Emacs for Python Programming

Vinod Kurup
@vkurup
October 20th, 2012

Hi Vinod!

Emacs users

Non-addicts (yet!)

Let's talk about...

1. Python-specific features
2. General programming features
3. Why I'm an addict for life

But first ...

Follow

@ckindel

256d

I am convinced the only reason people are still using Emacs is nobody can remember how to exit out of it.

257
FAVS

1,496
RETWEETS

How to safely play with Emacs

- Control-x Control-c quits (C-x C-c)
- C-g is your friend
- Plan to mess up

```
vinod:~$ rm -r .emacs.d .emacs
vinod:~$ emacs
```

You're good to go again!

Emacs Sucks!

but only if you use the default settings

Emacs Starter Kit

M-x package-install RET starter-kit RET

Other nice starting points

- Emacs Prelude
  - http://batsov.com/prelude/
- Emacs Live
  - https://github.com/overtone/emacs-live

Emacs Python IDE

Features

- Syntax highlighting
- Auto-Indentation
- Code completion
- Documentation lookup
- Code lookup / navigation
- Error highlighting (on-the-fly)
- Code runner
- Test runner
- Debugging

Major mode

Python's is a bit of a mess

Use python-mode.el

https://launchpad.net/python-mode

```
M-x package-install RET python-mode RET
```

