Installing Python
(The PC Story)

Lecture 1: Text Analytics for Big Data

Mark Keane, Insight/CSI, UCD

Note…

- Not a course on Python programming
- Not a course on R programming
- So, having got that out of the way, lets see how to install them….

Let's Get Set Up…

- You should have Python 3.4 installed
- You need to install **nltk** package
- You need to load in **nltk** data too
- Then, you can start to use its bits…

Three things…

- You can use IDLE IDE; has Python shell interpreter and windows for files, etc (wather pwimitive)…
- Along with Command Prompt window (command line)
- Later we will look at PyCharm*…
- Use one or the other…

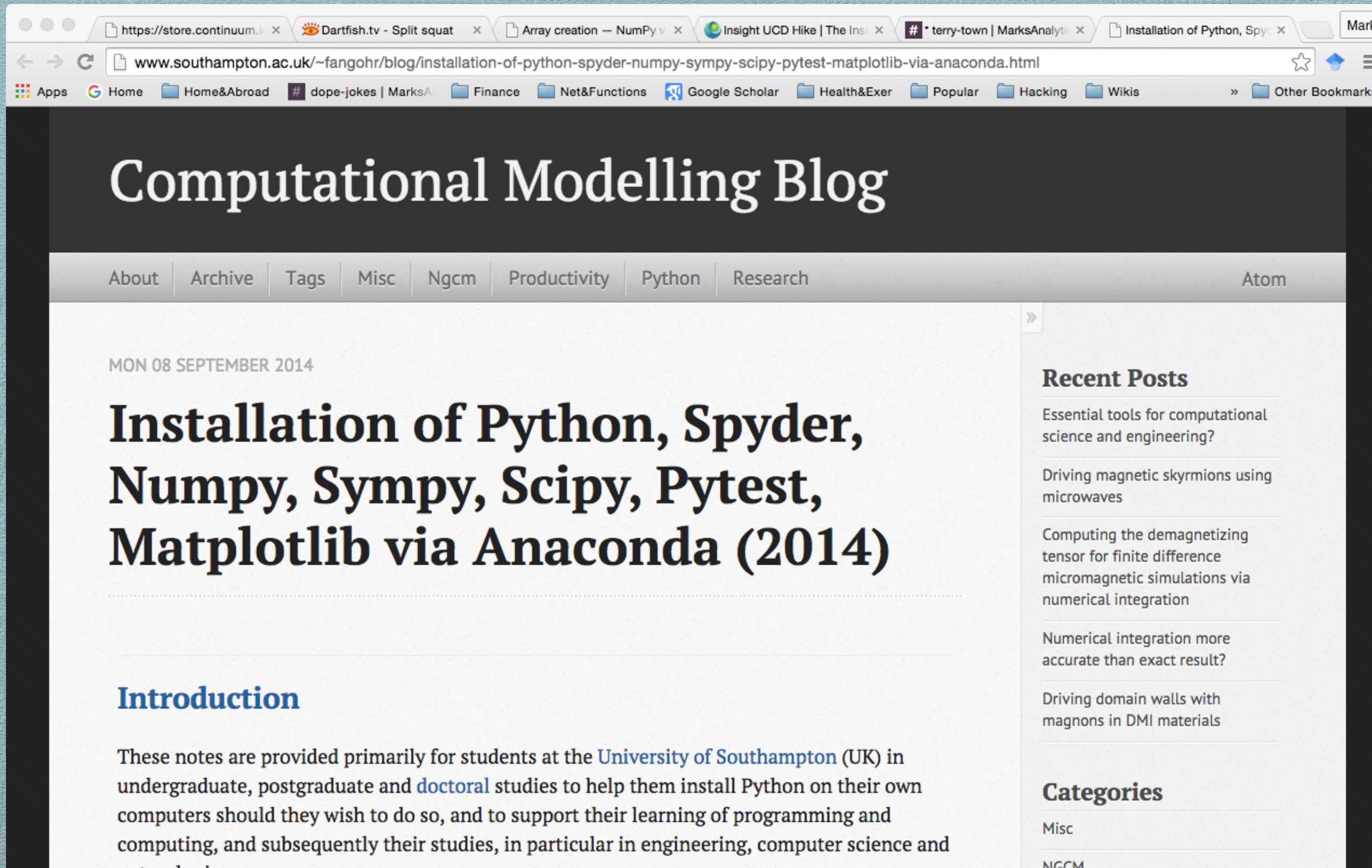
Installing Python

PC Installation

PC Package Install (PC)

