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CPT187 – C02

Chapter 8 - Program 14 (List of prices, highest to lowest)

# **REQUIREMENTS**

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| **Date Submitted:** | 2/19/2023 |
| **Application Title:** | Gas Prices |
| **Purpose:** | The program will read text from a file containing gas prices from 1993-2013 and sort the prices from highest to lowest. The prices and their dates will be output in a new file. |
| **Program Procedures:** | Start the program. |
| **Algorithms, Processing, and Conditions:** | 1. Program calls main() function. 2. Function calls get\_info() function. 3. Function creates file object 4. Function creates loop to iterate through each line of the file. 5. File sanitizes data and concatenates the date and price into individual lists 6. After each iteration, the individual lists are concatenated into a nested list containing all data 7. The nested list is returned to main 8. Main calls the dec\_prices() function. 9. The entries variable is set for the loop to iterate over each entry. 10. Prices, prices\_sorted, and dates are created as empty lists 11. A loop is created to iterate over each item in the list 12. For each item in the list, the date and price are added to prices and prices\_sorted and the date is added to dates. 13. Prices\_sorted is sorted. 14. Prices\_sorted is reversed. 15. Each item in the reversed prices\_sorted list is iterated over to compare it to the list of original prices. The index of this is then used to find the corresponding date. 16. The date and price are printed in the new file. |
| **Notes and Restrictions:** | The file “GasPrices.txt” must be in the same directory as the python code. |
| **Comments:** | This program makes use of nested loops and nested lists as well as the sort() and reverse() functions. |

# **USE CASE**

1. User starts the program.
2. Program analyzes file.
3. Program outputs results.