

Stacks vs. Queues - Study Card

What is a Stack?

A stack is a LIFO (Last In, First Out) data structure. Use cases include undo operations, function calls, and parsing.

Operations:

- push(item)
- pop()
- peek()

Time Complexity: $O(1)$

What is a Queue?

A queue is a FIFO (First In, First Out) data structure. Use cases include task scheduling, printer queues, and streaming.

Operations:

- enqueue(item)
- dequeue()
- peek()

Time Complexity: $O(1)$

Comparison

Stack vs Queue:

- Stack: LIFO, top-only access, call stacks
- Queue: FIFO, front-only access, task queues