Program Launch

FASTA name provided?

Y — Open FASTA for reading.

N — Output usage information.

Program Terminates

FASTA is readable?

Y — Can we read next?

N — Report error.

Program Terminates

Y — Update statistics.

N — Report FASTA statistics.

Program Terminates

FASTA sniffer

René Magritte
"The Treachery of Images"

Four distinct concepts

- The FASTA file on disk

- The name of the file on disk

- The File object representing the FASTA

- The line of text we see at the moment

File types and modes

- Text files contain printable characters and are separated into lines by EOLs.

- When we open a text file, we need to choose a mode:
  - "r": read-only
  - "w": write (replacing existing file)
  - "a": append to existing file
  - Each of these has a "+" special mode.

Common functions for reading text

```
# Create a file object for reading
FileObject = open("filename.txt","r")

# Read the next line into a string
ThisLine = FileObject.readline()

# Close the file object
FileObject.close()
```

Using a *for* loop for reading

```
FileObject = open("filename.txt", "r")
for ThisLine in FileObject:
    print(ThisLine)
FileObject.close()
```