COMPSCI 383 – Spring 2022

Homework 0

Due Friday, February 4rth at 9pm

You are encouraged to discuss the assignment in general with your classmates, and may optionally collaborate with one other student. If you choose to do so, you must indicate with whom you worked. Multiple teams (or non-partnered students) submitting the same code will be considered plagiarism.

Code must be written in a reasonably current version of Python (≥3.7), and be executable from a Unix command line. You are free to use Python's standard modules for data structures and utilities.

Python Warmup

The goal of this assignment is to give you some practice writing and testing Python code. Consider using it as a self-assessment of sorts – if you're finding the exercises exceedingly difficult, it's an indication that you should spend some time brushing up on Python. Of course, don't hesitate to reach out on Campuswire or visit office hours for help.

The code you must modify can be found in the file `383_homework0.py`. For each of the exercises, you'll need to flesh out the body of one of the function stubs (see the comments in the code for more details). You are welcome to define additional functions if you'd like, but do not change the names of the existing functions, and pay attention to the expected types of the return values.

When you execute your program, the `main()` function will print out the results of the functions in the exercises. You should get something like:

```
1. 8
2. ['r', 2, 'd', 2, 'c', 3, 'p', 0]
3. {'h': [1, 2], 'e': [1], 'y': [1], 'o': [2]}
4. {'w': 3, 'o': 2, 'i': 2, 'e': 2, ' ': 1, 'z': 1}
5. I love
writing
Python
code.
6. True
7. [(0, 0, 13), (0, 1, 7), (0, 2, 1)]
```

Grading

We will run each function in your program and examine the return values for correctness (note that we will be testing on different test cases than those found in `main()`). Your grade will be determined by how many of the exercises achieve the correct output, with partial credit being

awarded wherever possible. The assignment will be graded on a 50 point scale, but there are actually 60 points available (Exercise 7 is essentially optional).

What to Submit

You should submit:

- A modified `383_homework0.py`
- A `readme.txt`, containing
    - Your name
    - A fun fact about yourself
    - Any significant references you consulted when writing your code
    - Notes or warnings about what you got working, what is partially working, and what is broken