CompSci 101
Introduction to Computer Science

September 23, 2014

Prof. Rodger

Announcements

- No Reading for next time on calendar page
  - No Reading Quiz til after the exam
  - Must finish all RQ by Thursday!!
- Assignment 4 due Thursday
- APT 3 is due today
- Exam 1 is in one week – Sept 30
  - Do the Practice Test by class Thursday
  - Fill out form on course web page if you have accommodations and/or cannot take the exam
  - One week for Regrade request
- Finish lecture notes from last time

Assignment 4 steps

- Run the program
- Create the simple text file
- Modify transform method
  - Apply transformation to every word in list of lists
- Modify write_words – write to file
- Modify transformations (pig-latin, rot13, etc)

Passing Functions as Parameters

```
def upperWord(word):
  return word.upper()
def argWord(word):
  return word + “arg”
def transformWord(func, word):
  return func(word)

print transformWord(upperWord, “train”)
print transformWord(argWord, “truck”)
```

While loops

- Repetition when you stop a loop based on a condition
- while CONDITION:

  BODY
  - As long as condition is true, keep executing loop.
  - Must have an update in the body to get closer to condition being false
- Example: Repeat in chess until someone wins. When will that be?

Mystery While example

www.bit.ly/101fall14-0923-02

```
def mystery(strng):
    count = 0
    result = ""
    while count < 5:
        result += strng[count] + strng[count]
        count += 1
    result += strng[count:]
    return result

print mystery("September")
```

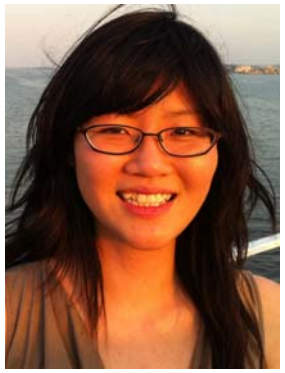
While loops

- Problem 1: Does a letter, say ‘o’, appear at least three times in a string?
- What if the string is very long? Can we stop early if we counted three ‘o’s?
- Problem 2: Can we return the words in the phrase up until the third “o”?

Example

www.bit.ly/101fall14-0923-01

```
def countOfLetterThreeTimes(title, letter):
    count = 0
    pos = 0
    while (count < 3 ):
        if title[pos] == letter:
            count += 1
        pos += 1
    return True
```



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- Ph.D Stanford, 2012, in Biomedical Informatics
- Stem Cell biology
- Cancer drug screening
- Director of Informatics at Cytobank

Problem Solving

- Assume vowels are: aeiou
- Write vowelsOnly(word)
  - Returns word with only the vowels
- Write allVowels(word)
  - - return true if word is all vowels