

CompSci 101

Introduction to Computer Science



October 28, 2014

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Announcements

- Reading for next time on calendar page
 - RQ 13 Due Thursday
- Assignment 5 Due Thursday
 - Assignment 6 out today – due Nov 6
- APT 6 due Today!
 - APT 7 due Nov 4
- Finish lecture notes from last time

Enumerate

- An iterator, generates a sequence
- Generates **tuples** of (index, item)
- Used with **for** loop to get both **index** and **item**
- for (index,item) in somelist:
 - You get both at the same time!
- Redo find position of longest name with iterator

Problem: Popular Name

- Given a list of names, determine the **most popular first name** and print that name with all of its last names.
- Input: Names are always two words, names are in a file. If multiple names are on the same line they are separated by a “:”
- Output: Most popular first name, followed by a “:”, followed by corresponding last names separated by a blank

Example Input File with 5 lines

Susan Smith:Jackie Long:Mary White
Susan Brandt
Jackie Johnson:Susan Rodger:Mary Rodger
Eric Long:Susan Crackers:Mary Velios
Jack Frost:Eric Lund

Corresponding Output

Susan: Smith Brandt Rodger Crackers

One way to solve

- Create a list of unique first names
- Create a list of lists of last names that are associated with each first name

Example – two lists

Unique First names	Corresponding Last names
0 'Susan'	0 ['Smith','Brandt','Rodger','Crackers']
1 'Jackie'	1 ['Long', 'Johnson']
2 'Mary'	2 ['White','Rodger','Velios']
3 'Eric'	3 ['Long', 'Lund']
4 'Jack'	4 ['Frost']

Now can we solve the problem?

- Compute those two lists that are associated with each other
 - List of unique first names
 - List of corresponding last names
- Compute the max list of last names
- Now easy to print the answer.
- See popular.py

Submit code from class here:

- www.bit.ly/101fall14-1028-01

Expanding the Problem

- Suppose we want to read from multiple data files
names1.txt, names2.txt, names3.txt

See popular.py