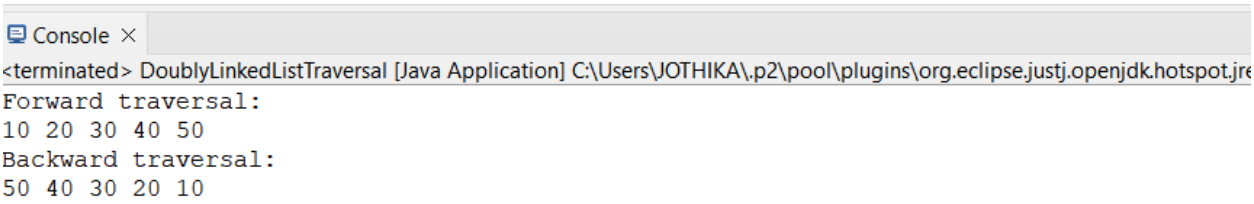
7.Write a program in Java to traverse a doubly linked list in the forward and backward directions

```
package javaFsd3;


	class Node {
	    int data;
	    Node previous;
	    Node next;

	    public Node(int data) {
	        this.data = data;
	    }
	}

	class DoublyLinkedList {
	    private Node head;

	    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.previous = current;
	        }
	    }

	    public void traverseForward() {
	        Node current = head;
	        while (current != null) {
	            System.out.print(current.data + " ");
	            current = current.next;
	        }
	        System.out.println();
```

```
    }

    public void traverseBackward() {
        Node current = head;
        while (current != null && current.next != null) {
            current = current.next;
        }
        while (current != null) {
            System.out.print(current.data + " ");
            current = current.previous;
        }
        System.out.println();
    }
}

public class DoublyLinkedListTraversal {
    public static void main(String[] args) {
        DoublyLinkedList list = new DoublyLinkedList();

        list.insert(10);
        list.insert(20);
        list.insert(30);
        list.insert(40);
        list.insert(50);

        System.out.println("Forward traversal:");
        list.traverseForward();

        System.out.println("Backward traversal:");
        list.traverseBackward();
    }
}
```

Output


Console
<terminated> DoublyLinkedListTraversal [Java Application] C:\Users\JOTHIKA\.p2\pool\plugins\org.eclipse.justj.openjdk.hotspot.jre
Forward traversal:
10 20 30 40 50
Backward traversal:
50 40 30 20 10