Syntax highlighting

```
File  Edit  Options  Buffers  Tools  YASnippet  Projectile  Help
        04 52 08 83 97 35 99 16 07 97 57 32 16 26 26 79 33 27 98 66
        88 36 68 87 57 62 20 72 03 46 33 67 46 55 12 32 63 93 53 69
        04 42 16 73 38 25 39 11 24 94 72 18 08 46 29 32 40 62 76 36
        20 69 36 41 72 30 23 88 34 62 99 69 82 67 59 85 74 04 36 16
        20 73 35 29 78 31 90 01 74 31 49 71 48 86 81 16 23 57 05 54
        01 70 54 71 83 51 54 69 16 92 33 48 61 43 52 01 89 19 67 48
        """

        import operator


        def product(p):
            "Return product of members of p"
            return reduce(operator.mul, p)


        def create_matrix(s):
            "Create list of lists (matrix) given string representation"
            matrix = []
            for line in matrix_string.split("\n"):
                matrix.append([int(num) for num in line.split()])
            return matrix


        def rotate_matrix(m):
            "Convert each column in a matrix to a row"
            rotated = []
            for i in range(len(m)):
                new_row = []
                for j in range(len(m)):
                    new_row.append(m[j][i])
                rotated.append(new_row)
            return rotated


        def max_product_n(p, n):
            "Return the max product of n consecutive integers in list."
            return max([product(p[i:i + n]) for i in range(len(p) - n)])


        def max_matrix_rows(m, n):
            "Return the max_product_n of all the rows in a matrix"
-:---  11.py          32% L21   Git:master  (Fundamental Projectile yas pair)
```

```
File  Edit  Options  Buffers  Tools  PyShell  PyEdit  PyExec  PyTools  Outline  YASnippet  Projectile  Rope  Help
