

PYTHON FOR LAZY

or how to make your life easier

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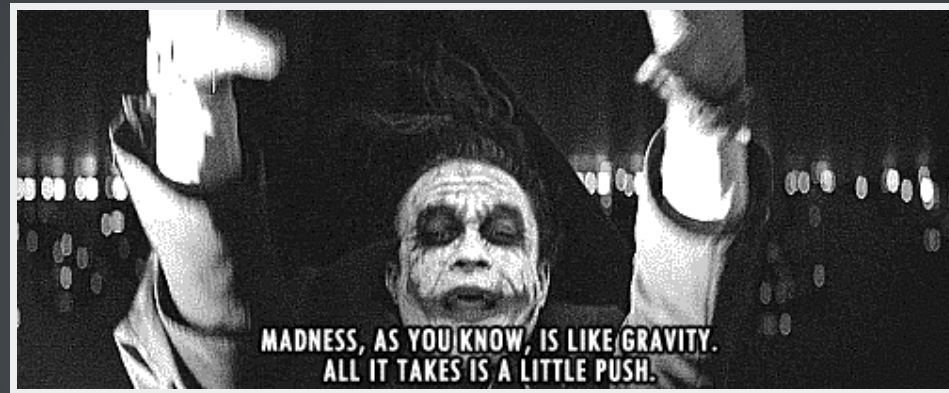
@Gr1Nby / <https://github.com/Gr1N>

SETUP PROJECT

START NEW PROJECT

```
% mkdir awesome_project_43 && cd ./awesome_project_43  
% mkdir awesomemodule  
% touch awesomemodule/__init__.py  
% cp ../awesome_project_42/LICENSE ./  
...
```

MADNESS...



MR.BOB



<https://github.com/iElectric/mr.bob>

MR.BOB

```
% mkdir awesome_project_43 && cd ../awesome_project_43  
% mrbob ../bobtemplates/gr1n/python_package
```

```
...
```

```
--> Dotted name of the package?: awesome_project_43  
--> Name of the package referenced by installers?: awesome_project_43  
--> Description of the package (visible on PyPI and similar):  
--> Version? [0.1]:  
--> Repository URL for the package:  
--> URL for more information about the package:  
--> What year was the project started? [2014]:  
--> Do you want to support Python 2? [No]:  
--> Author name?: Nikita Grishko  
--> Author email address?:
```

```
Generated file structure at ../awesome_project_43
```

MR.BOB

```
% cat .mrbob.ini
[questions]
package.dottedname.question = Dotted name of the package?
package.dottedname.required = True

package.name.question = Name of the package referenced by installers?
package.name.required = True

package.description.question = Description of the package (visible on PyPI ar

package.version.question = Version?
package.version.default = 0.1

package.repository.question = Repository URL for the package
...
```

MR.BOB

```
% ls -l
total 64
-rw-r--r-- 1 nikitagrishko staff 95 Apr 21 22:23 HISTORY.rst
-rw-r--r-- 1 nikitagrishko staff 1081 Apr 21 22:23 LICENSE
-rw-r--r-- 1 nikitagrishko staff 98 Apr 21 22:23 MANIFEST.in
-rw-r--r-- 1 nikitagrishko staff 219 Apr 21 22:23 README.md
-rw-r--r-- 1 nikitagrishko staff 215 Apr 21 22:23 README.rst
drwxr-xr-x 3 nikitagrishko staff 102 Apr 21 22:23 awesome_project_43
-rw-r--r-- 1 nikitagrishko staff 283 Apr 20 22:38 setup.cfg
-rw-r--r-- 1 nikitagrishko staff 1074 Apr 21 22:23 setup.py
drwxr-xr-x 3 nikitagrishko staff 102 Apr 21 22:23 tests
-rw-r--r-- 1 nikitagrishko staff 137 Apr 21 22:23 tox.ini
```


COOKIECUTTER



<https://github.com/audreyr/cookiecutter>

YEOMAN



<http://yeoman.io/>

PROBLEM #1

```
diff --git a/file1.py b/file1.py
index b69df39..ba4e68d 100644
--- a/file1.py
+++ b/file1.py
@@ -1,2 +1,2 @@
-def hello_world():
-    print('Hello world')
+def hello_world():<font color="#a61c00" style="background-color: rgb(166,
+    print('Hello world')<span style="background-color: rgb(166, 28, 0);">
```