- We advise using Anaconda for the PC installation as it has a lot of the packages pre-loaded and is good
- Check out the two sites mentioned:
  - site 1: http://www.southampton.ac.uk/~fangohr/blog/installation-of-python-spyder-numpy-sympy-scipy-pytest-matplotlib-via-anaconda.html
  - site 2: https://store.continuum.io/static/img/Anaconda-Quickstart.pdf

Site 1: Easy Anaconda Installation



Site 2: Quick Start

Conda

Search docs

Get started

Intro to conda

Download conda

Installation

Test drive

Conda cheat sheet

Using conda

Building packages

Help & reference

Get involved

Download conda

Conda can be downloaded with an array of options. This page is to help you decide among the various options. To download conda, you will download Anaconda or Miniconda (both are free), or purchase Anaconda Server. All can be downloaded with legacy Python 2.7 or current Python 3.5. You can choose a version with a GUI or a command line installer.

TIP: If you are unsure, we recommend the most recent version of Anaconda3 - that automatically includes Python 3.5, the most recent version of Python. If you are on Windows or OS X, we recommend you also choose the version with GUI installer.

Should I download Anaconda or Miniconda?

Choose Anaconda if you:

- Are new to conda or Python
- Like the convenience of having Python and over 150 scientific packages automatically installed at once
- Have the time and disk space (a few minutes and 3 GB), and/or
- Don't want to install each of the packages you want to use individually.

Anaconda download: http://continuum.io/downloads

See this for running

- https://www.youtube.com/watch?v=J5GevIHNctM&feature=iv&src_vid=A6_gh0vrZ-E&annotation_id=annotation_1374350233

Failing Anaconda…Use…

- You can go look at the home site for Python
- NB You want V 3.4

python™


```
# Python 3: Simple arithmetic
>>> 1 / 2
0.5
>>> 2 ** 3
8
>>> 17 / 3  # classic division returns a float
5.666666666666667
>>> 17 // 3  # floor division
5
```

Intuitive Interpretation

Calculations are simple with Python, and expression syntax is straightforward: the operators +, -, * and / work as expected; parentheses ( ) can be used for grouping. More about simple math functions in Python 3.

1 2 3 4 5

Python is a programming language that lets you work quickly and integrate systems more effectively. >>> Learn More

