

CISC121 Winter 2023 - Assignment 1

Due: Wednesday January 18th 11:59pm (EDT)

Notes:

- Your assignment should follow the python style guide, and any other style/commenting expectations as discussed in lecture
- You *must* follow the file naming and structure from the requirements, or else your assignment may not load properly. It is recommended that you zip your files directly in PyCharm before uploading.
- By submitting the assignment, you agree that you have followed the Queen's Academic Integrity policy, and that your assignment was completed independently.

Question 1 - 15 marks

Write a *program* that randomly generates two integers between 0 and 100. You should then check if the difference between these two numbers is at least 10 and no more than 50 and accordingly print a statement saying "This pair of integers is valid" or "This pair of integers is invalid." Whenever the pair is too close together, replace the larger number with two times that number. Whenever the pair is too far apart, replace the larger number with a third of that number rounded UP (not down). Repeat the process until both numbers are valid.

Once these numbers are valid proceed as per the following:

- Print each of the numbers from the smallest (first number) to the largest (second number). Instead of printing the number do the following whenever the specified conditions are satisfied.
 - Print `apple` whenever the number is a multiple of 5
 - Print `pen` whenever the number is a multiple of 7
 - Whenever the number *contains a 3* print `pineapple`
- These conditions should stack. So the number 35 should print `apple pen pineapple` *in the same line*.

Sample run:

Two randomly generated integer numbers are 0 and 12

This pair of integers is valid

Output for the valid numbers 0,12:

```
0
1
2
pineapple
4
```

```
apple
6
pen
8
9
apple
11
12
```

Question 2 - 10 marks

The text file **myspace_profiles.txt** contains information about some people. For each person in the file it has their name, their age, and their favorite color each on a new line. Each person is separated by a '-' on its own line. The file is available in onQ.

Write a *program* that adds yourself to the given file at the end of the file, without damaging the previous data. After that, add another person to the file by:

- taking the name from the user input
- their age should be between 18-22 (randomly generated)
- their favorite color is one of 'green, red, yellow, pink, blue, orange' (randomly generated)

Once you are finished writing to the file, display the contents of the file.

To Submit:

Submit the following files as a **SINGLE zip file** named **a1_#####.zip**, where the # are replaced by your 9 digit student number.

1. **a1_q1.py**: A *python file* containing your program for question one.
2. **a1_q2.py**: A *python file* containing your program for question two.
3. **myspace_profiles.txt**: the text file containing your *updated* text.
4. **Testing.txt**: Include all the tests you run for both the programs. For example, a1_q1.py program can be executed a couple of times (at least two times) to print the output. For a1_q2.py program, run the program at least three times and record the output based on the given input.