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CPT187 – C02

Chapter 8 - Program 14 (Highest and Lowest Prices Per Year)

# **REQUIREMENTS**

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| **Date Submitted:** | 2/19/2023 |
| **Application Title:** | Gas Prices |
| **Purpose:** | The program will read in text from a file contianing gas prices from 1993-2013 and calculate the highest and lowest prices for each year. |
| **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 month, day, year, 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 annual\_min\_max() function. 9. A list of month names is created. 10. The entries variable is set for the loop to iterate over each entry. 11. A loop is created to go through each year from 1993-2013 12. Empty lists for prices, months, and days are created. 13. A nested loop is created to iterate through each entry. 14. If the item is in the current year, its price is appended to prices, its month is appended to months, and its day is appended to days. 15. At the end of each yearly iteration, the minimum and maximum prices for the year are calculated and printed along with the dates and the lists are reset to empty lists. |
| **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. |

# **USE CASE**

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