PROBLEM #2

```
diff --git b/file2.py a/file2.py
index ba4e68d..5f12b05 100644
--- b/file2.py
+++ a/file2.py
@@ -1,2 +1,2 @@
  def hello_world():
-     print('Hello world')
+     print('Hello world')<br>
```

PROBLEM #3

Coding guidelines

If you would like your linter plugin to be published in the [SublimeLinter organization](#) on github, you must follow these guidelines:

- Indent is 4 spaces.
- Use the [flake8](#) and [pep257](#) linters to check your code.
- Vertical whitespace helps readability, don't be afraid to use it.
- Please use descriptive variable names, no abbreviations unless they are very well known.

MADNESS...



EDITORCONFIG



<http://editorconfig.org/>

EDITORCONFIG

```
% cat .editorconfig
root = true

[*]
end_of_line = lf
charset = utf-8
trim_trailing_whitespace = true
insert_final_newline = true

[**.{py,js}]
indent_style = space
indent_size = 4

[**.ini]
indent_style = space
indent_size = 2
```


EDITORCONFIG

Plugins:

- SublimeText
- PyCharm
- Vim
- Emacs
- ...

PYLINT



<http://www.pylint.org/>

PYLINT

```
% pylint ./onepyssword
No config file found, using default configuration
***** Module onepyssword
C:  1, 0: Missing module docstring (missing-docstring)
***** Module onepyssword.app
C: 35, 0: Line too long (85/80) (line-too-long)
C:110, 0: Line too long (93/80) (line-too-long)
C:  1, 0: Missing module docstring (missing-docstring)
F:  9, 0: Unable to import 'copypaste' (import-error)
C: 28, 4: Invalid constant name "NoSuchFileOrDirectoryException" (invalid-name)
E: 28,37: Undefined variable 'FileNotFoundError' (undefined-variable)

...
```

FLAKE8



<https://bitbucket.org/tarek/flake8/>

FLAKE8

```
% cat setup.cfg
[egg_info]
tag_build =
tag_date = 0

[easy_install]
zip_ok = false

[flake8]
ignore = E123,E127,E121
# E123: closing bracket must match indent of starting bracket
# E127 continuation line over-indented for visual indent
# E121 continuation line indentation is not a multiple of four
```

FLAKE8

```
% flake8 ./onepyssword
./onepyssword/app.py:28:38: F821 undefined name 'FileNotFoundError'
./onepyssword/app.py:35:80: E501 line too long (85 > 79 characters)
./onepyssword/app.py:110:80: E501 line too long (93 > 79 characters)
./onepyssword/logic.py:30:80: E501 line too long (91 > 79 characters)
./onepyssword/logic.py:40:80: E501 line too long (87 > 79 characters)
./onepyssword/logic.py:64:80: E501 line too long (89 > 79 characters)
./onepyssword/logic.py:66:80: E501 line too long (87 > 79 characters)
./onepyssword/logic.py:73:80: E501 line too long (84 > 79 characters)
./onepyssword/logic.py:78:80: E501 line too long (97 > 79 characters)
./onepyssword/logic.py:117:80: E501 line too long (99 > 79 characters)
./onepyssword/logic.py:120:80: E501 line too long (107 > 79 characters)
./onepyssword/logic.py:131:80: E501 line too long (80 > 79 characters)
```

ENVIRONMENT

VIRTUALENV



<http://www.virtualenv.org/>

VIRTUALENV

```
% virtualenv ENV  
% source ENV/bin/activate
```

VENV (PYTHON \geq 3.2)

```
% pyvenv ENV
```

```
% source ENV/bin/activate
```

VIRTUALENVWRAPPER



<http://virtualenvwrapper.readthedocs.org/>

VIRTUALENVWRAPPER

Features:

- Organizes all of your virtual environments in one place.
- Wrappers for managing your virtual environments (create, delete, copy).
- Use a single command to switch between environments.
- ...

VIRTUALENVWRAPPER

```
% pip install virtualenvwrapper
...
% export WORKON_HOME=~/.Envs
% mkdir -p $WORKON_HOME
% source /usr/local/bin/virtualenvwrapper.sh
% mkvirtualenv env1
...
(env1)% ls $WORKON_HOME
env1 hook.log
(env1)% pip install django
...
(env1)$ lssitepackages
Django-1.1.1-py2.6.egg-info      easy-install.pth
...<br>
```

VIRTUALENVWRAPPER

Commands:

- mkvirtualenv
- mktmpenv
- lsvirtualenv
- rmvirtualenv
- workon
- deactivate
- cdvirtualenv
- cdsitepackages
- ...

