**Case study 2:**

Implement a data structure called doubly linked list with the following node structure. Duplicate data is allowed.

|  |
| --- |
| **class Node<T> {**  **T data;** **Node<T> previous;** **Node<T> next;**  **}** |

Implement the following operations:

1. Add node first
2. Add node last
3. Add node at an index
4. Remove first node
5. Remove last node
6. Remove node at an index
7. Find a node in O (1)