Get Started

Whether you're new to programming or an experienced

Download

Python source code and installers are available for

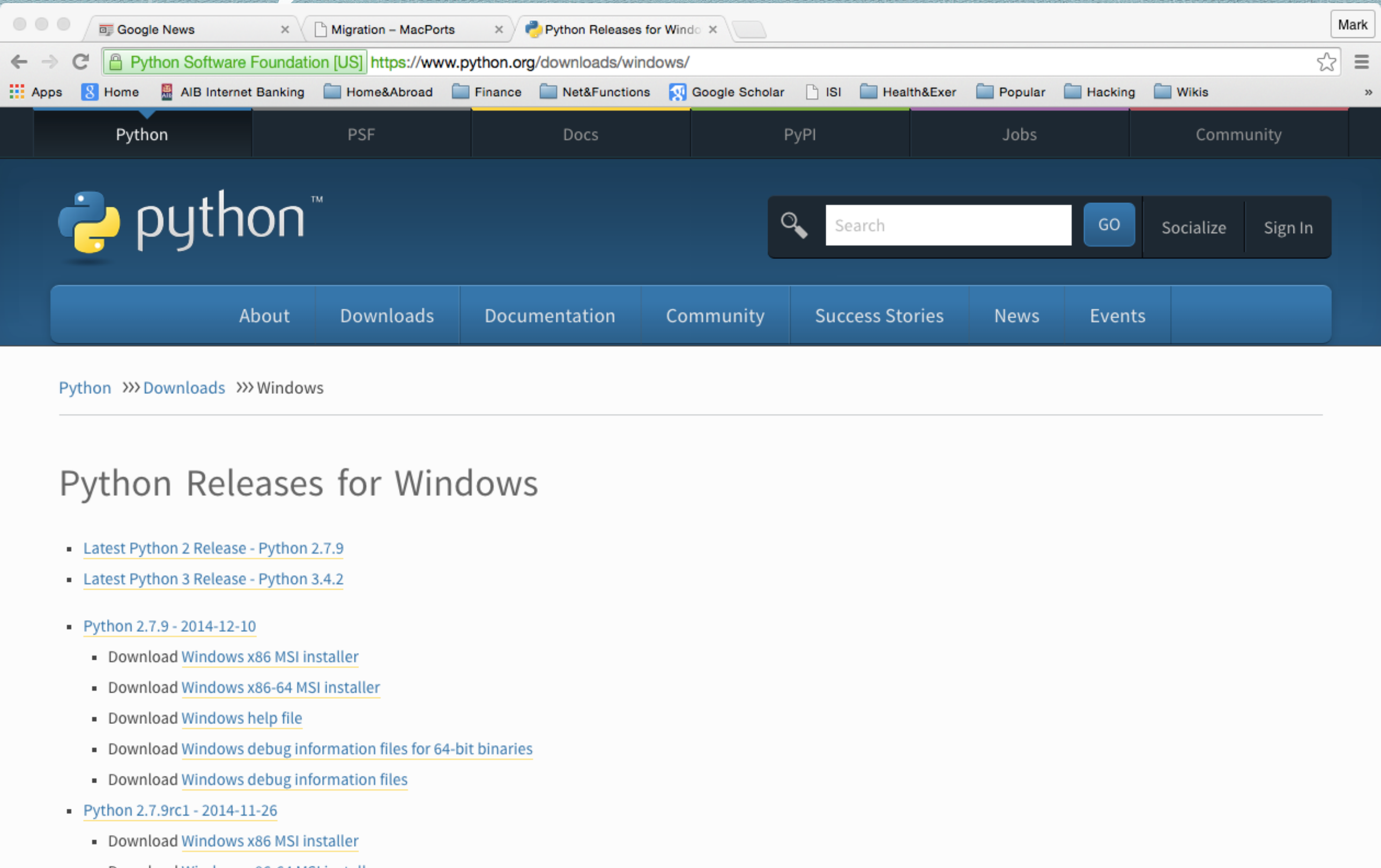
Docs

Documentation for Python's standard library, along with

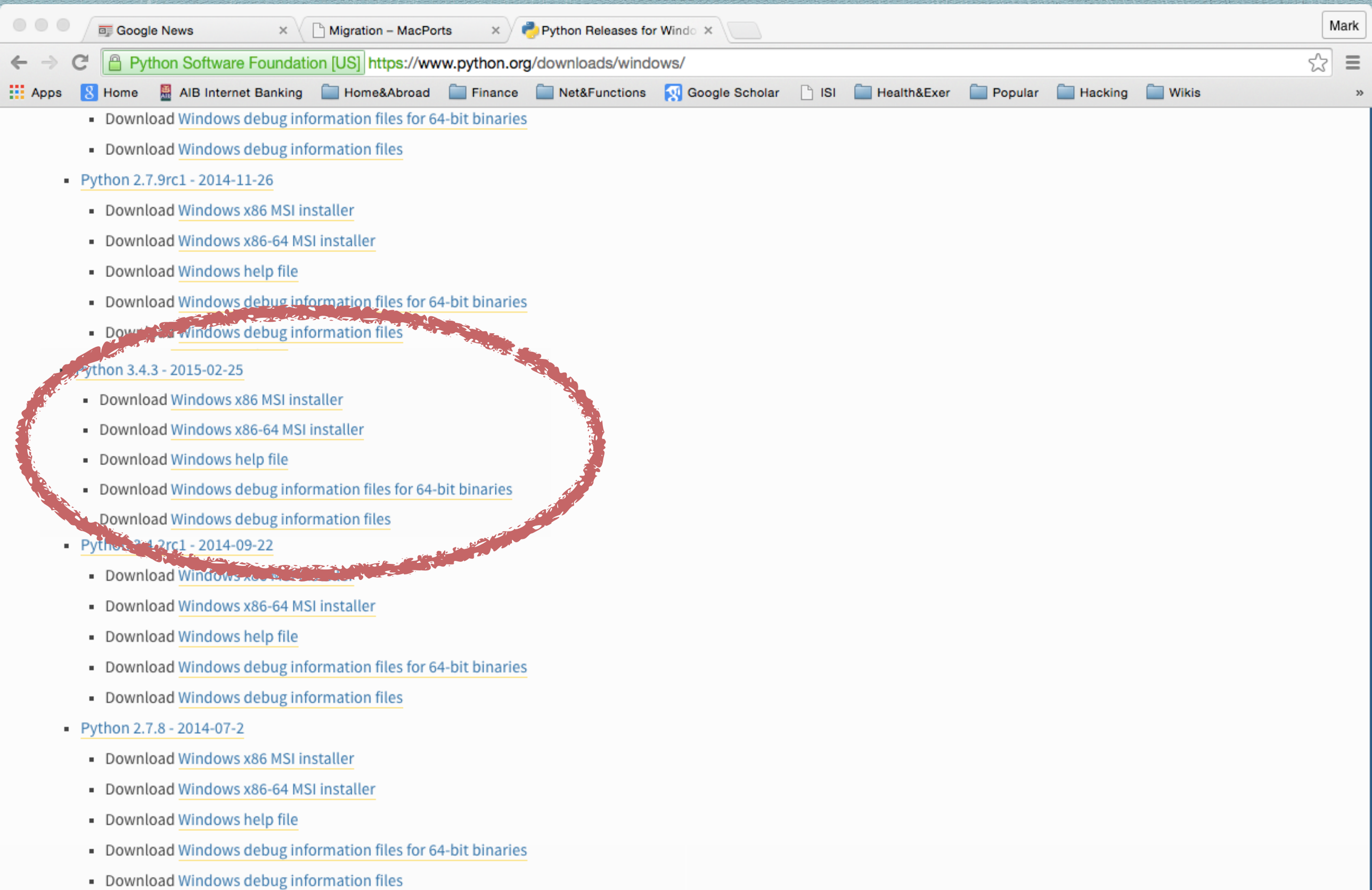
Jobs

Looking for work or have a Python related position that

Get Python from site…



Get Python Installer from Site…



Installing Python

You basically want like this…

Spyder

File Edit Search Source Run Interpreters Tools View ?

Editor - D:\Dropbox\Dev\auto post\check - Link Engine Checker\link_engine_check...

.temp.py | link_engine_checker.py

```
21 import json
22 import os
23 import re
24 import requests
25 import sys
26
27 from threading import Lock
28
29 from libs.thread_pool import ThreadPool
30
31
32 #-----------------------------------------------
33
34 [illegible]ks.txt'
35
36 [illegible]ecked'
37
38 NR_OF_THREADS = 20
39
40 #-----------------------------------------------
41
42 HEADERS = {'User-Agent': 'Mozilla/5.0 (compatible; MS
43                          'Trident/6.0)'}
44 MUTEX = Lock()
```

Code analysis

E501 line too long (81 > 79 characters)

Console

Python 1 00:18:27

```
Python 2.7.3 (default, Apr 10 2012, 23:31:26) [
MSC v.1500 32 bit (Intel)] on win32
Type "help", "copyright", "credits" or "license
" for more information.
>>>
```

PEP8 check

Console | File explorer

Pylint

D:\Dropbox\Dev\auto post\check - Link Engine Checker\link_engine_checker.py

Analyze Stop

Global evaluation: 9.81/10 (previous run: 9.90/10) **21 Nov 2012 15:33** Output

Results for D:\Dropbox\Dev\auto post\check - Link Engine Checker\link_engine_checker.py

- Convention (1 message)
  - [C0301] 32 : Line too long (81/80)
- Refactor (1 message)
  - [R0912] 60 : check_link: Too many branches (17/12)
- Warning (0 message)
- Error (0 message)

PYLINT check

What is the system setup…

- In the Python shell check out do:

  >>> import sys

  >>> sys.path

  ….

  >>> sys.version

  …

  >>> sys.platform

  …

Installing Python

Issues

PC Install (PC)

