

Assignment 5

As a preventive measure against the Covid-19, Dhairya is staying in his house and has self-isolated himself. He was bored as he had nothing to do, so he thought of playing a card game. But he doesn't have playing-cards and is also not ready to go outside and risk himself. He does have a computer and hence wants you to simulate the game on the computer. He needs you to build some functions for him using a Deque.

Write the following functions in C/C++.

1. ***insertFront()***: Add a card at the front of deck(deque).
2. ***insertLast()***: Add a card at the rear of the deck.
3. ***deleteFront()***: Remove a card from the front of the deck.
4. ***deleteLast()***: Remove a card from the rear of deck.
5. ***getFront()***: Show(print) the first card from deck.
6. ***getRear()***: Show the last item from the deck.
7. ***isEmpty()***: Checks whether the deck is empty or not.
8. ***isFull()***: Checks whether the deck is full(with 52 cards).

Write two separate programs using the following data structures for the deque.

1. Use an array to implement the deque
2. Use a doubly Linked List for the deque

Input

The first line contains an integer **N**(the number of cards initially in the deck). We're using a special deck that has cards numbered from 1 - 52 without any suits.

The next line contains another integer **M**(the number of operations to perform).

Following **M** lines denote one of the operations:

1. addFront <card_number>
2. addRear <card_number>
3. DrawFront
4. DrawRear
5. PeekFront
6. PeekRear
7. IsEmpty
8. isFull

These functions denote the above eight operations in the same order.

Output

Print the number on the card that you deal or see in functions 3, 4, 5, and 6. Print "yes" or "no" for functions 7 and 8. For functions 1 and 2, you don't need to print anything.