Lab 8 – CSE 101 (Fall 2019)

Objectives

The primary objective of this lab assignment is to get comfortable using dictionaries and file input in Python programs.

1. Practice with dictionaries

Download lab8.py and do Part 1, uncommenting and trying out each example in the code one at a time before you move on to the next step.

Then proceed to do Part 2, do the tasks one at a time by writing the code as directed by the instructions in the comments.

For Part 3, you are writing a function to determine your upcoming trip destination. You want to travel to a city that is the farthest distance from Seoul, but you have a max distance you are willing to travel for a one-way trip.

In the code, complete the `destination` function that you will use to calculate your destination. This function takes the following parameters:

1. `max_distance`: an integer that represents how far you are willing to travel, one-way.
2. `places`: a dictionary that maps destinations (as strings) to distances (as integers). For example, if the key 'London' is mapped to the value 8000, this means that the destination London is 8000 kilometers away from where the person is right now.

Your function should scan through the dictionary, then find the farthest destination that is less than or equal to the `max_distance` for a one-way trip.

Note: If `max_distance` is a number that's zero or less, this means the distance is invalid, and your function should return the value `None` (NOT the string `'None'`). If you cannot reach a city given the `max_distance`, return `'nowhere'`. Do not worry about two destinations having the same distance.

In the code, you are given a dictionary of the distances from Seoul to other cities, as well as test cases with the expected output.

2. Practice with files

Go to Page 157 in the Conery textbook and complete the tutorial from T16-T30.

Note that if you copy the text directly from the book, you may need to re-type the quotation marks. For example:

```
f = open(path_to_data(’quote1.txt’))  # This will cause an error
```

Whereas if you replace the `’` quotation marks with `'` it should work:

```
f = open(path_to_data('quote1.txt'))  # This will work
```

After you finish the tutorial, use the filesize function to calculate the size of the file you wrote (put "filesize.py" as the filename).