- Do be determined…

Install

Resources

python™


```
# Python 3: Simple arithmetic
>>> 1 / 2
0.5
>>> 2 ** 3
8
>>> 17 / 3  # classic division returns a float
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Docs

Documentation for Python's standard library, along with

Jobs

Looking for work or have a Python related position that

Download
Download these documents

Docs for other versions
Python 2.7 (stable)
Python 3.3 (stable)
Python 3.5 (in development)
Old versions

Other resources
PEP Index
Beginner's Guide
Book List
Audio/Visual Talks

Quick search
Go
Enter search terms or a module, class or function name.

Python 3.4.3 documentation

Welcome! This is the documentation for Python 3.4.3, last updated Aug 06, 2015.

Parts of the documentation:

What's new in Python 3.4?
or all "What's new" documents since 2.0

Tutorial
start here

Library Reference
keep this under your pillow

Language Reference
describes syntax and language elements

Python Setup and Usage
how to use Python on different platforms

Python HOWTOs
in-depth documents on specific topics

Installing Python Modules
installing from the Python Package Index & other sources

Distributing Python Modules
publishing modules for installation by others

Extending and Embedding
tutorial for C/C++ programmers

Python/C API
reference for C/C++ programmers

FAQs
frequently asked questions (with answers!)

Indices and tables:

Global Module Index
quick access to all modules

Search page
search this documentation

Table Of Contents

Installing Python Modules
- Key terms
- Basic usage
- How do I ...?
  - ... install `pip` in versions of Python prior to Python 3.4?
  - ... install packages just for the current user?
  - ... install scientific Python packages?
  - ... work with multiple versions of Python installed in parallel?
- Common installation issues
  - Installing into the system Python on Linux
  - Installing binary extensions

Previous topic
Distributing Python Modules

Next topic
Python HOWTOs

This Page
Report a Bug

Installing Python Modules

Email: distutils-sig@python.org

As a popular open source development project, Python has an active supporting community of contributors and users that also make their software available for other Python developers to use under open source license terms.

This allows Python users to share and collaborate effectively, benefiting from the solutions others have already created to common (and sometimes even rare!) problems, as well as potentially contributing their own solutions to the common pool.

This guide covers the installation part of the process. For a guide to creating and sharing your own Python projects, refer to the *distribution guide*.

Note: For corporate and other institutional users, be aware that many organisations have their own policies around using and contributing to open source software. Please take such policies into account when making use of the distribution and installation tools provided with Python.

Key terms

- `pip` is the preferred installer program. Starting with Python 3.4, it is included by default with the Python binary installers.
- a virtual environment is a semi-isolated Python environment that allows packages to be installed for use by a particular application, rather than being installed system wide
- `pyvenv` is the standard tool for creating virtual environments, and has been part of Python since Python 3.3. Starting with Python 3.4, it defaults to installing `pip` into all created virtual environments
- `virtualenv` is a third party alternative (and predecessor) to `pyvenv`. It allows virtual environments to be used on versions of Python prior to 3.4, which either don't provide `pyvenv` at

Previous topic
Changelog

Next topic
1. Whetting Your Appetite

This Page
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The Python Tutorial

Python is an easy to learn, powerful programming language. It has efficient high-level data structures and a simple but effective approach to object-oriented programming. Python's elegant syntax and dynamic typing, together with its interpreted nature, make it an ideal language for scripting and rapid application development in many areas on most platforms.

The Python interpreter and the extensive standard library are freely available in source or binary form for all major platforms from the Python Web site, https://www.python.org/, and may be freely distributed. The same site also contains distributions of and pointers to many free third party Python modules, programs and tools, and additional documentation.

The Python interpreter is easily extended with new functions and data types implemented in C or C++ (or other languages callable from C). Python is also suitable as an extension language for customizable applications.

This tutorial introduces the reader informally to the basic concepts and features of the Python language and system. It helps to have a Python interpreter handy for hands-on experience, but all examples are self-contained, so the tutorial can be read off-line as well.

For a description of standard objects and modules, see *The Python Standard Library*. *The Python Language Reference* gives a more formal definition of the language. To write extensions in C or C++, read *Extending and Embedding the Python Interpreter* and *Python/C API Reference Manual*. There are also several books covering Python in depth.

This tutorial does not attempt to be comprehensive and cover every single feature, or even every commonly used feature. Instead, it introduces many of Python's most noteworthy features, and will give you a good idea of the language's flavor and style. After reading it, you will be able to read and write Python modules and programs, and you will be ready to learn more about the various Python library modules described in *The Python Standard Library*.

The *Glossary* is also worth going through.

Table Of Contents

3. An Informal Introduction to Python
- 3.1. Using Python as a Calculator
  - 3.1.1. Numbers
  - 3.1.2. Strings
  - 3.1.3. Lists
- 3.2. First Steps Towards Programming

Previous topic
2. Using the Python Interpreter

Next topic
4. More Control Flow Tools

This Page
Report a Bug
Show Source

Quick search
Go
Enter search terms or a module, class or function name.

3. An Informal Introduction to Python

In the following examples, input and output are distinguished by the presence or absence of prompts (>>> and ...): to repeat the example, you must type everything after the prompt, when the prompt appears; lines that do not begin with a prompt are output from the interpreter. Note that a secondary prompt on a line by itself in an example means you must type a blank line; this is used to end a multi-line command.

Many of the examples in this manual, even those entered at the interactive prompt, include comments. Comments in Python start with the hash character, #, and extend to the end of the physical line. A comment may appear at the start of a line or following whitespace or code, but not within a string literal. A hash character within a string literal is just a hash character. Since comments are to clarify code and are not interpreted by Python, they may be omitted when typing in examples.

Some examples:

