

# Data Structures & Algorithms

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## Lecture 7

# STL in C++ (Linear Data Structures)



# Course Roadmap

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## Part 1: Linear Data Structures

Lecture 1: Complexity Analysis & Recursion

Lecture 2: Arrays

Lecture 3: Linked List

Lecture 4: Stack

Lecture 5: Queue

Lecture 6: Deque

**Lecture 7: STL in C++ (Linear Data Structures)**

# Lecture Agenda

We will discuss in this lecture  
the following topics

1- STL in C++ (Linear Data Structures)

2- Vector

3- List

4- Stack

5- Queue

6- Deque

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A top-down view of a white desk. On the left, a person's hands are typing on a white Apple keyboard. Above the keyboard is a white Apple mouse. To the right of the mouse is a bright yellow wristwatch with a black face. In the bottom right corner, the top of a white smartphone is visible. The text "Let's STARTUP" is centered on the desk. "Let's" is in a small, grey, sans-serif font. "STARTUP" is in a large, bold, sans-serif font. "START" is black with a white speckled texture, and "UP" is solid red with a white speckled texture.

Let's  
**STARTUP**

# Lecture Agenda

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## Section 1: STL in C++ (Linear Data Structures)

Section 2: Vector

Section 3: List

Section 4: Stack

Section 5: Queue

Section 6: Deque



# Lecture Agenda

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✓ Section 1: STL in C++ (Linear Data Structures)

**Section 2: Vector**

Section 3: List

Section 4: Stack

Section 5: Queue

Section 6: Deque



Practice





# HackerRank - Arrays & Linked Lists



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# Lecture Agenda

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✓ Section 1: STL in C++ (Linear Data Structures)

✓ Section 2: Vector

**Section 3: List**

Section 4: Stack

Section 5: Queue

Section 6: Deque



Practice





# HackerRank - Arrays & Linked Lists



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✓ Section 1: STL in C++ (Linear Data Structures)

✓ Section 2: Vector

✓ Section 3: List

**Section 4: Stack**

Section 5: Queue

Section 6: Deque



Practice





# HackerRank - Stacks & Queues

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Practice



# HackerRank - Stacks & Queues

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Practice



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- [25] <https://www.hackerearth.com/practice/data-structures/stacks/basics-of-stacks/practice-problems/algorithm/fight-for-laddus/>

# HackerEarth - Queues



- [01] <https://www.hackerearth.com/practice/data-structures/queues/basics-of-queues/practice-problems/algorithm/monk-and-power-of-time-3a648bf0/>
- [02] <https://www.hackerearth.com/practice/data-structures/queues/basics-of-queues/practice-problems/algorithm/monk-and-chamber-of-secrets/>
- [03] <https://www.hackerearth.com/practice/data-structures/queues/basics-of-queues/practice-problems/algorithm/disk-tower-b7cc7a50/>
- [04] <https://www.hackerearth.com/practice/data-structures/queues/basics-of-queues/practice-problems/algorithm/number-recovery-0b988eb2/>
- [05] <https://www.hackerearth.com/practice/data-structures/queues/basics-of-queues/practice-problems/algorithm/little-monk-and-goblet-of-fire/>
- [06] <https://www.hackerearth.com/practice/data-structures/queues/basics-of-queues/practice-problems/algorithm/weird-planet-2000a170/>



# Lecture Agenda

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- ✓ Section 1: STL in C++ (Linear Data Structures)
- ✓ Section 2: Vector
- ✓ Section 3: List
- ✓ Section 4: Stack
- ✓ Section 5: Queue
- ✓ Section 6: Deque





DO  
MORE.