

```
import java.util.NoSuchElementException;
```

```
public class SimpleLinkedList<E> {
```

```
    private Node head; //mientras no se les asigne un valor estan en null
```

```
    private int size;
```

```
    public SimpleLinkedList() {
```

```
        size = 0;
```

```
    }
```

```
    /**
```

```
     * this class keeps track of each element information
```

```
     *
```

```
     */
```

```
    private class Node {
```

```
        E element;
```

```
        Node next; //estos nodos valen null
```

```
        public Node(E element) {
```

```
            this.element = element;
```

```
            this.next = null;
```

```
        }
```

```
    }
```

```
    /**
```

```
     * returns the size of the linked list
```

```
     */
```

```
    public int size() { return size; }
```

```
    /**
```

```
     * return whether the list is empty or not
```

```
     */
```

```
    public boolean isEmpty() { return size == 0; }
```

```
    /**
```

```
     * adds element at the end of the linked list
```

```
     */
```

```
    public void add(E element) {
```

```
        System.out.println("Añadiendo nodo *****");
```

```
        Node tmp = new Node(element);
```

```
        System.out.printf("TEMP: %s, %s\n", tmp.element, tmp);
```

```
        System.out.printf("HEAD ANTES: %s\n", head);
```

```
        if(head == null) {
```

```
            head=tmp;
```

```
        }else {
```

```
            Node n = head;
```

```
            while(n.next != null) {
```

```
                n=n.next;
```

```
            }
```

```
            n.next = tmp;
```

```
        }
```

```
        System.out.printf("HEAD DESPUES: %s\n", head);
```

```
        size++;  
        System.out.println("adding: " + element);  
    }
```

```
/**  
 * this method walks forward through the linked list  
 */
```

```
public void iterateForward(){
```

```
    System.out.println("iterating forward..");  
    Node tmp = head;  
    while(tmp != null){  
        System.out.println(tmp.element);  
        tmp = tmp.next;  
    }  
}
```

```
/**  
 * this method removes an element from the linked list  
 * @return  
 */
```

```
public Node remove(E element) {
```

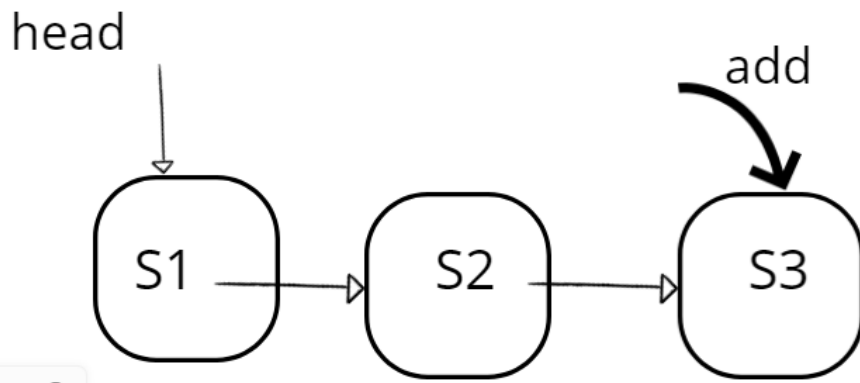
```
    if (size == 0) throw new NoSuchElementException();  
    Node tmp = head;  
    if(tmp.element == element) {  
        return head.next;  
    }  
    while(tmp.next != null) {  
        if(tmp.next.element == element) {  
            System.out.println("deleted: "+tmp.next.element);  
            tmp.next = tmp.next.next;  
        }  
        tmp = tmp.next;  
    }  
}
```

```
    size--;  
    return head;  
}
```

```
public static void main(String a[]){
```

```
    SimpleLinkedList<Integer> dll = new SimpleLinkedList<Integer>();  
    dll.add(10);  
    dll.add(34);  
    dll.add(56);  
    dll.iterateForward();  
    dll.remove(34);  
    dll.iterateForward();  
}
```

Las inserciones se realizan siempre al final de la lista



Las eliminaciones se realizan en cualquier parte de la lista

