import csv

from pathlib import Path

input\_file =("budget\_data.csv")

# Create empty lists to iterate through specific rows for the following variables

total\_months = []

total\_profit = []

monthly\_profit\_change = []

# Open csv in default read mode with context manager

with open(input\_file,newline="", encoding="utf-8") as budget:

# Store the contents of budget\_data.csv in the variable csvreader

csvreader = csv.reader(budget,delimiter=",")

# Skip the header labels to iterate with the values

header = next(csvreader)

# Iterate through the rows in the stored file contents

for row in csvreader:

# Append the total months and total profit to their corresponding lists

total\_months.append(row[0])

total\_profit.append(int(row[1]))

# Iterate through the profits in order to get the monthly change in profits

for i in range(len(total\_profit)-1):

# Take the difference between two months and append to monthly profit change

monthly\_profit\_change.append(total\_profit[i+1]-total\_profit[i])

# Obtain the max and min of the the montly profit change list

max\_increase\_value = max(monthly\_profit\_change)

max\_decrease\_value = min(monthly\_profit\_change)

# Correlate max and min to the proper month using month list and index from max and min

#We use the plus 1 at the end since month associated with change is the + 1 month or next month

max\_increase\_month = monthly\_profit\_change.index(max(monthly\_profit\_change)) + 1

max\_decrease\_month = monthly\_profit\_change.index(min(monthly\_profit\_change)) + 1

# Print Statements

print("Financial Analysis")

print("----------------------------")

print(f"Total Months: {len(total\_months)}")

print(f"Total: ${sum(total\_profit)}")

print(f"Average Change: {round(sum(monthly\_profit\_change)/len(monthly\_profit\_change),2)}")

print(f"Greatest Increase in Profits: {total\_months[max\_increase\_month]} (${(str(max\_increase\_value))})")

print(f"Greatest Decrease in Profits: {total\_months[max\_decrease\_month]} (${(str(max\_decrease\_value))})")

# Output files

output\_file = Path("Financial\_Analysis\_Summary.txt")

with open(output\_file,"w") as file:

# Write methods to print to Financial\_Analysis\_Summary

file.write("Financial Analysis")

file.write("\n")

file.write("----------------------------")

file.write("\n")

file.write(f"Total Months: {len(total\_months)}")

file.write("\n")

file.write(f"Total: ${sum(total\_profit)}")

file.write("\n")

file.write(f"Average Change: {round(sum(monthly\_profit\_change)/len(monthly\_profit\_change),2)}")

file.write("\n")

file.write(f"Greatest Increase in Profits: {total\_months[max\_increase\_month]} (${(str(max\_increase\_value))})")

file.write("\n")

file.write(f"Greatest Decrease in Profits: {total\_months[max\_decrease\_month]} (${(str(max\_decrease\_value))})")