The Subtle Art of Discovering Python Modules

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Goals

* Learn about built-in help()
* Learn about pydoc
* Learn new tricks with pip
* Brief survey of online resources

Built-in Help

```
$ python3

Python 3.7.4 (v3.7.4:e09359112e, Jul  8 2019,
14:54:52)

[Clang 6.0 (clang-600.0.57)] on darwin

Type "help", "copyright", "credits" or "license"
for more information.

>>> help()
```

Built-in Help (cont)

```
>>> help()

Welcome to Python 3.7's help utility!

If this is your first time using Python, you should definitely check out the
tutorial on the Internet at https://docs.python.org/3.7/tutorial/. Enter the name
of any module, keyword, or topic to get help on writing Python programs and using
Python modules. To quit this help utility and return to the interpreter, just
type “quit". To get a list of available modules, keywords, symbols, or topics,
type "modules", "keywords", "symbols", or "topics".  Each module also comes with
a one-line summary of what it does; to list the modules whose name or summary
contain a given string such as "spam", type "modules spam".

help>
```

Built-in Help (cont)

```
help> modules
```

__future__	argparse	http	requests
_abc	array	idlelib	requests_toolbelt
_ast	asn1crypto	idna	resource
_asyncio	ast	imaplib	rlcompleter
_bisect	asynchat	imghdr	runpy
_blake2	asyncio	imp	sched
_bootlocale	asyncore	importlib	secrets
_bz2	atexit	importlib_metadata	select
_cffi_backend	atomicwrites	inspect	selectors
_codecs	attr	io	setuptools
_codecs_cn	audioop	ipaddress	shellingham
_codecs_hk	base64	itertools	shelve

Built-in Help (cont)

```
help> pathlib

Help on module pathlib:
NAME
    pathlib
CLASSES
    …
    class Path(PurePath)
     |  Path(*args, **kwargs)
     |
     |  PurePath subclass that can make system calls.
     |
     |  Path represents a filesystem path but unlike PurePath, also offers
     |  methods to do system calls on path objects. Depending on your system,
     |  instantiating a Path will return either a PosixPath or a WindowsPath
     |  object. You can also instantiate a PosixPath or WindowsPath directly,
     |  but cannot instantiate a WindowsPath on a POSIX system or vice versa.
     |
     |  Method resolution order:
```

Built-in Help (cont)

```
>>> from pathlib import Path
>>> home = Path.home()
>>> help(home)
Help on PosixPath in module pathlib object:
class PosixPath(Path, PurePosixPath)
 |  PosixPath(*args, **kwargs)
 |
 |  Path subclass for non-Windows systems.
 |
 |  On a POSIX system, instantiating a Path should return this object.
 |
 |  Method resolution order:
 |      PosixPath
 |      Path
 |      PurePosixPath
 |      PurePath
 |      builtins.object
```

Built-in Help (cont)

```
>>> help(home.resolve)
Help on method resolve in module pathlib:


resolve(strict=False) method of pathlib.PosixPath instance
    Make the path absolute, resolving all symlinks on the way and also
    normalizing it (for example turning slashes into backslashes under
    Windows).


>>>
```

Pydoc – Python Documentation Reader

```
$ pydoc -h

pydoc - the Python documentation tool

pydoc <name> ...
    Show text documentation on something.  <name> may be the name of a
    Python keyword, topic, function, module, or package, or a dotted
    reference to a class or function within a module or module in a
    package.  If <name> contains a '/', it is used as the path to a
    Python source file to document. If name is 'keywords', 'topics',
    or 'modules', a listing of these things is displayed.

pydoc -k <keyword>
    Search for a keyword in the synopsis lines of all available modules.
```

Pydoc (cont)

```
$ pydoc modules

...

$ pydoc pathlib.Path

...

$ pydoc pathlib.Path.resolve

...
```

Pydoc (cont)

```
# trivia, the following is equivalent to pydoc

$ python -m pydoc <options>

...
```

Learn New Tricks with pip

* pip search <keyword>

```
$ pip search logging
```

```
logging (0.4.9.6)                    - A logging module for Python
Spruce-logging (0.1.3)               - Logging
pretty-logging (1.0.1)               - pretty logging
jk-logging (0.2019.9.10)             - This is a logging framework.
schemamacros-logging (0.1.0)         - logging for schemamacros
timezone-logging (0.1)               - Logging with timezone
logging-toolbox (0.2.0)              - logging-toolbox
lumberjack-logging (0.1.0)           - Logging tools.
logging-ext (1.0.1)                  - logging ext;
sg-logging (0.0.9)                   - Logging into Papertrail
```

Learn New Tricks with pip (cont)

* pip show <installed_module>

```
$ pip show numpy
Name: numpy
Version: 1.17.2
Summary: NumPy is the fundamental package for array computing with Python.
Home-page: https://www.numpy.org
Author: Travis E. Oliphant et al.
Author-email: None
License: BSD
Location: /usr/local/lib/python3.7/site-packages
Requires:
Required-by: pandas, matplotlib
```

An Abbreviated Tour of Online Resources

* Websites / Blogs
* Newsletters
* Podcasts
* Curated Lists on Github
* Communities

Websites / Blogs

* docs.python.org/3
* realpython.com
* python.libhunt.com
* dbader.org
* planetpython.org
* stackoverflow.com/questions/tagged/python
* pymotw.com/3/
* docs.python-guide.org

Newsletters

* pythonweekly.com
* python.libhunt.com/newsletter
* pycoders.com
* docs.python-guide.org/intro/news/

Podcasts

* talkpython.fm – long form interview
* pythonbytes.fm – weekly short form news format
* testandcode.com
* teachingpython.fm
* dbader.org/blog/ultimate-list-of-python-podcasts

Curated Lists on Github

* github.com/vinta/awesome-python
* meta: github.com/jnv/lists

Communities

* pybit.es
* realpython.com
* pythonmorsels.com
* weeklypythonexercise.com

Thanks!

* Questions

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* Slides

github.com/North-Austin-Pythonistas/Talks/2019/2019-09-Discoverability.pdf