class Node {

int data;

Node prev;

Node next;

public Node(int data) {

this.data = data;

this.prev = null;

this.next = null;

}

}

public class DoublyLinkedList {

private Node head;

public DoublyLinkedList() {

this.head = null;

}

public void insert(int data) {

Node newNode = new Node(data);

if (head == null) {

head = newNode;

} else {

Node current = head;

while (current.next != null) {

current = current.next;

}

current.next = newNode;

newNode.prev = current;

}

}

public void traverseForward() {

if (head == null) {

System.out.println("List is empty.");

return;

}

Node current = head;

while (current != null) {

System.out.print(current.data + " ");

current = current.next;

}

System.out.println();

}

public void traverseBackward() {

if (head == null) {

System.out.println("List is empty.");

return;

}

Node current = head;

while (current.next != null) {