

## CSCI 127, First Practicum – October 4, 2023

Submit your solutions in a file named *YourFirstName-YourLastName-Practicum1.py* to the CSCI 127 *Practicum 1 Dropbox* no later than 9:50 a.m.

Question One. 50 points. Write a function named **generate\_temperatures** that works with the code below. The function should generate and print random temperatures between the coldest temperature and the hottest temperature until a temperature is generated that is close enough to the desired temperature. Your program can make the following assumptions: (1) the values of all four parameters are floating point numbers, (2) the coldest\_temperature is less than the hottest\_temperature, (3) the desired\_temperature is somewhere between the coldest\_temperature and the hottest\_temperature and (4) how\_close is 1.0 or greater.

*def main():*

```
coldest_temperature = -70.0    # The coldest temperature (could be any value)
hottest_temperature = 117.5   # The hottest temperature (could be any value)
desired_temperature = 72.7    # A subjective ideal temperature (could be any value)
how_close = 9.9              # Closeness to desired temperature (could be any value)
generate_temperatures(coldest_temperature, hottest_temperature, \
                       desired_temperature, how_close)
```

*main()*

What follows is a sample run that generates four random temperatures before stopping. The run stops because the 78.11 temperature is within 9.9 degrees of the desired temperature.

```
===== RESTART: C:\Users\n57g
-11.686348746513133
-10.161042151601158
54.53291107800895
78.11993043735075
>>> |
```

Question Two. 50 points. You and a team of colleagues compiled a list containing a series of sublists in Python. Each sublist contains exactly one brief description of a file and the *name* of a file.

All file names reference comma-separated values files and *should* have the .csv extension. However, some members of your team made mistakes. Some file names were written to contain a “.txt” extension and others were given no extension whatsoever.

The list contains an unknown number of sublists. The format of an incorrect list that contains 3 sublists might look like this:

```
incorrect_list = [{"Desc1", "FileNm1.csv"}, {"Desc2", "FileNm2.txt"}, {"Desc3", "FileNm3"}]
```

Part 1: Write a pure and fruitful function that receives the `incorrect_list` as a parameter and prints the `correct_list`. The format for the correct list in the example above is as follows:

```
[['Desc1', 'FileNm1.csv'], ['Desc2', 'FileNm2.csv'], ['Desc3', 'FileNm3.csv']]
```

Part 2: Have the above function print the number of file names with correct extensions, incorrect extensions, and missing extensions.

```
Correct extensions:1  
Incorrect extensions:1  
Missing extensions:1
```