

2. File Head Display

Write a program that asks the user for the name of a file. The program should display only the first five lines of the file's contents. If the file contains less than five lines, it should display the file's entire contents.

3. Line Numbers

Write a program that asks the user for the name of a file. The program should display the contents of the file with each line preceded with a line number followed by a colon. The line numbering should start at 1.

4. Item Counter

Assume a file containing a series of names (as strings) is named `names.txt` and exists on the computer's disk. Write a program that displays the number of names that are stored in the file. (*Hint: Open the file and read every string stored in it. Use a variable to keep a count of the number of items that are read from the file.*)

5. Sum of Numbers

Assume a file containing a series of integers is named `numbers.txt` and exists on the computer's disk. Write a program that reads all of the numbers stored in the file and calculates their total.

6. Average of Numbers

Assume a file containing a series of integers is named `numbers.txt` and exists on the computer's disk. Write a program that calculates the average of all the numbers stored in the file.

7. Random Number File Writer

Write a program that writes a series of random numbers to a file. Each random number should be in the range of 1 through 500. The application should let the user specify how many random numbers the file will hold.

8. Random Number File Reader

This exercise assumes you have completed Programming Exercise 7, *Random Number File Writer*. Write another program that reads the random numbers from the file, displays the numbers, then displays the following data:

- The total of the numbers
- The number of random numbers read from the file

9. Exception Handling

Modify the program that you wrote for Exercise 6 so it handles the following exceptions:

- It should handle any `IOError` exceptions that are raised when the file is opened and data is read from it.
- It should handle any `ValueError` exceptions that are raised when the items that are read from the file are converted to a number.