Chapter 6 Reading Files with Exceptions

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**Instructions**:

For this assignment, you will be providing the logic (plan) for the following program:

Use **Practice 2 Program - Reading Files** as a start. Modify the program to do the following:

* + Request the data file name from the user.
  + Use a try-except statement to detect errors when opening the file. Report any errors to the screen.
  + Download the file [sales\_error-1.txt](https://mchenry.instructure.com/courses/1471377/files/73372620?wrap=1)[Download sales\_error-1.txt](https://mchenry.instructure.com/courses/1471377/files/73372620/download?download_frd=1) to use as an input file.
  + Use try-except to detect bad data in the input file. Report it to the screen and skip over bad values.
  + Total and average the remaining good data and display results.

**Data**:

Variables:

* File: variable to open user’s file
* Counter: Int to keep track of how many numbers are in the file
* Total: float, keeping track of the sum of all numbers from the file
* Line: String, represents an individual line from the file
* Amount: the float representation of Line
* Average: total / counter, average of all numbers in list

User input

* File\_name: user’s file that they want to open

**Processing**:

1. Ask user for file name
2. Try / Except statement
   1. If the file cannot be opened, throw an exception with the error “unable to access file: “ with the user’s file name
   2. Otherwise, open the file and begin reading the data
3. Initialize counter and total to 0
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5. Loop through each line of the file
6. Try / Exception Statement
   1. If the number can’t be cast as a float, throw the error “Line \_ with a value of \_ was invalid.”
   2. If the number string from file can be cast as float, then add it to the total and increment counter by 1.
7. After reading each line, display the total, counter, and the average
   * 1. Average = total / counter

**Output**:

1. Asks the user for file name
2. Show error if file does not exist
3. Otherwise, Display the total, number of entries in file, and the average of all the numbers

**Example**:

Invalid file name:

This program will total and average numbers in your data file.

Enter the name of your data file: fake-name.txt

Unable to access file: fake-name.txt

Valid file name but with some invalid numbers in file

This program will total and average numbers in your data file.

Enter the name of your data file: sales\_error-1.txt

13,420.22

45,229.32

35,223.22

29,302.20

95,893.21

94,721.94

Line 7 with a value of 8472O.32

was invalid.

84,793.02

10,394.21

30,233.33

23,432.32

Total: 462,642.99

Number of Entries: 10

Average: 46,264.30