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CPT187 – C02

Chapter 8 - Program 14 (Average Price Per Month)

# **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 calculate the monthly average of gas prices. |
| **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 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 monthly\_avg() 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 month of the yeare. 12. Prices and monthly\_total accumulator values are set to 0. 13. A nested loop is created to determine which values are in the current month. 14. If the item is in the current month, its price is added to the monthly total and 1 is added to the number of prices. 15. At the end of each iteration, the month and average price are calculated and printed and the accumulators are reset to 0. |
| **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