CPSC 230: Computer Science I
Fall 2018
List & Tuples Programming Practice

Overview

What better time to practice lists and tuples than with college's favorite month-long holiday upon us?

This assignment will require you to combine your knowledge to explore permutations. A permutation is the act of rearranging the elements in a set (e.g. characters in a string) to reflect a different order. For example, the word 'dog' has all the following permutations ['dog', 'dgo', 'odg', 'ogd', 'gdo', 'god'].

First, you will create a tuple of 20 Halloween themed words, each with 5 letters or more. This tuple is made up by you. Then, the program will pick one word randomly from this tuple and create all permutations in a list. You do not need to print these out, as a 5 letter word has 120 total permutations.

From there, a randomly selected permutation will be displayed to the user. The user will try to guess the original word based on this one permutation. You should tell the user whether they guessed correctly or not.

Luckily for us, Python has a module that will find all the permutations for you. To do this you will need to import '*from itertools import permutations*'. However, when you loop through something like permutations("dog") you get ('d', 'o', 'g'), ('d', 'g', 'o'), ('o', 'd', 'g'), etc. To get your permutations as string, you can use the nifty .join() method and store the results in a list.

Allow the user to play until he/she decides to quit. The user should get 3 guesses per round. If the user guesses correctly, he/she get a point. At the end of each round, the user total should be displayed. The user can type 'Quit' to stop playing.

Due Date:

If you work hard, you should be able to finish this assignment in class. However, if you do not finish, it is your responsibility to finish over the weekend. The submission deadline is 10-30-18 at 11:59 pm. Submit via Blackboard. It should be labeled firstinitiallastname_ICA3. Please make sure to include all the required files (README, source files).

Grading:

Your program will be evaluated for correctness and elegance. In particular, you should make sure your code is properly commented and obeys standard naming conventions.