PYENV



<https://github.com/yyuu/pyenv>

PYENV

Commands:

- local
- global
- shell
- install (104 versions)
- uninstall
- versions
- ...

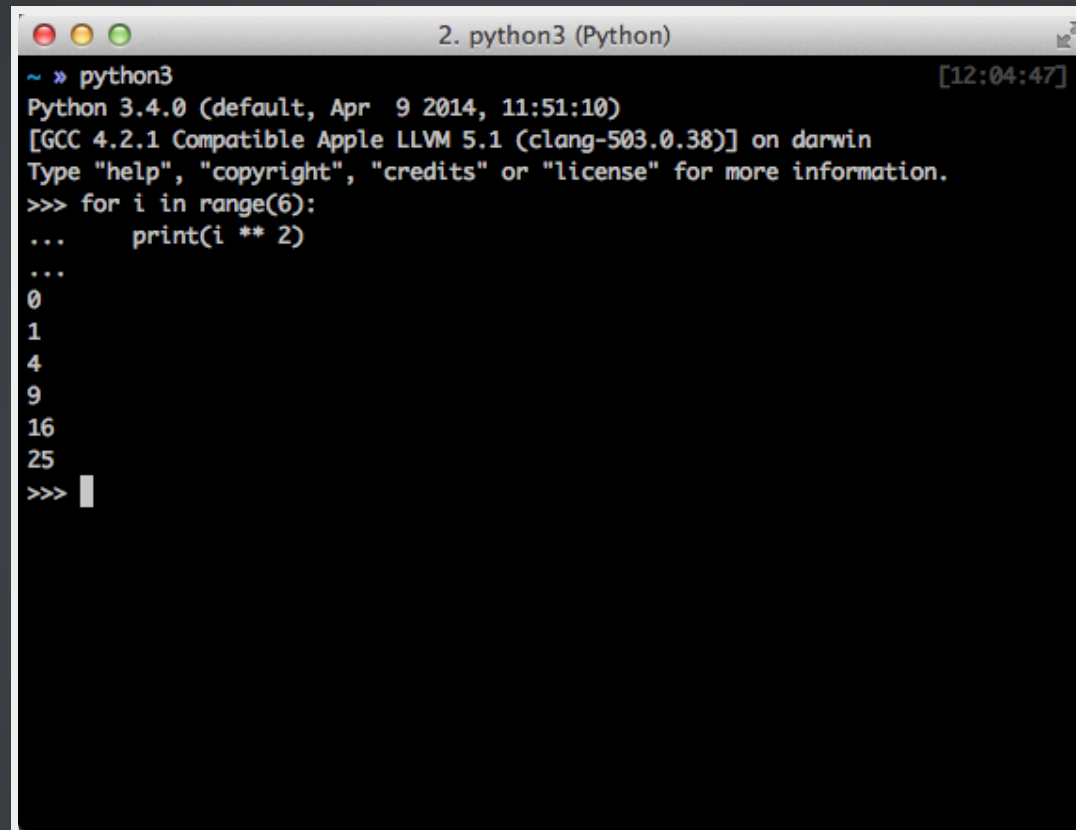
PYENV-VIRTUALENV



<https://github.com/yyuu/pyenv-virtualenv>

DEVELOPMENT

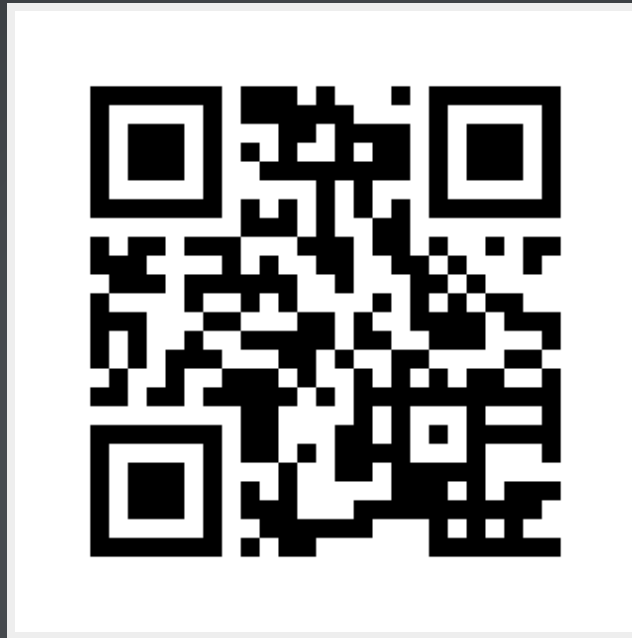
SHELL



A terminal window titled "2. python3 (Python)" with a standard macOS window header (red, yellow, green buttons). The terminal shows the execution of the `python3` command, which starts the Python 3.4.0 interpreter. The interpreter displays version information and a prompt. A loop is executed, printing the squares of integers from 0 to 5. The prompt is at the end of the line.

