Fall 2020
Computer Science I — Maíra Marques Samary PhD
Section 5 – Tuesday and Thursdays – 12:00PM – Fulton 250

TA's Office Hours – online

James Monahan - monahajm@bc.edu - https://bccte.zoom.us/j/2822792652
Tuesdays 7:00 PM – 8:00 PM
Wednesdays 4:00 PM – 5:00 PM

Jennifer Joseph - - josephjz@bc.edu - https://bccte.zoom.us/j/5882755193
Wednesdays 11:00 AM – 12:00 PM
Thursdays 3:00 PM - 4:00 PM

Liam Murphy- - murpaue@bc.edu - https://bccte.zoom.us/j/3085424208
Tuesdays 2PM-4PM

Discussion Groups:

CSCI100701 - Tuesday 6:00 PM – 6:50 PM- Fulton Hall 220 (James Monahan)
CSCI100702 - Thursday 5:00 PM – 5:50 PM – Fulton Hall 220 (Jennifer Joseph)
CSCI100703 - Wednesday 4:00 PM – 4:50 PM – Gasson Hall 203 (Liam Murphy)

Homework 3

Due date – 10/08/20 11:59 PM

General Instructions

Create a folder named ***LASTNAME_FIRSTNAME***. You will populate the folder with **ALL** of the .py files you write for this homework. To submit the homework, verify the folder includes all your .py files, compress (zip) the folder then upload to Canvas. Remember to include the following comments at the **top of each** of your .py files:

```
# author:
# assignment:
# description:
```

What to submit in Canvas?

Make sure all your files are saved in the folder LASTNAME_FIRSTNAME, then compress (zip) the folder and upload to Canvas.

If you encounter any problems in completing the assignment or in the submission process, please don't hesitate to ask for help. The sooner, the better!

Comments are part of the grade!

I don't want code hanging around lost, create main functions to orchestrate your code (also part of the grade)!

You must submit 2 .py files, one with each problem.

Problem

1) Social Tagging

In social networks a message can contain tagged words, also known as a "hashtag", it starts with the '#' symbol to highlight a particular topic.

a) Create a function called labeled, that when receiving a message as input, search for and return the labeled words.

Consider that in all messages the label ends when we find a space or a coma. Punctuation is not part of the word in the hashtag, so if the word with the hashtag has punctuation you have to get rid of it.

One message can have 0 to n labels.

Ex:

Message: "The death of Judge Ruth showed the will she has to put her mark on the word on the relevance of women participation #womenpower."

Message: "Nice day for a run #powerrun #10K"

Message: "#vGHC is happening #vGHC"

The function should return:

[womenpower, powerrun, 10K, vGHC, vGHC]

b) Create a function called tabulated, that receives a list of words, that can have repeated words or not, and this function should generate a list of lists of the unique words the received list have the amount of times the word appeared in the original list received.

Ex:

[[womenpower, 1], [powerrun, 1], [10K,1], [vGHC, 2]]

You must create the main function too, the main function will be the one that it will show the menu, it will ask the user for the input and it will call the other 2 functions mentioned above.

2) NICKNAME

Create a function that asks the user for a sentence, according to the sentence you must create a nickname for it. Some rules:

The nickname must be with all letters in uppercase

The nickname must be based on the first letter of all valid words

Punctuation should be ignored

Words not valid: all pronouns, connectors and words with size smaller or equal to 3

Your also need a main function in your program, you should keep asking to enter sentences until the user types quit.

You must validate the input of the user, you must guarantee that the user is not entering numbers (float, integer, negative numbers).

Ex: Enter a sentence or quit:

Today is a beautiful day

It should print

TB

Enter a sentence or quit:

Boston College between Brighton and Newton

It should print

BCBN