COMPSCI 383 – Spring 2021

Homework 0

Due Sunday, February 7th at 11:59pm ET

You are encouraged to discuss the assignment in general with your classmates, and may optionally collaborate with one other student. If you choose to do so, you must indicate with whom you worked. Multiple teams (or non-partnered students) submitting the same code will be considered plagiarism.

Code must be written in a reasonably current version of Python (>3.0), and be executable from a Unix command line. You are free to use Python's standard modules for data structures and utilities, as well as the pandas, scipy, and numpy modules if you really want.

Data Wrangling with Python

For this assignment, you will be writing Python code to read, process, and analyze this data using common Python tools and idioms.

Data

The file named `mustard_data.csv` contains almost 16 years of refueling records for a single automobile. The file has five columns (date, mileage, location, gallons, price per gallon) and 416 rows (including a header row).

Code

The included file `mustard_analytics.py` contains skeleton code that you'll be modifying. For each of the exercises, you'll need to flesh out the body of one of the function stubs (see the docstrings and comments in the code for more detail). You are welcome to define additional functions if you'd like, but do not change the names or expected return types of the existing functions.

Your program must be executable from a Unix(-like) command line. For example:
```
purple:~/$ python mustard_analytics.py
```

Grading

We will run your program and examine the return values of each function for correctness. Note that we may run it on a data file with a different number of rows (but the same column format), so your code should be able to handle data files of arbitrary lengths. Your grade will be determined by how many of the exercises achieve the correct output, with partial credit being awarded wherever possible.

What to Submit

You should submit the following two files to Gradescope:
- A modified `mustard_analytics.py`
- A `readme.txt`, containing
  - Your name(s)
  - A fun fact about yourself
  - Notes or warnings about what you got working, what is partially working, and what is broken