CMPUT 175 – Lab 1 Exercises

Complete the three following exercises and demo your solutions to your TA before the end of your lab.

1. Write a program that reads the rainfall.txt then write out a new file called rainfallfmt.txt. The data should be grouped on the normal annual rainfall field into the following categories: [51-60], [61-70], [71-80], [81-90], [91-100]. Under each category, the new file should format each line so that the city name is in *upper case* letters and is *centered* in a field that is 25 characters wide, and the rainfall data should be printed in a field that is 5 characters wide with 1 digit to the right of the decimal point.

2. Write a program to process the earthquake data file and create lists of earthquake magnitudes and their dates, one for each region. Your function should return a list of lists that looks like the following:

   [region, [date1, magnitude1], [date2, magnitude2], [date3, magnitude3], …]

   Examples of output:

   ```
   [ALASKA, [2006/10/19, 2.8], [2006/10/18, 2.6], [2006/10/18, 2.7],
   [2006/10/18, 2.7], [2006/10/18, 2.8]]

   [MEXICO, [2006/10/20, 2.8], [2006/10/18, 3.3]]
   ```

3. The following exercise is optional and you may choose to complete it for practice purposes but you will not lose marks if you do not complete it –

   Write a program that opens the Python 3 tutorial page "**https://docs.python.org/3/tutorial/**" and returns a dictionary of all the links and the text on that page.

   A link is defined by an HTML tag that looks like :

   link text

   The link is everything in quotes after the href=, and the text is everything between the > and the .

   If the link's HTML tag is followed by another HTML tag (not followed by the text), ignore it. For Example, ignore : **

   (based on Python Programming in Context, Chapter 5, Exercise 5.16)