```
~ » python3 [12:04:47]
Python 3.4.0 (default, Apr  9 2014, 11:51:10)
[GCC 4.2.1 Compatible Apple LLVM 5.1 (clang-503.0.38)] on darwin
Type "help", "copyright", "credits" or "license" for more information.
>>> for i in range(6):
...     print(i ** 2)
...
0
1
4
9
16
25
>>> 
```

IPYTHON



<http://ipython.org/>

BPYTHON



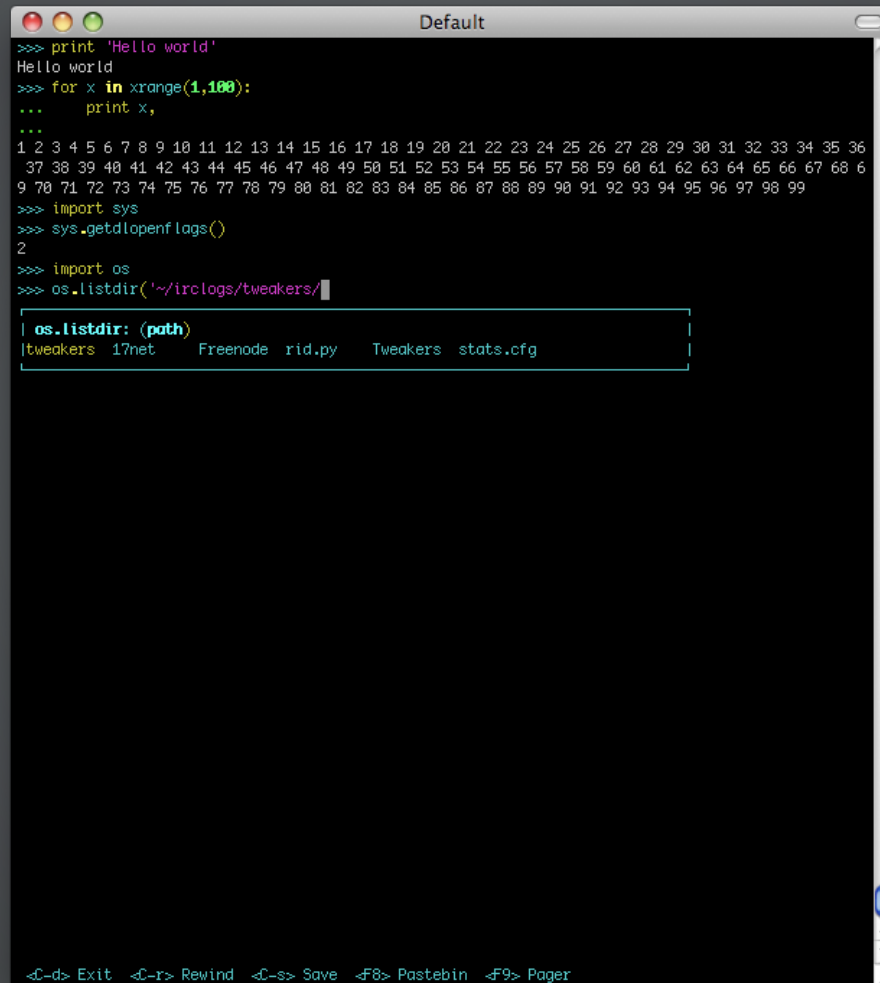
<http://bpython-interpreter.org/>

BPYTHON

Features:

- In-line syntax highlighting.
- Readline-like autocomplete with suggestions displayed as you type.
- Expected parameter list for any Python function.
- Send the code you've entered off to a pastebin.
- Save the code you've entered to a file.
- Auto-indentation.