```
# this is the first comment
spam = 1  # and this is the second comment
          # ... and now a third!
text = "# This is not a comment because it's inside quotes."
```

3.1. Using Python as a Calculator

Let's try some simple Python commands. Start the interpreter and wait for the primary prompt, >>>. (It shouldn't take long.)

3.1.1. Numbers

The interpreter acts as a simple calculator: you can type an expression at it and it will write the value. Expression syntax is straightforward: the operators +, -, * and / work just like in most other languages (for example, Pascal or C); parentheses (()) can be used for grouping. For example:

```
>>> 2 + 2
```

Resources III: https://csimoodle.ucd.ie/moodle/

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Secure | https://csmoodle.ucd.ie/moodle/course/index.php

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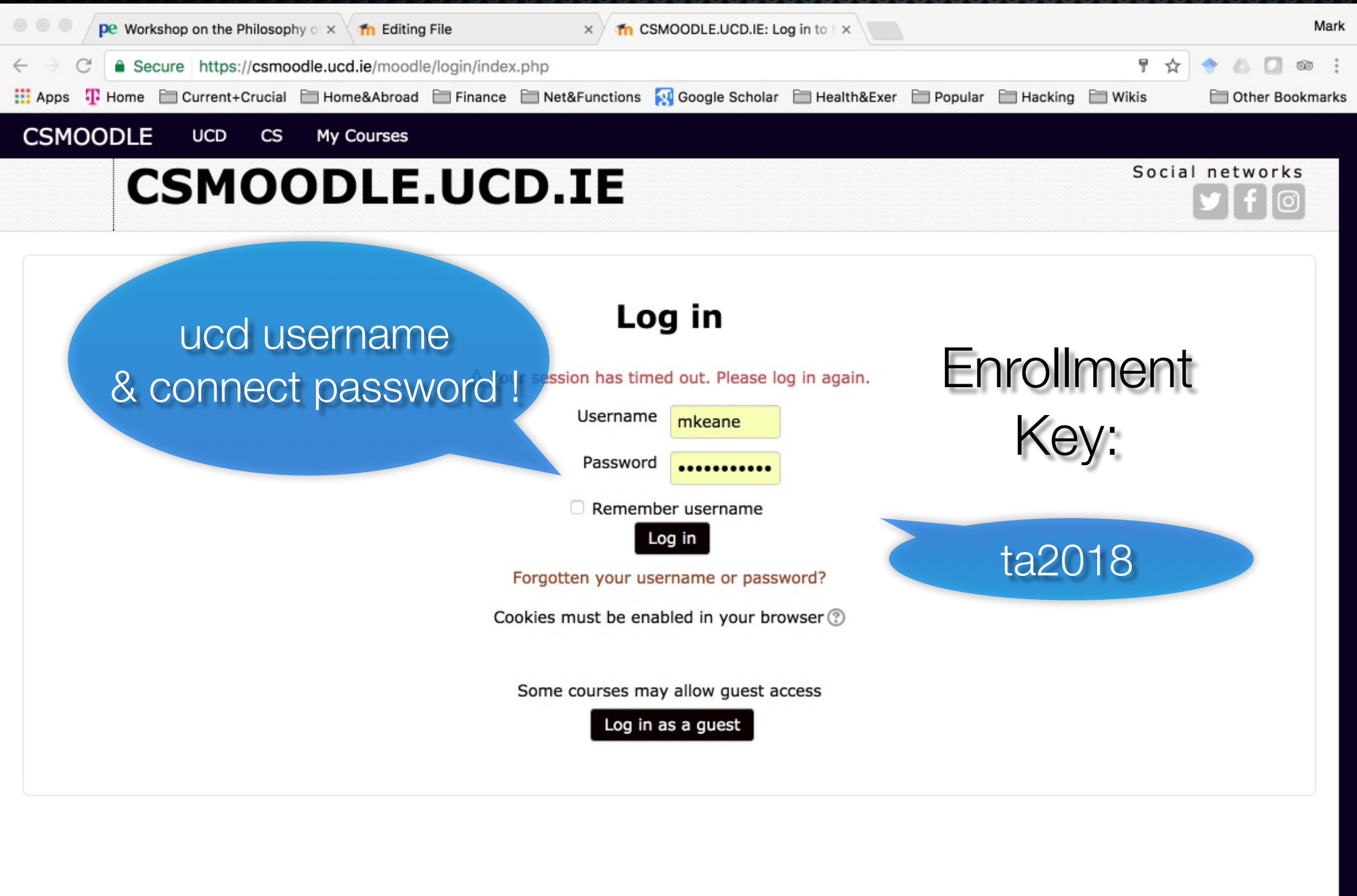

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- Participants
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- Competencies
- Grades
- General
- 10 September - 16 September
- 17 September - 23 September
- 24 September - 30 September
- 1 October - 7 October
- 8 October - 14 October
- 15 October - 21 October
- 22 October - 28 October

COMP47600 Text Analytics to Discover Meaning 2018-19

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Turn editing on

