CMSC 143: Object-Oriented Programming with Robots

Lab 5: Word Games

Due October 6, 2016

This lab explores string processing and file input through two activities.

Mad Libs: Random Phrases

Using the two files `nouns.txt` and `adjectives.txt` on Moodle, write a function `randomPhrase()` that constructs and returns a random sentence when called. You should use the `choice` function from the `random` module. For example, in class we thought about using alliteration to create names for bands (e.g., left-wing lampshades). But you could also do something like the love letter generator, or some other mad-libs like fill-in-the-blank sentence. Explain your algorithm as a comment.

Spelling Bee

Create a function `spellingBee(centerLetter, otherLetters)` that solves NYT's *Spelling Bee* puzzles. For example, `spellingBee('n', 'ceiprx')` should solve the puzzle to the right. Your function should:

1. print out all of the solution words;
2. calculate and return the total score.

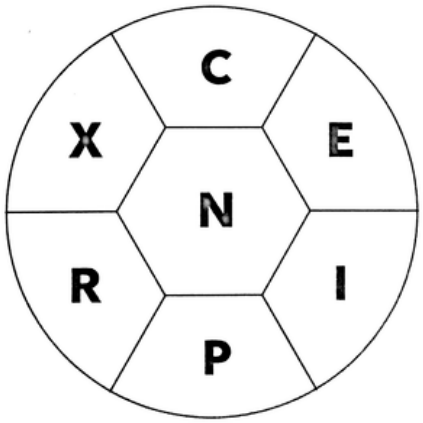
Puzzles

SPELLING BEE

By Frank Longo

How many common words of 5 or more letters can you spell using the letters in the hive? Every answer must use the center letter at least once. Letters may be reused in a word. At least one word will use all 7 letters. Proper names, hyphenated words, prefixes and suffixes are not allowed. Score 1 point for each answer, and 3 points for a word that uses all 7 letters.

Rating: 8 = good; 15 = excellent; 22 = genius



Our list of words, worth 28 points, appears with last week's answers.

Learning Objectives

- Process strings
- Open files for reading
- Automate the solution of word games

Lab Report

Submit an electronic copy of your lab using moodle and provide a hard copy in class. Your program should have your name, email, assignment description, the date, and collaboration statement at the top of the file as a comment. Your submission should be a zip file that expands to a folder with a single file:

```
cmsc143-lab5-LASTNAME-FIRSTNAME
      lab5.py
```