

Lab 2

Classes: FrequencyList.java, Table.java, WordGen.java

FrequencyList.java – maps letters to frequencies

- import structure5.*
- Variables:
 - o Vector of Associations<String, Integer> list
 - maps a single letter to a frequency
 - o Random r
 - o int total – total number of letters seen so far
- Methods
 - o Constructor
 - o void add(String ch) – updates list with letter (ch); increases frequency of letter by 1
 - o char pickNext() – pick next letter randomly (hint: use total here)
 - o String toString() – print list

Table.java – maps k-character Strings to FrequencyLists

- import structure5.*
- Variables:
 - o Vector of Associations<String, FrequencyList> table
 - maps k-character Strings to FrequencyLists
- Methods
 - o Constructor
 - o void add(String str) – str is a String of size k+1; this method finds FrequencyList for str.substring(0,k) in table, or creates new empty FrequencyList for substring and adds it to table; then it adds k+1st character of str to FrequencyList
 - o char pickNext(String str) – str has length k; find FrequencyList in table for str; call pickNext() for this FrequencyList to pick random character
 - o String toString() – print table

WordGen.java – runs program

- Methods
 - o main – Read file/input String from System.in; Check for command line arg that specifies k (default is k=2); Loop through text looking at substrings of length k+1 and add to table with table.add; Generate random text with table.pickNext using first k letters of input String to start