

Stacks and Queues

1. Steque. A stack-ended queue or steque is a data type that supports push, pop, and enqueue. Articulate an API for this ADT. Develop a linked-list-based implementation.

Input Format:

- The first line of the input contains the number of **T** test cases.
- For each test case:
 - Each line contains the operation (push, pop, enqueue).
 - Each test case is separated by an empty line.

Output Format:

- Display the state of the Steque when each operation is performed. Check for the sample test case.
- Display a blank between each test case.

Constraints:

- $1 \leq T \leq 5$. (Test Cases)

Sample Input:

```
1
push 1
push 2
push 3
push 4
enqueue 0
enqueue 1
pop
pop
pop
pop
pop
pop
pop
```

Sample Output:

```
1
2, 1
3, 2, 1
4, 3, 2, 1
4, 3, 2, 1, 0
4, 3, 2, 1, 0, 1
3, 2, 1, 0, 1
2, 1, 0, 1
```

1, 0, 1

0, 1

1

Steque is empty.

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