

Final Sample Question 2

Given the following ListStack class definition complete the following definition.

```
class StackUnderflowException extends Exception {} // Custom checked exception

class ListNode {
    public int value;
    public ListNode next;
}

public class ListStack {
    private ListNode head;
    private int size = 0; // Number of elements in the list stack

    public int pop() throws StackUnderflowException {
        //removes and returns the top integer from the list stack
        //if you try to remove an element and one does not exist, throw the
        StackUnderflowException
        //if there is only one element, and you pop it, set the head to null

        if(size == 0) {
            throw new StackUnderflowException();
        }
        else if(size == 1) {
            int v = head.value;
            head = null;
            size = 0;
            return v;
        }
        else {
            int v = head.value;
            head = head.next;
            size--;
            return v;
        }
    }
}
```