CIS 223

Lab 4 - Fall 2013

# Sara Wexler

**Purpose:** use of functions and file I/O

Write a program that creates a bar graph in a file summarizing the rainfall during the year as part of the program output.

Read from the file **rainInput.txt** (the data in rainInput.txt is given below) the amount of rain for the year and create an output file called **rainOutput.txt.**  The output file will have the bar graph and the statistics.

The input file contains a list of month with the amount of rainfall for that month.

Create an output file which contain a bar chart for the rain fall for all month in the file, and some statistics as described below.

Assume that no one month will have more than 10 inches of rainfall.

The graph should resemble the following:

January \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

Febuary \*\*\*\*\*\*\*

March

April \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

\*\*\*\*1\*\*\*\*2\*\*\*\*3\*\*\*\*4\*\*\*\*5\*\*\*\*6\*\*\*\*7\*\*\*\*8\*\*\*\*9\*\*\*\*10

* Do not use arrays
* The program will output to a file the following statistics:

Total inches for the year,

The month with the maximum amount of rain and the amount of rain for the month

* Create the following functions:

1. **writeMonth**

Input : the month in integer

the function writes the month as a string

2. **getInput**

the function will get the month and the rain amount

Input : non

Output: the current month, and the rain amount for the month

2. **monthlyTotal**

The function will update totals, and the month with the max amount of rain

Input: current month, rain amount for the month

Output : the max amount of rain so far, the month with the max amount of

rain, and the total inches of rain so far

3. **drawbar**

A function to draw bar length computed from inches

Input: the month( as an integer),

The function will write the month name as a string, and the inches of rain

for the month in \* in the graph

4. **drawScaleLine**

A function to draw scale and label at the bottom for the graph.

5. **statistics**

A function to display the statistics: the month with the max rain, the total

amount of rain

6. **Create functions to open the files.**

**rainInput.txt**

**1 9**

**2 8**

**3 4**

**4 5**

**5 3**

**6 0**

**7 1**

**8 0**

**9 2**

**10 3**

**11 6**

**12 7**

**Due Date**: (week 7), at the beginning of lab.

**Lab 4** **Due Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Your Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Your Partner Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Project Grade (100%)**

**Correctness( 40%)**

Produces correct output

* **Style (10%)**   
  meaningful variables ( start with lower case and can consistent of upper case / lower case)
* **Comments (10%)**

comments at the beginning of program explaining the purpose of the

program   
 comments in the program to clarify code

* **Indentations ( 10%)**
* **User interface (10%)**   
  clear prompts to user   
  clear messages
* **Testing (20%)**

Your contribution to the project in percent\_\_\_\_\_\_\_\_\_\_\_\_\_

Your partner’s contribution to the project in percent\_\_\_\_\_\_\_\_\_\_\_\_\_

Explain in Detail your contribution