

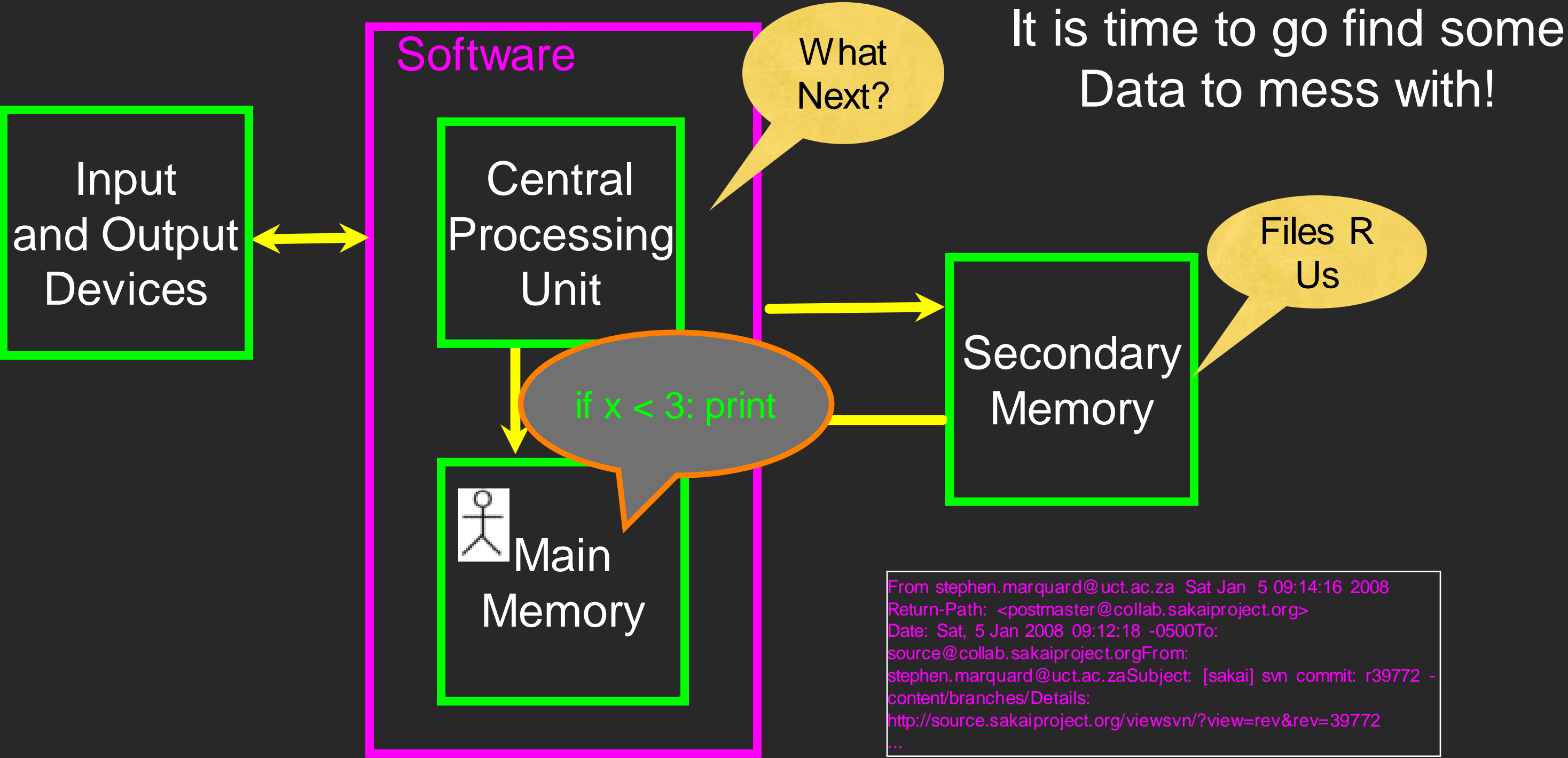
# Reading Files

## Chapter 7



Python for Everybody  
[www.py4e.com](http://www.py4e.com)





# File Processing

A text file can be thought of as a sequence of lines

```
From stephen.marquard@uct.ac.za Sat Jan  5 09:14:16 2008
Return-Path: <postmaster@collab.sakaiproject.org>
Date: Sat, 5 Jan 2008 09:12:18 -0500
To: source@collab.sakaiproject.org
From: stephen.marquard@uct.ac.za
Subject: [sakai] svn commit: r39772 - content/branches/
```

