Programming Project #4
EGRE245 Fall 2017
Analyzing Rainfall

1 Overview

The rainfall figures in millimeters (mm) are available for the past six weeks. We want to know the total rainfall for each week, the total rainfall for all six weeks, which week was the driest and wettest, plus the total rainfall on the driest and wettest days (i.e. Sundays in all the weeks, or Mondays, Tuesdays, etc.) as well as *which* days were the driest and wettest (study the sample data and run).

Write a program that reads in six weeks of rainfall data, echo prints the output to the screen, and then outputs the information mentioned above (your output should match the sample run exactly except for the input rainfall data itself and my name). Note that the first rainfall value per week represents Sunday's data. You may assume that this input data will always be integers greater than or equal to 0. You may not use arrays or any other files other than the input data file in your program.

Your data must come from a file that has been inputted through redirection on the command line; see the sample run for a demo of how this is done (how this works will also be demo'ed in class). To do this you need not do anything differently in your actual code; write your `scanf` input statement(s) *exactly* as you have been doing up to this point. Up to this point you have run your programs on the command line by either typing `a` or `a.exe` (in Windows) or `a.out` (in Linux or on a Mac). When you run this project as you have done in the past your program will expect input to come from the keyboard exactly has it has worked in the first three projects (with no prompts this time, however). Note that this would be a lot of data to type in every time you run your program! So instead for project #4 you will run your programs differently on the command line; for this project if you type `a.exe < rainfall.dat` or `a < rainfall.dat` in Windows (or `a.out < rainfall.dat` in Linux or on a Mac) your `scanf` statements will get all of the input from text data file `rainfall.dat` (which you will need to create yourself). The name of this file is irrelevant, and when I run your programs in order to grade them I will use my own data file (which will not be provided to you prior to grading). Note you will probably create several data files (or edit one many times) in order to thoroughly test your program.

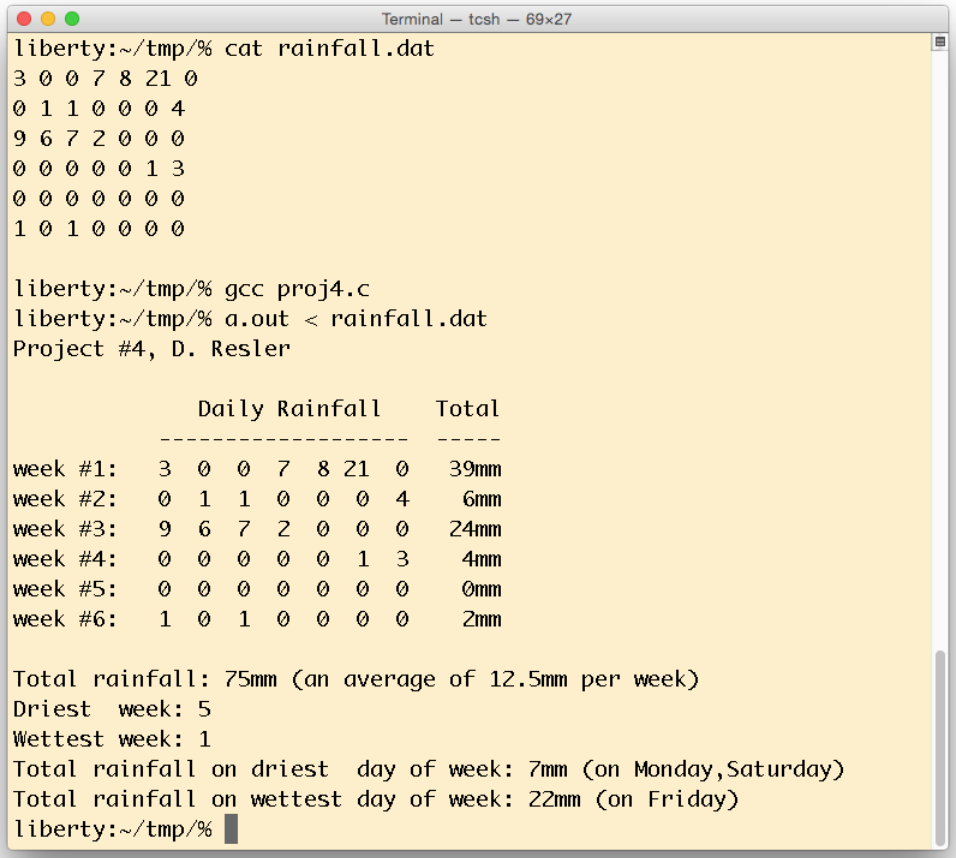
2 Sample Run

Below is listed the contents of text file `rainfall.dat`. You will need to create this file yourself using a text editor (use the same editor you use to enter your C programs).

Contents of file `rainfall.dat`; each line in the file represents a single week of data:

```
3 0 0 7 8 21 0
0 1 1 0 0 0 4
9 6 7 2 0 0 0
0 0 0 0 0 1 3
0 0 0 0 0 0 0
1 0 1 0 0 0 0
```

Sample run using the data given above:



3 Deliverables

Name your source code file `proj4`*XXXX*`.c` where *XXXX* is the last 4 digits of your student id number. For example, if your student id number is V12345678, your file will be named '`proj45678.c`'. Submit your project in the usual way via the web using the link off of the class web page. Do not submit your data file(s)!

Due date: Tuesday, October 10