File I/O

Input/Output

- How have you done i/o?
- Why use files?
- We'll be talking about *text* files

File Input

- Open a file on disk
- Read from the file
- Close the file

Open a file on disk

```
in_file = open("filename", "r")
```

- *filename* is the name of the file
  - filename can be relative or absolute
  - relative starts looking the current directory as shown above
  - absolute starts at top of file system
    - "/home/srollins/myfile.txt"
- *r* indicates that we will read the file – not change it
- Returns a file *object* on which you can call methods

Read from the file

- Several options for reading from file

```
S = in_file.read() #read entire file into string S
S = in_file.read(N) #read N bytes into string S
S = in_file.readline() #read next line
L = in_file.readlines() #read entire file into list of strings
```

- Each call changes the position in the file

Read from the file

```
while 1:
    line = in_file.readline()
    if not line:
        break
    print line

while 1:
    char = in_file.read(1)
    if not char:
        break

for line in in_file:
    print line


in_file.close() #make sure to close the file!
```

File Output

- Open a file on disk
- Write to the file
- Close the file

```
outfile = open(“myfile.txt”, “w”) #w for write
outfile.write(“this is the info i need to store”)
outfile.close()
```

Exercises

1. Implement a program to open the file “dracula.txt”, count the number of lines on which the word “vampire” appears, and write the result to a new file.