Details: <http://source.sakaiproject.org/viewsvn/?view=rev&rev=39772>

<http://www.py4e.com/code/mbox-short.txt>

# Opening a File

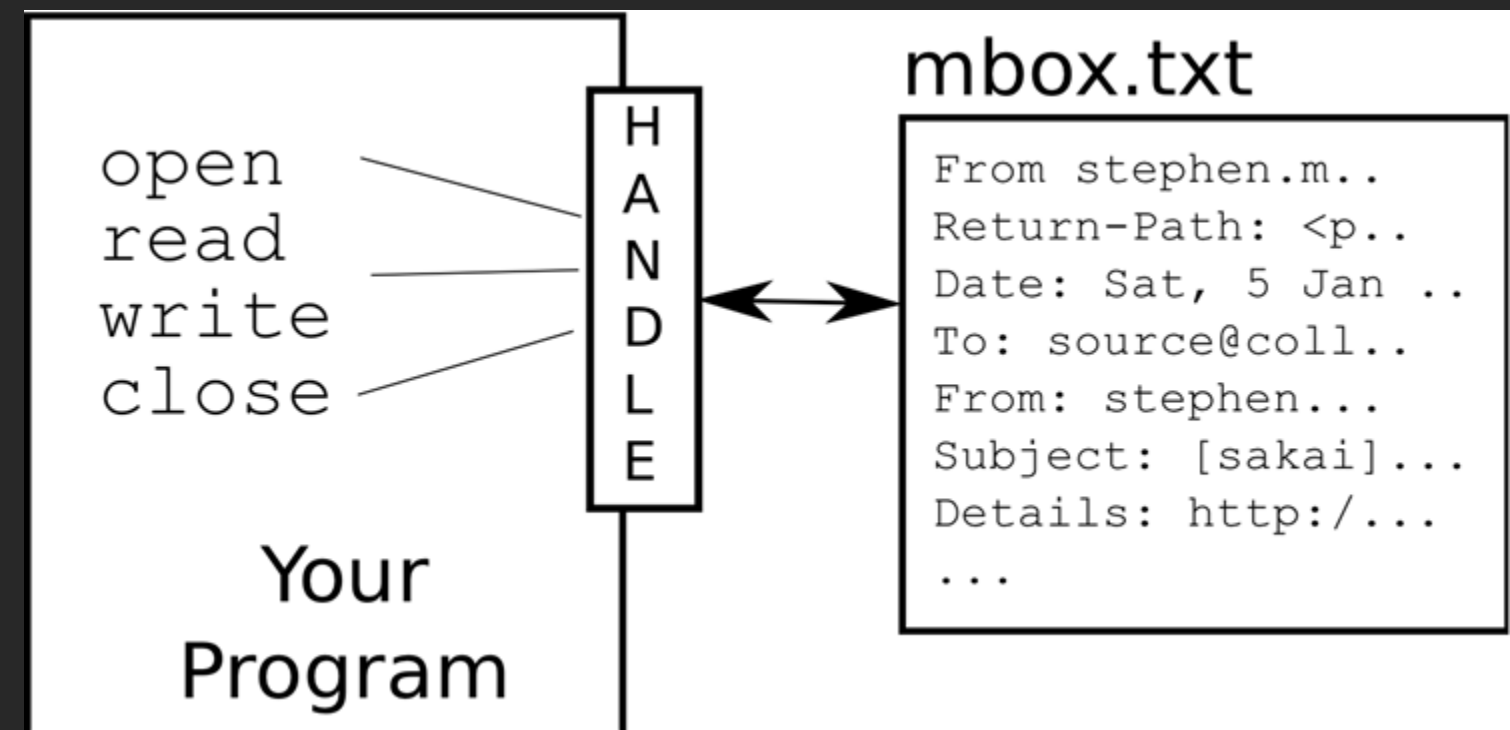
- Before we can read the contents of the file, we must tell Python which file we are going to work with and what we will be doing with the file
- This is done with the `open()` function
- `open()` returns a “file handle” - a variable used to perform operations on the file
- Similar to “File -> Open” in a Word Processor

# Using open()

- `handle = open(filename, mode)` `fhand = open('mbox.txt', 'r')`
- returns a handle use to manipulate the file
- `filename` is a string
- `mode` is optional and should be 'r' if we are planning to read the file and 'w' if we are going to write to the file

# What is a Handle?

```
>>> fhand = open('mbox.txt')
>>> print(fhand)
<_io.TextIOWrapper name='mbox.txt' mode='r' encoding='UTF-8'>
```



# When Files are Missing

```
>>> fhand = open('stuff.txt')
Traceback (most recent call last):
  File "<stdin>", line 1, in <module>
FileNotFoundError: [Errno 2] No such file or
directory: 'stuff.txt'
```

# The newline Character

- We use a special character called the “**newline**” to indicate when a line ends
- We represent it as **\n** in strings
- **Newline** is still one character - not two

```
>>> stuff = 'Hello\nWorld!'
>>> stuff
'Hello\nWorld!'
>>> print(stuff)
Hello
World!
>>> stuff = 'X\nY'
>>> print(stuff)
X
Y
>>> len(stuff)
3
```



# File Processing 1 of 2

A text file can be thought of as a sequence of lines

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Subject: [sakai] svn commit: r39772 - content/branches/
```

```
Details: http://source.sakaiproject.org/viewsvn/?view=rev&rev=39772
```

# File Processing 2 of 2

A text file has **newlines** at the end of each line

```
From stephen.marquard@uct.ac.za Sat Jan  5 09:14:16 2008\nReturn-Path: <postmaster@collab.sakaiproject.org>\nDate: Sat, 5 Jan 2008 09:12:18 -0500\nTo: source@collab.sakaiproject.org\nFrom: stephen.marquard@uct.ac.za\nSubject: [sakai] svn commit: r39772 - content/branches/\n\nDetails: http://source.sakaiproject.org/viewsvn/?view=rev&rev=39772\n
```

# Reading Files in Python...



## Acknowledgements / Contributions



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