

Program:

```
import java.util.Scanner;
class Node {
    int data;
    Node prev, next;
    Node(int d) { data = d; }
}

class SimpleDLL {
    Node head = null;

    void insertEnd(int data) {
        Node n = new Node(data);
        if (head == null) head = n;
        else {
            Node temp = head;
            while (temp.next != null) temp = temp.next;
            temp.next = n;
            n.prev = temp;
        }
    }

    void insertBegin(int data) {
        Node n = new Node(data);
        n.next = head;
        if (head != null) head.prev = n;
        head = n;
    }

    void insertAt3(int data) {
        Node n = new Node(data);
        Node temp = head;
        for (int i = 1; i < 2 && temp != null; i++) temp = temp.next;
        if (temp != null && temp.next != null) {
            n.next = temp.next;
            n.prev = temp;
            temp.next.prev = n;
            temp.next = n;
        }
    }

    void deleteFirst() {
        if (head != null) head = head.next;
    }
}
```

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        if (head != null) head.prev = null;
    }

    void deleteLast() {
        if (head == null || head.next == null) head = null;
        else {
            Node temp = head;
            while (temp.next != null) temp = temp.next;
            temp.prev.next = null;
        }
    }

    void deleteAt3() {
        Node temp = head;
        for (int i = 1; i < 3 && temp != null; i++) temp = temp.next;
        if (temp != null && temp.prev != null && temp.next != null) {
            temp.prev.next = temp.next;
            temp.next.prev = temp.prev;
        }
    }

    void display() {
        Node t = head;
        while (t != null) {
            System.out.print(t.data + " ");
            t = t.next;
        }
        System.out.println();
    }
}

public class Main{
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        SimpleDLL dll = new SimpleDLL();

        System.out.print("Enter number of nodes: ");
        int n = sc.nextInt();
        for (int i = 0; i < n; i++)
            dll.insertEnd(sc.nextInt());

        dll.insertBegin(100);
        dll.insertEnd(999);
    }
}

```

```
dll.deleteFirst();  
dll.deleteLast();  
dll.deleteAt3();  
dll.display();  
}  
}
```