



Spring 2019

Computer Science I

Section 4 – TU-TH – 9:00AM – Fulton 250

Section 5 – TU-TH - 10:30AM – Fulton 250

Office Hours Monday and-Friday -10:00AM – 12:00AM

St Mary - CS Department – Of. 281.

Maíra Marques Samary PhD

TA's Office Hours – all at Fulton 160

Molly Soja (sojam@bc.edu) - M 2PM-3PM

Yicheng Shen – Mark (shenvw@bc.edu) - TH 3PM-4PM

Anna Peterson (peterspm@bc.edu) - SU NOON-1PM

Luke Ruter (ruterl@bc.edu) - SA 2PM-3PM

Assignment 6

Due date – 04/18/19 11:59 PM

General Instructions

Create a folder named **HW6_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 HW6_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!

IMPORTANT

Now that you are already familiar with functions, almost all your code must be inside functions! Points will be taken if you put too many line of codes outside functions.

Don't forget, if your code **does not run** and shows errors when we try to evaluate and correct, you will have an **automatic 0. No arguing, no complaints!!!**

This homework worth 11 points. 1 point you will be able to transfer to any other evaluation you want (another Assignment, Midterm1, Midterm2).

Total grade of this Assignment – 11 points

A game of chance known as **Loto4** draws numbers every day. The numbers that a player can choose to vary from 1 to 41; and random numbers are thrown, and a number is never repeated in the same lottery day.

Let's simulate that we are players eager to win, and that we want to analyze the latest games to try to make more accurate moves. We have the file with the numbers drawn the last month. The file has the following structure:

X: [a, b, c, d]

Where x is the day of the month, and the variables a, b, c and d are the numbers drawn.

The file has 30 lines, one for each day of the previous month.

After reading the file they must implement functions you see needed to deliver the following information in the requested order (do not forget that all most your code must be inside functions):

You will have to print as a result of your code:

1. Dictionary with all the possible numbers and the frequency that they appeared in the month draw (sum of appearances) – **3 points**
2. List all the numbers drawn in increasing order – order of frequency – the most drawn number first.– **2 points**
3. List all the numbers drawn that came out more than once (repeated) – **2 points**
4. List all the numbers that were never drawn – **2 points**
5. List 4 most drawn numbers for you to play the Loto4. If there are numbers that have been drawn the same number of times, we must consider the smallest number. – **2 points**