Assignment no. 1

Data Structures and Algorithms Lab

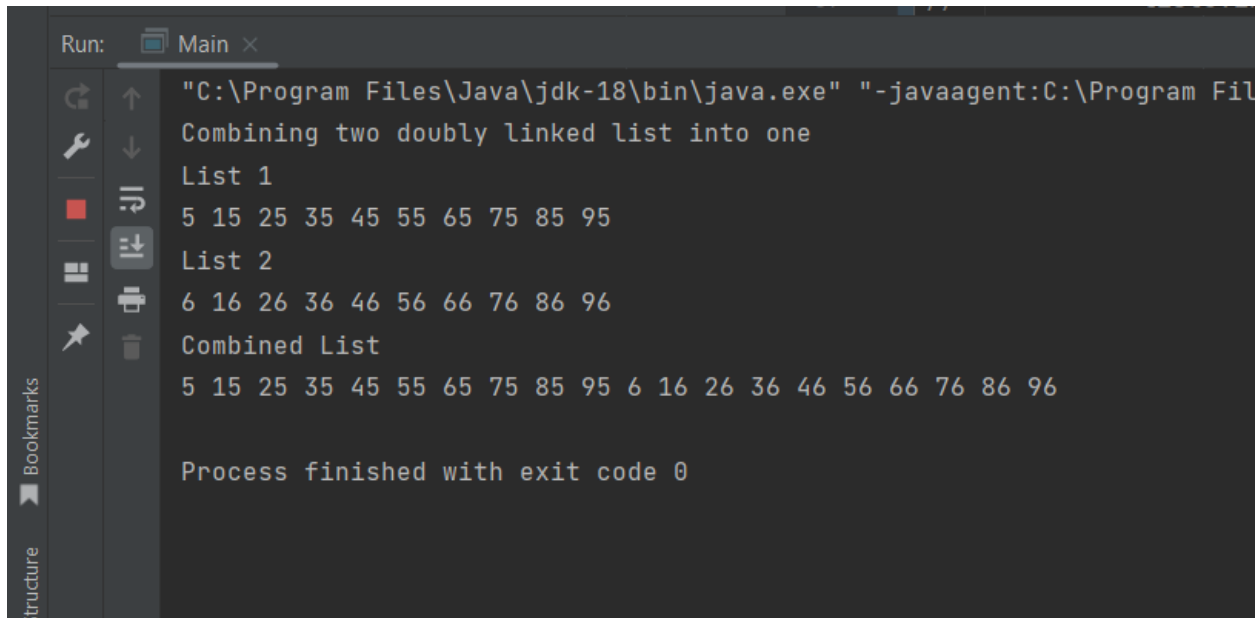**Name**: Saad Nisar Butt

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Class: BSCS 3C1

Implement method to join 2 doubly linked list.

Method Code:

```
public void combineTwoLists(DoublyLinkedList list1,
DoublyLinkedList list2) {
    list1.tail.next = list2.head;
    list2.head.prev = list1.tail;
    list1.tail = list2.tail;
}
```
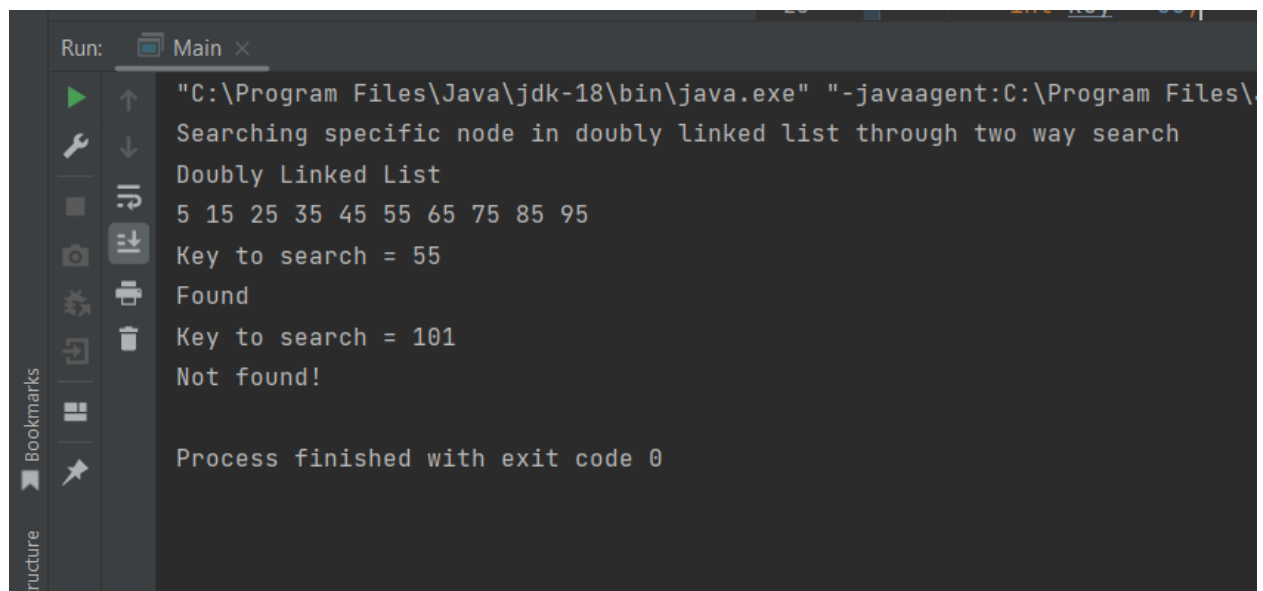
Output

Implement two way search on doubly linked list.

Method Code:

```java
public boolean twoWaySearch(int key) {
    if (key == head.data) {
        return true;
    } else if (key == tail.data) {
        return true;
    } else {
        DoublyNode currentHead = head.next;
        DoublyNode currentTail = tail.prev;
        while ((currentHead != currentTail) && (currentHead.prev
!= currentTail.next) && (currentHead.prev != currentTail))
        {
            if (key == currentHead.data || key ==
currentTail.data) {
                return true;
```

```
            }
            currentHead = currentHead.next;
            currentTail = currentTail.prev;
        }
        if (key == currentHead.data || key == currentTail.data)
{

            return true;
        }
    }
    return false;
}
```

Output