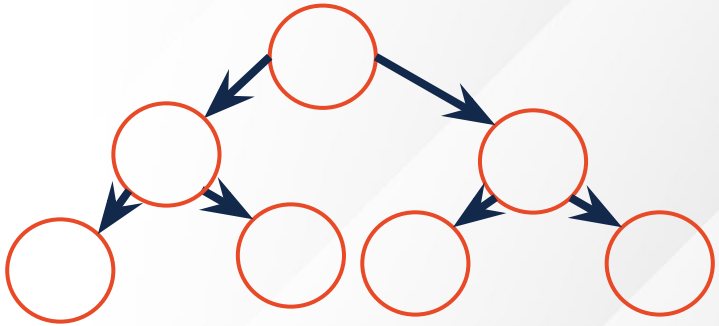
Remove()

Size()/isEmpty()

Implementations

Data Structure	insert	remove min
Unsorted Array		
Unsorted List		
Sorted Array		
Sorted List		
AVL Tree		





Implementations

Data Structure	insert	remove min
Unsorted Array	O(1)	O(n)
Unsorted List	O(1)	O(n)
Sorted Array	O(n)	O(1)
Sorted List	O(n)	O(1)
AVL Tree	O(log n)	O(log n)