

CSc11300 Programming Languages Final Project

Spring 2018

May 14, 2018

Instructor: Ahmet C. Yuksel

Deadline: May 28, 2018

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

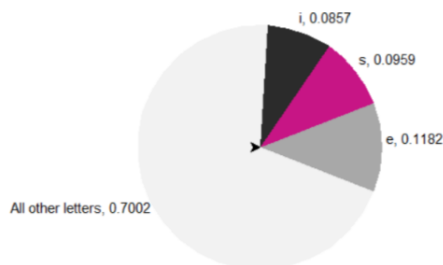
- a. Use Tkinter to build an interface to input the number of letters, n , in the pie chart;
- b. Have a module imported that determines the probability of letters in “Words.txt” file:

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

- 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:

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

- 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.