File i/o with Python

- Students will develop a correct program to solve problems.
- The students will open and read from an input file using Python.
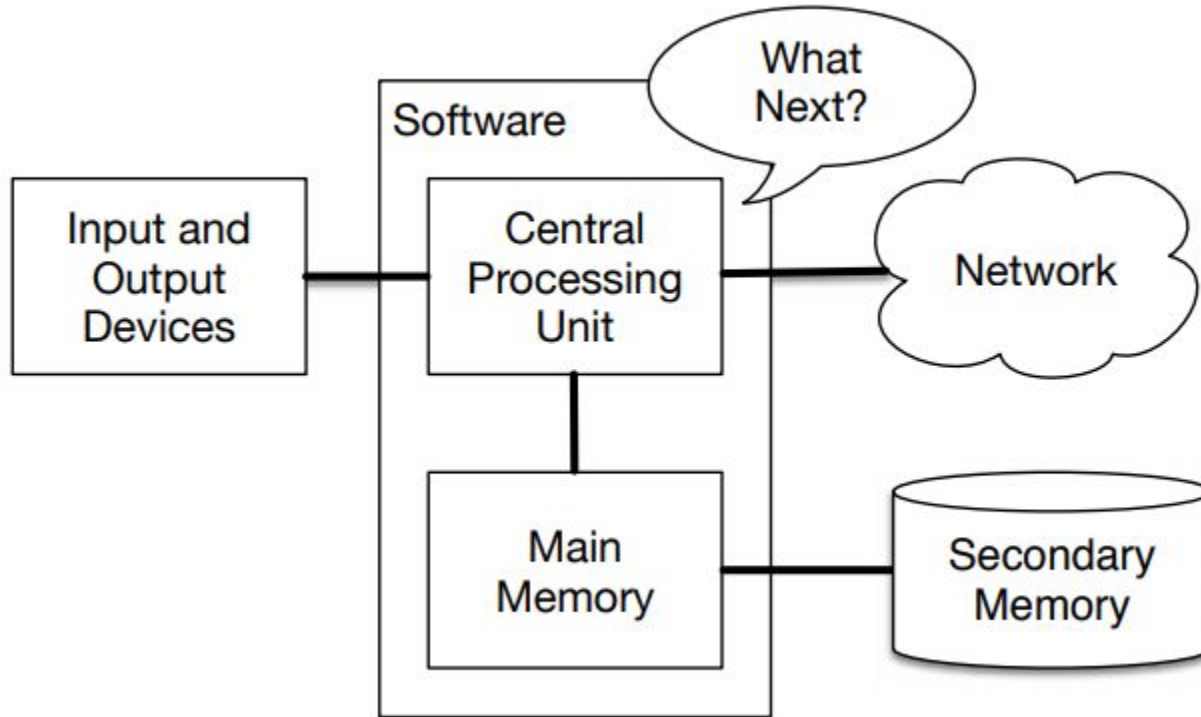- The students will declare and write to an output file using Python.

Journal

- List some pros and cons of inputting data for a program using only a keyboard?
- List some pros and cons of displaying output of a program using only video display?
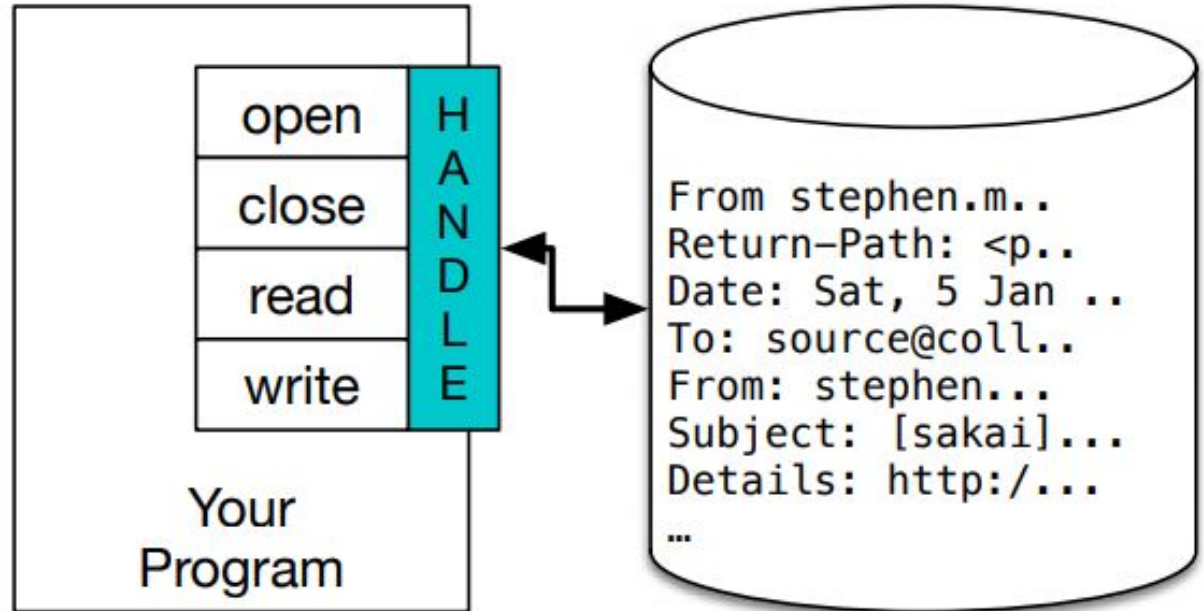
Examine Homework from Last Night

Big Idea - Persistence

Basic Ideas behind files

fhand = open('mbox-short.txt')
print(fhand)

New Line Character = /n

Try this:

    stuff = "AP/nCS/nPrinciples"

    print (stuff)
    print len(stuff)

This is what your file uses as well to signal the end of a line

Reading Information From a File

```
fhand = open('mbox-short.txt')
print(fhand)
count = 0
for line in fhand:
    count = count + 1
print('Line Count:', count)
```

If you know your file is small

```
fhand = open('mbox-short.txt')
inp = fhand.read()
print(len(inp))
print(inp[:20])
```

read "exhausts" the resource (so only use it once)

Searching Through a File

```
fhand = open('mbox-short.txt')
count = 0
for line in fhand:
    #line = line.rstrip()
    if line.startswith('From:'):
        print(line)
```

Using input so any file can be used

```
fname = input('Enter the file name: ')
fhand = open(fname)
count = 0
for line in fhand:
    if line.startswith('Subject:'):
        count = count + 1
        print('There were', count, 'subject lines in', fname)
```

```
fname = input('Enter the file name: ')
try:
    fhand = open(fname)
except:
    print('File cannot be opened:', fname)
    exit()
count = 0
for line in fhand:
    if line.startswith('Subject:'):
        count = count + 1
        print('There were', count, 'subject lines in', fname)
```

Using try, except & open

Writing to a File

```
fout = open('output.txt', 'w')
print(fout)
line1 = "This is the first line,\n"
fout.write(line1)
fout.close()
```

Homework 4-4-A

Think about how files can be used to support simulations. Write an algorithm (using files or not) for the simulation of a five card poker hand from a deck of cards. For bonus points, write the code in python and submit it with the output.