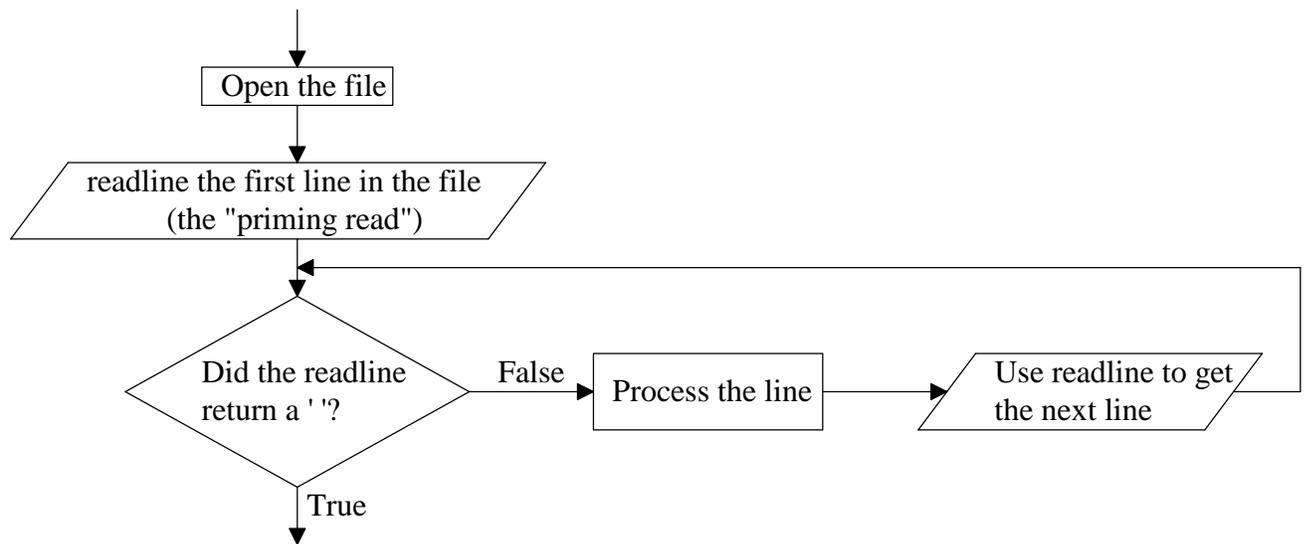


For today's lab you'll need several large data files, so start the lab by copying the directory P:\Math-CS\810-051-fienup\common\lab5 to your P: space (or desktop or flash drive).

Part A: Write two programs that count the number lines in the text file dataFile.txt.

- In the first program use a for loop to iterate over each line in the file, such as:


```
f = open('filename', 'r')
for line in f:
    print line
print 'done processing file'
```
- In the second program use a while loop to read each line until the "end of file" has been reached. You'll know when the end of file has been reached because the readline() will return an empty string ("") when you try to read past the end of the file. The flowchart for the logic is:



After you have both programs for part A working correctly, raise your hand and we'll check your work.

Part B: Write a program that counts the number of each vowel ('a', 'e', 'i', 'o', 'u', 'y') in the text file dataFile.txt. Recall that you can loop over each character in a string by using a for loop, such as:

```
for character in 'house':
    print character
print 'done'
```

After you have the program for part B working correctly, raise your hand and we'll check your work.

Part C: Write a program that processes a file of customer records to generate mailing labels only female customers living in Iowa (IA). The customer records are in the file customerData.txt. Each customer record is spread over 12 consecutive lines in the file. The order of the lines is: First Name, Middle Initial, Last Name, Street Address, City, State, Zip Code, Country, Email Address, Telephone Number, Gender, and Birthday.

Warning: Writing to a file name that already exists will cause it to be erased, so when you pick a name to write the mailing labels to don't use an existing file name. Use a name like: mailingLabels.txt.

Each mailing label should be formatted as below with 5 blank line separating each label:

Jane Smith
123 Main Street
Cedar Falls, IA 50613

You'll need to strip the newline, '\n' character from the lines of customer data which you can do by the `rstrip` string method. The `rstrip` method strips the specified character from the right side of the string.

```
stringWithoutNewLine = stringWithNewLine.rstrip('\n')
```

Don't forget that '+' is used to concatenate strings and that the '\n' character can be concatenated to the end of a string to force a newline character into a text file.

After you have the program for part C working correctly, raise your hand and we'll check your work.

When you are done with all parts, hand in the following:

- A) Both programs for part A
- B) The program for part B
- C) The program for part C

If you don't get all parts done in lab, don't worry about it. Try to have the lab completed by next lab.