

Read the following rainfall data from a file and produce the listed output on the screen. The data on each line is: **Date City State Six Rainfall measurements (every 4 hours)**.

You need to read data from the file until the data is 99999999. This value for the date indicates that you have reached the end of the file.

Input Data File (rainfall.txt)

```
10222010 Portland OR 1.0 0.0 0.5 0.25 0.01 0.09
10232010 Eugene OR 0.0 0.2 0.7 0.12 0.21 0.12
99999999
```

Output (to the screen)

```
#####
Rainfall Analysis
#####

City : Portland
State: OR
Date : 10222010

Average:  0.443
Maximum:  1.0

#####

City : Eugene
State: OR
Date : 10232010

Average:  0.225
Maximum:  0.7
```

Challenge:

Change the output to contain a table of data and note when the maximum value of rain is recorded:

```
#####  
Rainfall Analysis  
#####  
  
City : Portland  
State: OR  
Date : 10222010  
  
-----  
Hour |    0 |    4 |    8 |   12 |   16 |   20 |  
Rain | 1.00 | 0.00 | 0.50 | 0.25 | 0.01 | 0.09 |  
-----  
  
Average:  0.443  
Maximum:  1.0 at hour 0
```

Super Challenge

Build a graph to display the rainfall per hour. Assume that rainfall ranges between 0.0 and 1.0. Have each star represent 0.1. Output this graph to a file **graph1.txt**

```
Portland OR  
  
    Rainfall  
    0          1  
    .          .  
    01234567890  
Hour -----  
0 |*****  
4 |  
8 |*****  
12|***  
16|  
20|*
```

Crazy Challenge: Make a graph with vertical lines. Output this graph to a file **graph2.txt**

```
R *  
A *  
I *  *  
N * * * *  
    HOURS
```