

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

```
public class Queue<E> {
```

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

```
    private int size;
```

```
    public Queue() {
```

```
        size = 0;
```

```
    }
```

```
    /**
```

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

```
     * @author java2novice
```

```
     *
```

```
    */
```

```
    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
```

```
     * @return
```

```
    */
```

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

```
    /**
```

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

```
     * @return
```

```
    */
```

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

```
    /**
```

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

```
     * @param element
```

```
    */
```

```
    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 DESUES: %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 element from the start of the linked list
 * @return
 */

```

```

public E peek() {
    if (size == 0) throw new NoSuchElementException();
    return head.element;
}

```

```

public Node remove() {
    if (size == 0) throw new NoSuchElementException();
    size--;
    System.out.println("removing" + head.element);
    head = head.next;
    return head;
}

```

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

```
    Queue<Integer> dll = new Queue<Integer>();
```

```
    dll.add(10);
```

```
    dll.add(34);
```

```
    dll.add(56);
```

```
    dll.iterateForward();
```

```
    dll.remove();
```

```
    dll.add(78);
```

```
    dll.iterateForward();
```

```
}
```

```
}
```