Announcements

News forum

Class Chat (not social)

10 September - 16 September

INTRODUCTION (Lecture 1). The plan for this first week is really just to introduce the course. Look at some of the software we will use and to get this software installed; get us all on the same page with respect to a basic level environment to use. This is the main goal for the week. Next week I will assume all of this is done.

Course Outline (Provisional)

Lecture1: Introduction

Lect1: Intro (Print Version)

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Go

Advanced search

Latest announcements

Add a new topic...

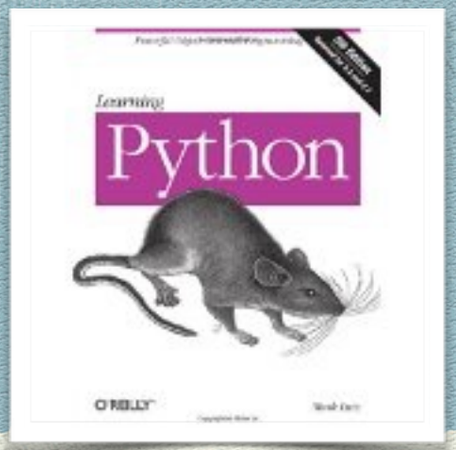
(No announcements have been posted yet.)

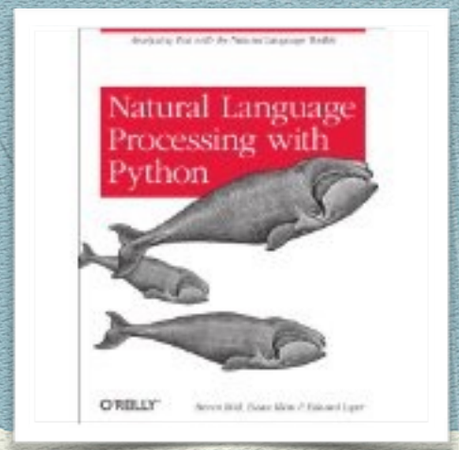
Upcoming events

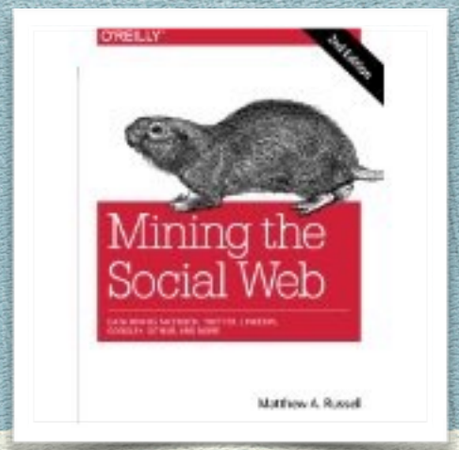
There are no upcoming events

Go to calendar...

Books







Lutz, M. (2013). Learning python. O'Reilly Media, Inc.

Bird, S., Klein, E., & Loper, E. (2009). Natural language processing with Python. O'Reilly Media, Inc.

Russell, M. A. (2013). Mining the Social Web: Data Mining Facebook, Twitter, LinkedIn, Google+, GitHub, and More. O'Reilly Media, Inc..

Installation

What We Now Have…

We have…

- Installed Python
- Installed an IDE
- Installed a package (nltk)
- Installed a package's data (nltk data)
- Now…we are ready to go…