

# Chapter 8 – Extra Practice

## Extra Practice

Extra practice is for those who would like to do some extra practice projects to further hone their skills learned in each assignment. There are no additional points to be gained by completing these projects.

## Contact Manager

Add exception handling to a program that manages the primary email address and phone number for a contact. If you've done the Contact Manager program from Chapter 7 Extra Practice, you can add the exception handling to that program. Otherwise, you can start this program from scratch.

```
Contact Manager

Could not find contacts file!
Starting new contacts file...

COMMAND MENU
list - Display all contacts
view - View a contact
add - Add a contact
del - Delete a contact
exit - Exit program

Command: list
There are no contacts in the list.

Command: add
Name: Mike Murach
Email: mike@murach.com
Phone: 559-123-4567
Mike Murach was added.

Command: list
1. Mike Murach

Command: view
Number: 2
Invalid contact number.

Command: view
Number: x
Invalid integer.

Command: view
Number: 1
Name: Mike Murach
Email: mike@murach.com
Phone: 559-123-4567

Command: exit
Bye!
```

## Specifications

- When the program starts, it should read the contacts from a CSV file named contacts.csv. You can find this file in Assignment 8 on Canvas.
- If the program can't find the CSV file, it should display an appropriate message and create a new CSV file that doesn't contain any contact data.
- For the view and del commands, display an appropriate error message if the user enters an invalid integer or an invalid contact number.
- When you add or delete a contact, the change should be saved to the CSV file immediately. That way, no changes are lost, even if the program crashes later.

## Monthly Sales

Add exception handling to a program that reads the sales for 12 months from a file and calculates the total yearly sales as well as the average monthly sales. If you're done Chapter 7 Extra Credit #2, you can add the exception handling to that program. Otherwise, you can start this program from scratch.

```
Monthly Sales program

COMMAND MENU
monthly - View monthly sales
yearly  - View yearly summary
edit    - Edit sales for a month
exit    - Exit program

Command: edit
Three-letter Month: Dec
Sales Amount: TK
Sales amount for Dec was modified.

Command: monthly
Jan - 14317
Feb - 3903
Mar - 1073
Apr - 3463
May - 2429
Jun - 4324
Jul - 9762
Aug - 15578
Sep - 2437
Oct - 6735
Nov - 88
Dec - TK

Command: yearly
Using sales amount of 0 for Dec.
Yearly total:      64109
Monthly average:   5342.42

Command: exit
Bye!
```

## Specifications

- When the program starts, it should read the contacts from the CSV file named `monthly_sales.csv`. You can find the in Assignment 8 section in Canvas.
- If the program can't find the CSV file when it starts, display an error message and exit the program.
- For the edit command, display an error message if the user doesn't enter a valid three-letter abbreviation for the month.
- When the user edits the sales amount for a month, the data should be saved to the CSV immediately. That way, no data is lost, even if the program crashes later.
- If the CSV files doesn't contain a valid integer for the sales amount for the month, use a value 0 to calculate the total sales for the year.
- Round the results of the monthly average to a maximum of 2 decimal digits.