BPYTHON



```
>>> print 'Hello world'
Hello world
>>> for x in xrange(1,100):
...     print x,
...
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36
37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 6
9 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99
>>> import sys
>>> sys.getdlopenflags()
2
>>> import os
>>> os.listdir('~/.irclogs/tweakers/')
```

```
| os.listdir: (path)
| tweakers 17net      Freenode rid.py    Tweakers stats.cfg
```

```
<C-d> Exit  <C-r> Rewind  <C-s> Save  <F8> Pastebin  <F9> Pager
```

DEBUGGER

```
Python 3.4.0 (default, Apr  9 2014, 11:51:10)
[GCC 4.2.1 Compatible Apple LLVM 5.1 (clang-503.0.38)] on darwin
Type "help", "copyright", "credits" or "license" for more information.
>>> def foo():
...     import pdb; pdb.set_trace()
...     for i in range(6):
...         print(i)
...
>>> foo()
> <stdin>(3)foo()
(Pdb) s
> <stdin>(4)foo()
(Pdb) s
0
> <stdin>(3)foo()
(Pdb) c
2
3
```


PUDB



<https://github.com/inducer/pudb>

PUDB

Features:

- Syntax-highlighted source, the stack, breakpoints and variables are all visible at once and continuously updated.
- Simple, keyboard-based navigation.
- Drop to a Python shell in the current environment by pressing "!".
- ...

PuDB

```
PuDB 0.91 - The Python Urwid debugger - Hit ? for help - © Andreas Klöckner
2009 [PROCESSING EXCEPTION - hit 'e' to examine]

def simple_func(x):
    x += 1

    s = range(20)
    z = None
    w = ()

    y = dict((i, i**2) for i in s)

    k = set(range(5, 99))

    try:
> x.invalid
    except AttributeError:
        pass

    #import sys
    #sys.exit(1)

    return 2*x

def ferat(n):
    """Returns triplets of the form x^n + y^n
    Warning! Untested with n > 2.
    """
* from itertools import count
```

Variables:

```
k: set
s: list
w: tuple
  <empty>
x: 11
y: dict
  0: 0
  1: 1
```

Stack:

```
<module> debug_me.py:34
>> simple_func debug_me.py:13
```

Breakpoints:

