Weather Football Summary

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# The Questions

## Part One: Weather Data

In [weather.dat](weather.dat) you’ll find daily weather data for Morristown, NJ for June 2002.

Download this text file, and write some code to:

\* output the minimum, maximum and avg temperatures for each day (hint: first four columns)

\* find the warmest day in the month

\* find the coolest day in the month

\* determine and output the day number (column one) with the smallest temperature difference (the maximum temperature is the second column, the minimum the third column)

\* bonus: show a graph that plots the average temperature through the month

## Part Two: Soccer League Table

The file [football.dat](football.dat) contains the results from the English Premier League for 2001/2. The columns labeled ‘F’ and ‘A’ contain the total number of goals scored for and against each team in that season (so Arsenal scored 79 goals against opponents, and had 36 goals scored against them). Write a program to print the name of the team with the smallest difference in ‘for’ and ‘against’ goals.

# The Solutions

Both programs were implemented using pandas, and the weather program uses matplotlib, these libraries are required to be installed on the host machine.

The solutions are in the files weather.py and football.py, they require the weather and footbal.dat files to be in the same directory and can be run e.g on the on the windows command line by going to the directory and using:

python weather.py

This will print out the program’s answers for all steps in the question.

Both programs use a single class with functions to process and print the data for each part of the problem.

Although the function for finding the football team with the smallest goal difference was very similar to the function for finding the day with the least temperature variation there were sufficient differences that it was simpler to not abstract this out into a general function. The best way to do this would be with an interface containing functions abstracted from column name.

# Expected Output

weather.py expected Output:

A screenshot of a computer screen

Description automatically generated with low confidence

A screenshot of a graph

Description automatically generated with medium confidence

football.py expected Output:



# References

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| <https://github.com/onzo-com/coding-challenges/tree/master/3-data-munging> | The repository containing the questions |
|  |  |

# Appendix

## Appendix 1: N/A