Python for Data Analysis and Visualization (Spring 2024)

Claudia Carroll, TRIADS

Class 1 (March 25, 2024)

Class 1 Homework Exercises

1. **Explain in your own words what the following code is doing:**

```
file = open("gdp_europe.csv").read()
print(file[2])
```

Answer:

Line one opens the csv file, reads the data contained in it, and saves that data to a variable 'file'

Line two prints the third line of data saved to the variable 'file'

2. **What are the primary differences between a list and a dictionary in Python?**

Answer:

- A list is indicated by square brackets, a dictionary by curly brackets
- A dictionary saved data in key:value pairs, a list in single element

3. **Write the code to print out all values in a column of index 8, of a csv file 'test_data.csv', greater than 15.**

Answer:

```
extract_data = []
with open ("test_data.csv") as data:
    data.readline()
    for line in data:
        col_9 = line.split(",")[8]
        if col_9 > 15:
           Extract_data.append(col_9)
print(extract_data)
```

4. **Write the code to extract all rows with the value 89 in the column of index 8 from a csv file titled ‘test_data.csv’ and print those rows to a new csv file. You should copy the header from test_data.csv to the new csv also.**

```
with open ("test_data.csv") as fr:
    with open ("test_data_new.csv", "w") as fw:
        headerline = fr.readline()
        fw.write(headerline)
        for line in fr:
            if line.split(",")[8] == 89:
                fw.write(line)
```

5. **Write the code to extract the name ‘John’ from the following dictionary:**

{'Name': 'John', 'Location': 'Manchester', 'Age': '62'}

Answer:

```
d = {'Name': 'John', 'Location': 'Manchester', 'Age': '62'}
print(d[‘Name’])
```