

Lab 7

File IO

Z. Hutchinson
zachary.s.hutchinson@maine.edu

October 24, 2022

For this lab, you will also need the file called, *lab7_data.txt*. Each task will use the data from this file in some way.

READING

Task 1

Write a small program that opens and reads through the *lab7_data.txt* file and prints all the information to the terminal.

Task 2

Write a small program that opens and reads the *lab7_data.txt* file. It should print the city name and population of all cities in Germany. It should not print the country, since they will all be from the same country.

Task 3

Write a small program that opens and reads the *lab7_data.txt* file. It should print each country name found in the file once and print how many cities in the file are in each country. Example (the city numbers below are just made up):

```
Germany: 6
France: 4
etc
```

WRITING

Task 4

Write a program that open and reads the *lab7_data.txt* file. It should write all the information to another file called *lab7_data_clean.txt*. The only change is that it should remove the commas from the population before writing to the new file.

Task 5

Write a program that open and reads the *lab7_data_clean.txt* file and writes the names, countries and populations to another file (name of your choosing) of only those cities whose population is > 1,000,000

Task 6

CAREFUL WITH THIS ONE: Write a program that adds a header line to the lab7_data.txt file. The header should be formatted exactly like each line.

APPENDING

Task 7

```
Duisburg;Germany;495,152
Toulouse;France;493,465
Gdańsk;Poland;486,271
Bratislava;Slovakia;475,044
Murcia;Spain;460,349
Tallinn;Estonia;437,811
Palma de Mallorca;Spain;419,366
```

Write a program that opens lab7_data.txt and appends them to the file (without altering the other data).

REVIEW

This part is a review of previous material.

Task 8

Write a program which builds a 2D list of random integers from [1,10] inclusive. The 2D list should contain 15 lists. Each inner list should contain INDEX+1 random integers where INDEX is the index of the inner list within the outer list.