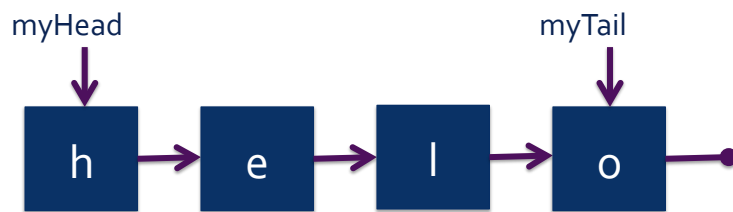## Announcements

- APT Set 3 – due tomorrow

- Exam review Monday
  - Come with questions

- Exam review 2
  - Tuesday, 7:30pm, Here!
  - Run by Jimmy
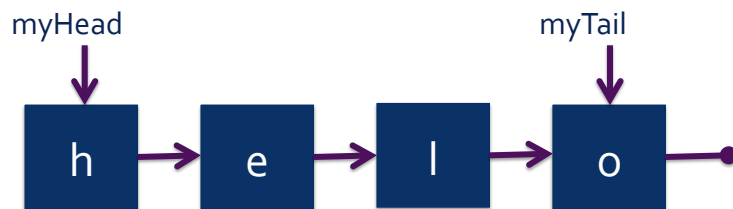
- Exam Wednesday

Today

- Write a Linked List from scratch

- Intro to next assignment

myHead   myTail

| h | → | e | → | l | → | o | → |

Linked List

- LinkedList
  - Nodes
    - data
    - pointer to the next node
  - Pointer to beginning and (sometimes) end

myHead   myTail

| h | → | e | → | l | → | o | → |

LinkedLists

- Code example
  - Inner class
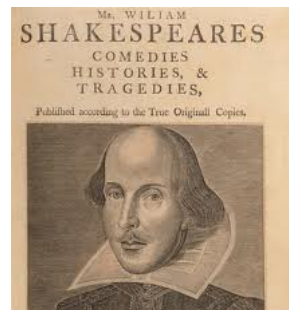
e

```
1  public class Node{
2       int myData;
3       Node myNext;
4
5       public Node(int data, Node next){
6          myData = data;
7          myNext = next;
8       }
9    }
```

Markov

- The infinite monkey theorem

Markov

- Training text
  - ex. Huckleberry Finn
- Build a map from text
  - 'e' is followed by 'a' 30% of the time
  - 'a' is followed by 't' 20% of the time
- Generate random text

9/24/13   7

Markov

- "bbbabbabbbbaba"

3-gram

bbb			

9/24/13   8

Markov

- "bbbabbabbbbaba"

3-gram

bbb	bba		

Markov

- "bbbabbabbbbaba"

3-gram

bbb	bba		
bba	bab		

Markov

- "bbb<u>abb</u>abbbbaba"

3-gram

bbb	bba		
bba	bab		
bab	abb		

Markov

- "bbb<u>abb</u>abbbbaba"

3-gram

bbb	bba		
bba	bab		
bab	abb		
abb	bba		

Markov

- "bbbabbabbbbaba"

3-gram

bbb	bba		
bba	bab	bab	
bab	abb		
abb	bba		

13

Markov

- "bbbabbabbbbaba"

3-gram

bbb	bba		
bba	bab	bab	
bab	abb	abb	
abb	bba		

14

Markov

- "bbbabba**bbb**baba"

3-gram

bbb	bba		
bba	bab	bab	
bab	abb	abb	
abb	bba	bbb	

Markov

- "bbbabbabb**bb**baba"

3-gram

bbb	bba	bbb	
bba	bab	bab	
bab	abb	abb	
abb	bba	bbb	

Markov

- "bbbabbabbbbaba"

3-gram

bbb	bba	bbb	bba
bba	bab	bab	
bab	abb	abb	
abb	bba	bbb	

Markov

- "bbbabbabbbbaba"

3-gram

bbb	bba	bbb	bba
bba	bab	bab	bab
bab	abb	abb	
abb	bba	bbb	

Markov

- "bbbabbabbbbaba"

3-gram

bbb	bba	bbb	bba
bba	bab	bab	bab
bab	abb	abb	aba
abb	bba	bbb	

Markov

- "bbbabbabbbbaba"

3-gram

bbb	bba	bbb	bba
bba	bab	bab	bab
bab	abb	abb	aba
abb	bba	bbb	
aba	bab		

Markov

- "bbbabbabbbbaba"

3-gram

bbb	bba	bbb	bba
bba	bab	bab	bab
bab	abb	abb	aba
abb	bba	bbb	
aba	bab		

- "bbb" followed by "bba" 66% and "bbb" 33%
- "bba" always followed by "bab"

Markov

- Training text
  - ex. Huckleberry Finn
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Today

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myHead   myTail

| h | → | e | → | l | → | o | →●