

# CIS 122

The Thrilling Conclusion

# Making Markov Dictionaries

- Start with a list of words
- Initialize empty dictionary
- For each word in word list:
  - If it doesn't have an entry, add it to the dictionary
  - Append following word to associated list
- Let's see it in action

# Making Markov Dictionaries

fuzzy wuzzy was a bear . fuzzy wuzzy had no hair . fuzzy  
wuzzy wasn't very fuzzy was he .

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fuzzy → [wuzzy]

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fuzzy → [wuzzy]

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fuzzy wuzzy was a bear . fuzzy wuzzy had no hair . fuzzy wuzzy wasn't very fuzzy was he .

fuzzy → [wuzzy]

wuzzy → [was]

was → [a]

a → [bear]

bear → [.]

. → [fuzzy]

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fuzzy wuzzy was a bear . fuzzy wuzzy had no hair . fuzzy wuzzy wasn't very fuzzy was he .

fuzzy → [wuzzy, wuzzy]

wuzzy → [was]

was → [a]

a → [bear]

bear → [.]

. → [fuzzy]

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fuzzy wuzzy was a bear . fuzzy wuzzy had no hair . fuzzy wuzzy wasn't very fuzzy was he .

fuzzy → [wuzzy, wuzzy]

wuzzy → [was, had]

was → [a]

a → [bear]

bear → [.]

. → [fuzzy]

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- Start with a list of words
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- Let's see it in action
- Now let's code it up!

# Chaining Words Together

- We have a Markov Dictionary
  - List of possible following words for any first word
- Let's write a function `constructSentence`(markovDictionary)
  - Takes a Markov Dictionary as input
  - Produces a string of words forming a sentence
- Where do we start?

# Chaining Words Together

- Find a word that could start a sentence
  - Look up words following '.' in our dictionary
  - Pick one
- Find a word that could follow that word
  - Look up words following current word in our dictionary
  - Pick one
- Repeat until we find another '.'
- How do we randomly select something from a list?
  - `random.choice(myList)`

# Put it all Together

- Almost there!
- Try writing a function `markov(filename, numSentences)`
  - Takes a filename and a number of sentences to produce
  - Generates that number of sentences
- Mostly calling functions we've already written