

Best Friends: Strings and Lists

```
>>> abc = 'With three words'
>>> stuff = abc.split()
>>> print(stuff)
['With', 'three', 'words']
>>> print(len(stuff))
3
>>> print(stuff[0])
With
```

```
>>> print(stuff)
['With', 'three', 'words']
>>> for w in stuff :
...     print(w)
...
With
Three
Words
>>>
```

Split breaks a string into parts and produces a list of strings. We think of these as words. We can **access** a particular word or **loop** through all the words.


```
>>> line = 'A lot of spaces'
>>> etc = line.split()
>>> print(etc)
['A', 'lot', 'of', 'spaces']
>>>
>>> line = 'first;second;third'
>>> thing = line.split()
>>> print(thing)
['first;second;third']
>>> print(len(thing))
1
>>> thing = line.split(';')
>>> print(thing)
['first', 'second', 'third']
>>> print(len(thing))
3
>>>
```

- When you do not specify a **delimiter**, multiple spaces are treated like one delimiter
- You can specify what **delimiter** character to use in the **splitting**

From stephen.marquard@uct.ac.za Sat Jan 5 09:14:16 2008

```
fhand = open('mbox-short.txt')
for line in fhand:
    line = line.rstrip()
    if not line.startswith('From ') : continue
    words = line.split()
    print(words[2])
```

Sat
Fri
Fri
Fri
...

```
>>> line = 'From stephen.marquard@uct.ac.za Sat Jan 5 09:14:16 2008'
>>> words = line.split()
>>> print(words)
['From', 'stephen.marquard@uct.ac.za', 'Sat', 'Jan', '5', '09:14:16', '2008']
>>>
```

The Double Split Pattern

Sometimes we split a line one way, and then grab one of the pieces of the line and split that piece again

From `stephen.marquard@uct.ac.za` Sat Jan 5 09:14:16 2008

```
words = line.split()  
email = words[1]  
print pieces[1]
```


The Double Split Pattern

From **stephen.marquard@uct.ac.za** Sat Jan 5 09:14:16 2008

```
words = line.split()  
email = words[1]  
print pieces[1]
```

stephen.marquard@uct.ac.za

The Double Split Pattern

From **stephen.marquard@uct.ac.za** Sat Jan 5 09:14:16 2008

```
words = line.split()
email = words[1]
pieces = email.split('@')
print pieces[1]
```

```
stephen.marquard@uct.ac.za
['stephen.marquard', 'uct.ac.za']
```


The Double Split Pattern

From **stephen.marquard@uct.ac.za** Sat Jan 5 09:14:16 2008

```
words = line.split()
email = words[1]
pieces = email.split('@')
print(pieces[1])
```

```
stephen.marquard@uct.ac.za
['stephen.marquard', 'uct.ac.za']
'uct.ac.za'
```

List Summary

- Concept of a collection
- Lists and definite loops
- Indexing and lookup
- List mutability
- Functions: len, min, max, sum
- Slicing lists
- List methods: append, remove
- Sorting lists
- Splitting strings into lists of words
- Using split to parse strings



Acknowledgements / Contributions



These slides are Copyright 2010- Charles R. Severance (www.dr-chuck.com) of the University of Michigan School of Information and open.umich.edu and made available under a Creative Commons Attribution 4.0 License. Please maintain this last slide in all copies of the document to comply with the attribution requirements of the license. If you make a change, feel free to add your name and organization to the list of contributors on this page as you republish the materials.

Initial Development: Charles Severance, University of Michigan School of Information

... Insert new Contributors and Translators here