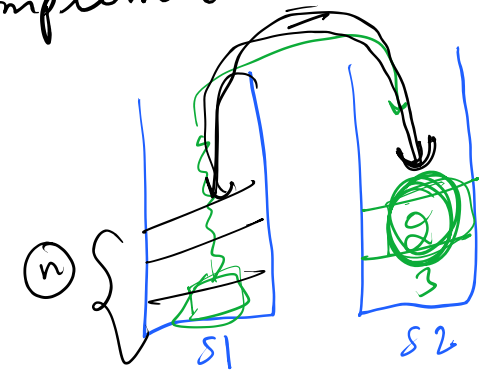
3.11 - Stacks + Queues

Sunday, 14 December 2025 10:47 AM

Implement Queue using 2 stacks → push → O(1)



FIFO

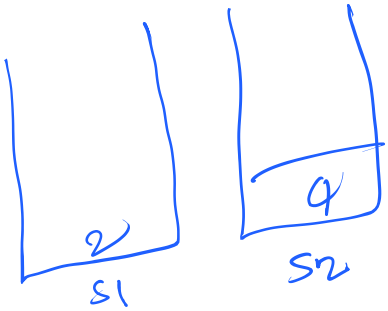
push → O(1)

pop → O(n)

push (2)
push (3)
pop()
push (4)
pop()

→ push(1) ✓
push(2) ✓
push(3) ✓
push(4) ✓

pop()
pop() ✓



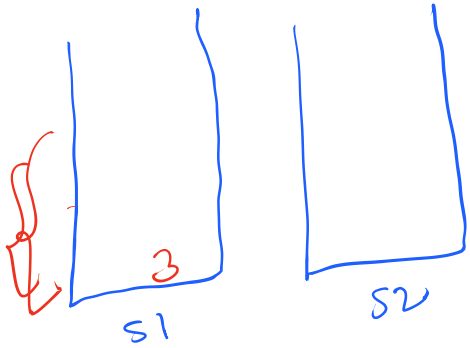
pop:
1, 2

push → S1

pop() → S2 → S2. pop → S1 ✓

1 2

Implement Queue using stack → pop → O(1)



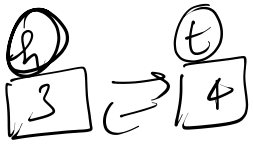
push: O(n)

S1
S2
push(S1)
S1

O(1)
pop()

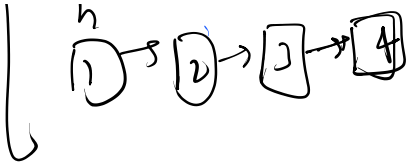
push(1)
push(2)
push(3)
pop()
pop()

Queue using Linked List



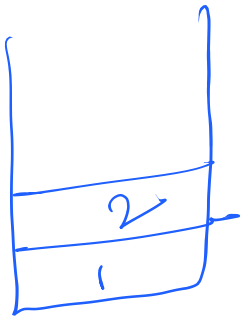
push(1)→

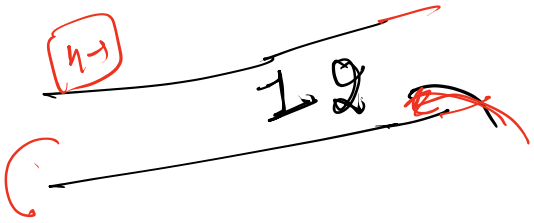
push (2)
push (3)
pop ()
push (4)
pop ()



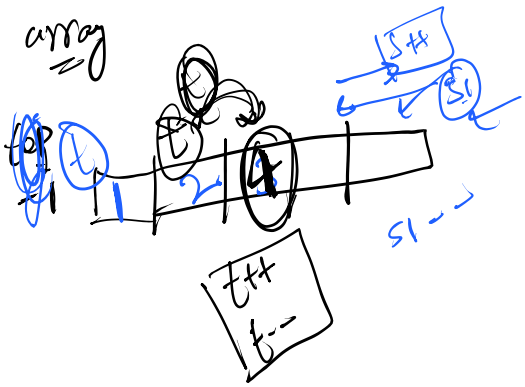
Implement Stack using Queue

O(1) { push (1), push (2), push (3), pop(), push (4), pop() }





Stack using array



push (1)
push (2)
push (3)
pop()
push (4)
pop ()