
UTM - MGT 201: Winter 2024 (Homework #2)

Due on Thursday, February 29th, 2024 (11:59pm) (note: 20% late penalty per day)

Submit the following files:

1. Jupyter Notebook (ipynb) file that shows your code and output
2. PDF and HTML files that show your code and output

When you write your program, please add applicable comments with the hashtag (#) and/or with markdown cells so the grader can follow your work. You are expected to use the concepts that we've learned this semester.

You will create a CSV file with five columns. The headings of the columns will be: (i) Month, (ii) Inventory (Coats), (iii) Inventory (Belts), (iv) Average Cost per Coat (\$), and (v) Average Cost per Belt (\$). You will enter the data using the input function for each month. Your CSV file can contain as many months as possible that you desire to enter, and the Inventory units and Average cost cannot be negative.

For example, you own a clothing store and have a monthly record (from the past 12 months) of the number of coats and belts in inventory. You also keep track of the average cost of the item per month.

| Month | Inventory (Coats) | Inventory (Belts) | Average Cost per Coat (\$) | Average Cost per Belt (\$) |
|---------------|-------------------|-------------------|----------------------------|----------------------------|
| February '23 | 50 | 83 | 500 | 25.00 |
| March '23 | 48 | 67 | 480 | 23.50 |
| April '23 | 52 | 72 | 510 | 24.25 |
| May '23 | 55 | 81 | 520 | 26.10 |
| June '23 | 43 | 88 | 505 | 25.50 |
| July '23 | 35 | 75 | 528 | 27.10 |
| August '23 | 30 | 68 | 532 | 26.75 |
| September '23 | 38 | 89 | 540 | 27.04 |
| October '23 | 45 | 79 | 535 | 26.32 |
| November '23 | 50 | 65 | 550 | 27.88 |
| December '23 | 52 | 88 | 545 | 27.60 |
| January '24 | 60 | 80 | 555 | 27.95 |

Create a program that can do the following:

1. Save the data to a CSV file
2. Read the CSV file back into a data structure of your choice and then can:
 - a. Calculate the average monthly inventory over the last 12 months for coats and belts respectively.
 - b. Calculate the total dollar (\$) amount of inventory for coats and belts (per month).
 - c. Calculate the total dollar (\$) amount of all inventory (per month).
 - d. Calculate the average monthly dollar (\$) amount of all inventory over the last 12 months.

(You are required to show your output with this data however, your program can also handle a flexible number of months with error checking for data entry.)