CSc11300 Programming Languages Final Project

Fall 2018

December 11, 2018

Instructor: Ahmet C. Yuksel *Deadline: Dec 25, 2018*

Write a Python program that draws a pie chart of the *n* most frequent letters in "Words.txt" file. The program will:

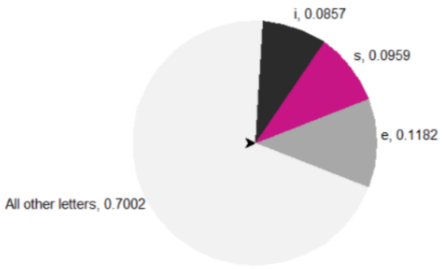
a. Use Tkinter to build an interface to input the number of letters, *n*, in the pie chart;
b. Have a module imported that determines the probability of letters in "Words.txt" file:

$$Probability\ of\ letter = \frac{Frequency\ of\ letter}{\sum Frequencies\ of\ all\ letters}$$

c. Use Turtle to draw the pie chart:
   i. Area of each segment of the pie chart is proportional to the probability of the corresponding letter:

$$Probability\ of\ letter = \frac{Central\ angle\ of\ segment}{2\pi}$$

   ii. Each segment has a different color;
   iii. Each segment has a legend showing the letter and its probability;
   iv. The last segment represents "All Other Letters" and their cumulative probability. In the graph below, the probability of All Other Letters is *one* minus the sum of the probabilities of letters *e*, *s*, and *i*;



   v. ***Note***:
   Beware! Using graph tools or packages to draw the pie chart will not be considered an acceptable solution.