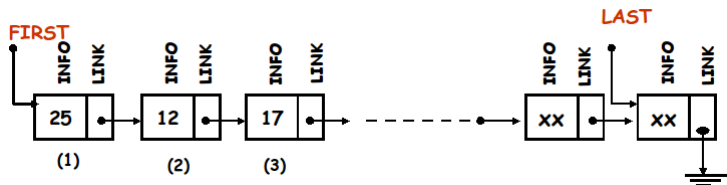


# Linked Lists



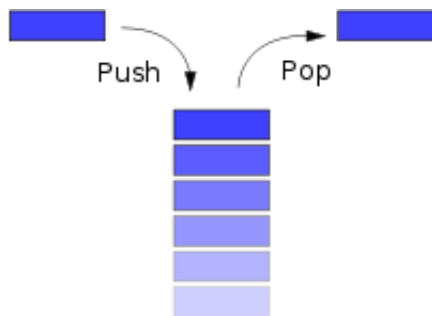
We could create a ListNode with some methods and keep track of the first element.

# Linked Lists: Implementation

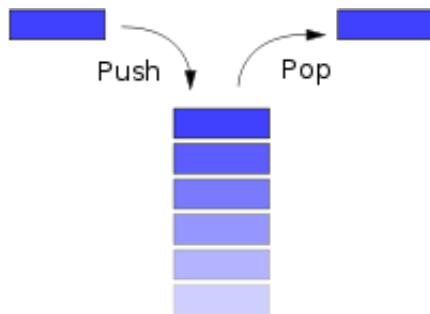
A Node class

A LinkedList class

# Stacks



# Stacks: Push, Pop



- ▶ Push: Puts one element at the top of the stack
- ▶ Pop: Removes the top element of the stack

We can have elements such as *isEmpty* and *peek*

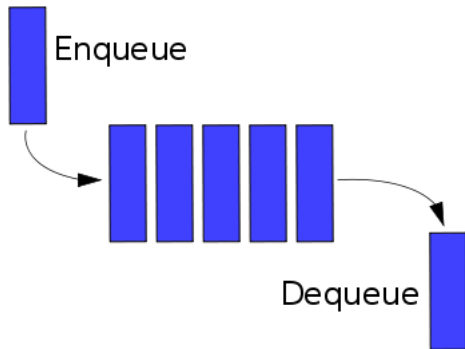
# Stacks:Implementation

## Based On a LinkedList of Strings

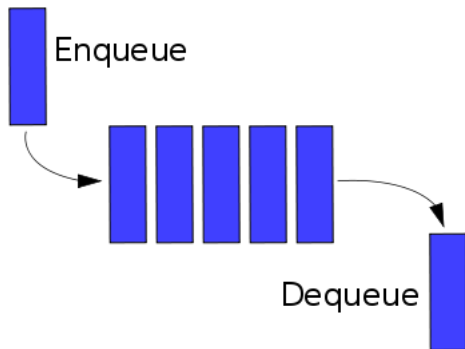
```
public class Stack extends LinkedList
{
    public void push(String element)
    {
        this.addAtFront(element);
    }

    public String pop()
    {
        return this.removeTopElement();
    }
}
```

# Queue



# Queue



Queues are used for requests and messages on

- ▶ SMS services
- ▶ Web Services

# Queue

- ▶ Enqueue adds an element at the top
- ▶ Dequeue removes an element from the bottom

Can you think how this may be done in Java?