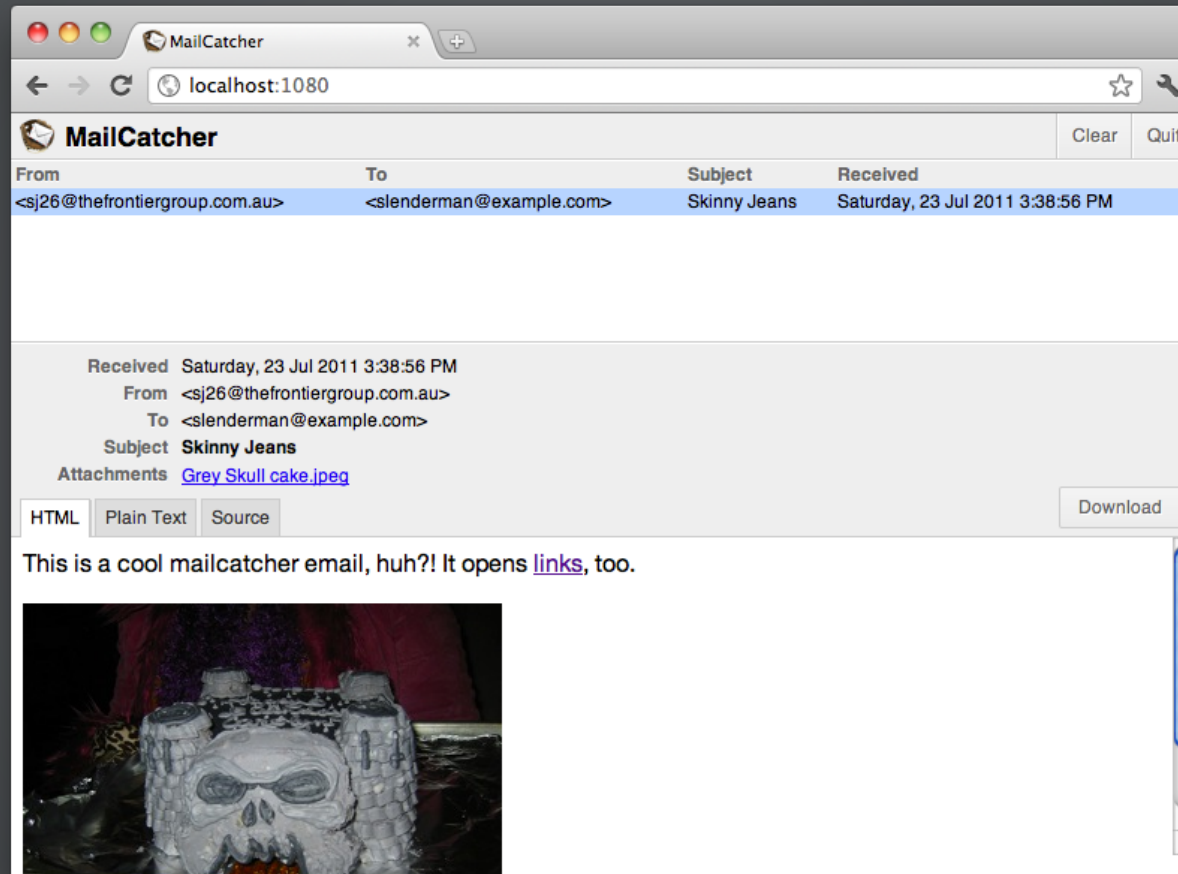
```
debug_me.py:26
```

MAILCATCHER



<http://mailcatcher.me/>

MAILCATCHER



TESTING

TOX



<http://tox.readthedocs.org/>

TOX

```
% cat tox.ini
[tox]
envlist = py27,py33,pypy

[testenv]
changedir = tests
deps =
    pytest
commands =
    py.test
```


PYTEST



<http://pytest.org/>

PYTEST

```
% cat tox.ini
[tox]
envlist = py27,py33,pypy

[testenv]
changedir = tests
deps =
    pytest
    pytest-pep8
    pytest-cov
commands =
    py.test --pep8 --cov myproj
```

<http://pytest-plugs.herokuapp.com/>

PYPI

BUILD AND UPLOAD PACKAGE

```
% vim setup.py
% vim HISTORY.rst
% git commit -a -m "Version 0.2"
% git push
% git tag -a v0.2 -m "Version 0.2"
% git push --tags
% python setup.py sdist upload
% vim setup.py
% vim HISTORY.rst
% git commit -a -m "Version 0.3.dev"
% git push
...
```

MADNESS...



CHECK-MANIFEST



<https://github.com/mgedmin/check-manifest>

CHECK-MANIFEST

```
% check-manifest -u
listing source files under version control: 6 files and directories
building an sdist: check-manifest-0.7.tar.gz: 4 files and directories
files in version control do not match the sdist!
missing from sdist:
    tests.py
    tox.ini
suggested MANIFEST.in rules:
    include *.py
    include tox.ini
updating MANIFEST.in
% cat MANIFEST.in
include *.rst

# added by check_manifest.py
include *.py
include tox.ini<br>
```

ZEST.RELEASER



<https://github.com/zestsoftware/zest.releaser>

ZEST.RELEASER

Commands:

- prerelease
- release
- postrelease
- fullrelease
- longtest
- lasttagdiff

PYPISPY



<http://gr1n.github.io/pypispy/>

PYPISPY

```
% pypispy
onepyssword
--> info:
----> version: 0.3.1
----> downloads:
-----> last_day: 8
-----> last_week: 120
-----> last_month: 882

copypaste
--> info:
----> version: 0.2
----> downloads:
-----> last_day: 5
-----> last_week: 61
-----> last_month: 448<br>
```

LINKS

- <https://wiki.python.org/moin/DevelopmentTools>
- <https://www.google.com/>
- <https://github.com/>

QUESTIONS?

NOSE



<https://nose.readthedocs.org/>

FABRIC



<http://www.fabfile.org/>

PYCHECKER



<http://pychecker.sourceforge.net/>

SPHINX



<http://sphinx-doc.org/>

GRYMT



<http://www.peterbe.com/plog/grymt>