04 52 08 83 97 35 99 16 07 97 57 32 16 26 26 79 33 27 98 66
88 36 68 87 57 62 20 72 03 46 33 67 46 55 12 32 63 93 53 69
04 42 16 73 38 25 39 11 24 94 72 18 08 46 29 32 40 62 76 36
20 69 36 41 72 30 23 88 34 62 99 69 82 67 59 85 74 04 36 16
20 73 35 29 78 31 90 01 74 31 49 71 48 86 81 16 23 57 05 54
01 70 54 71 83 51 54 69 16 92 33 48 61 43 52 01 89 19 67 48
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-:---  11.py          32% L21   Git:master  (Py Rope Flymake:5/0 AC Projectile yas pair Outl)
```
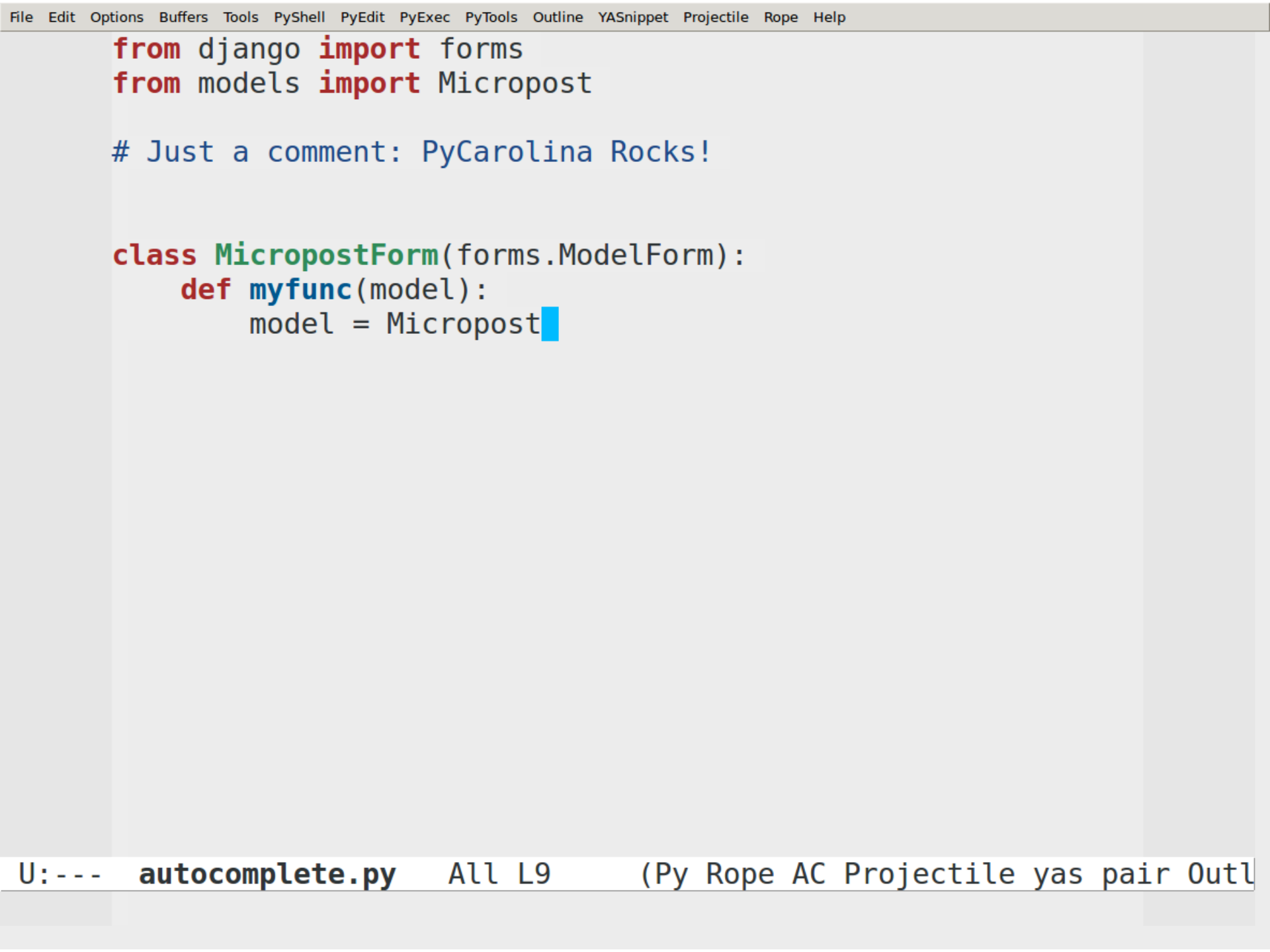
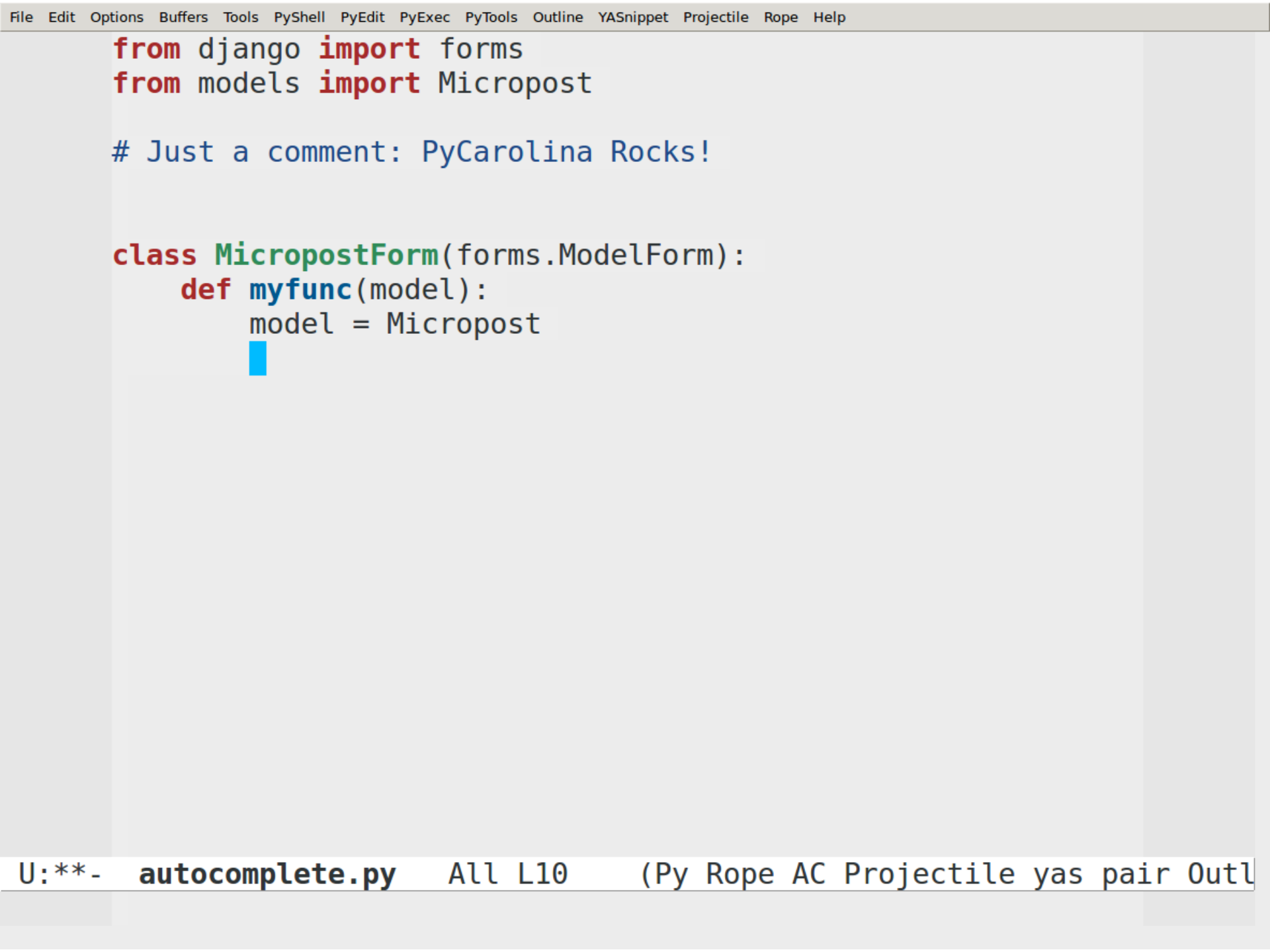

Automatic indentation


File Edit Options Buffers Tools PyShell PyEdit PyExec PyTools Outline YASnippet Projectile Rope Help
from django import forms
from models import Micropost
# Just a comment: PyCarolina Rocks!
class MicropostForm(forms.ModelForm):
def myfunc(model):
model = Micropost
U:--- autocomplete.py All L9 (Py Rope AC Projectile yas pair Outl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U:**- autocomplete.py All L10 (Py Rope AC Projectile yas pair Outl

File Edit Options Buffers Tools PyShell PyEdit PyExec PyTools Outline YASnippet Projectile Rope Help

```
from django import forms
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class MicropostForm(forms.ModelForm):
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        return "blah"
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U:**- **autocomplete.py** All L10 (Py Rope AC Projectile yas pair Outl

File Edit Options Buffers Tools PyShell PyEdit PyExec PyTools Outline YASnippet Projectile Rope Help

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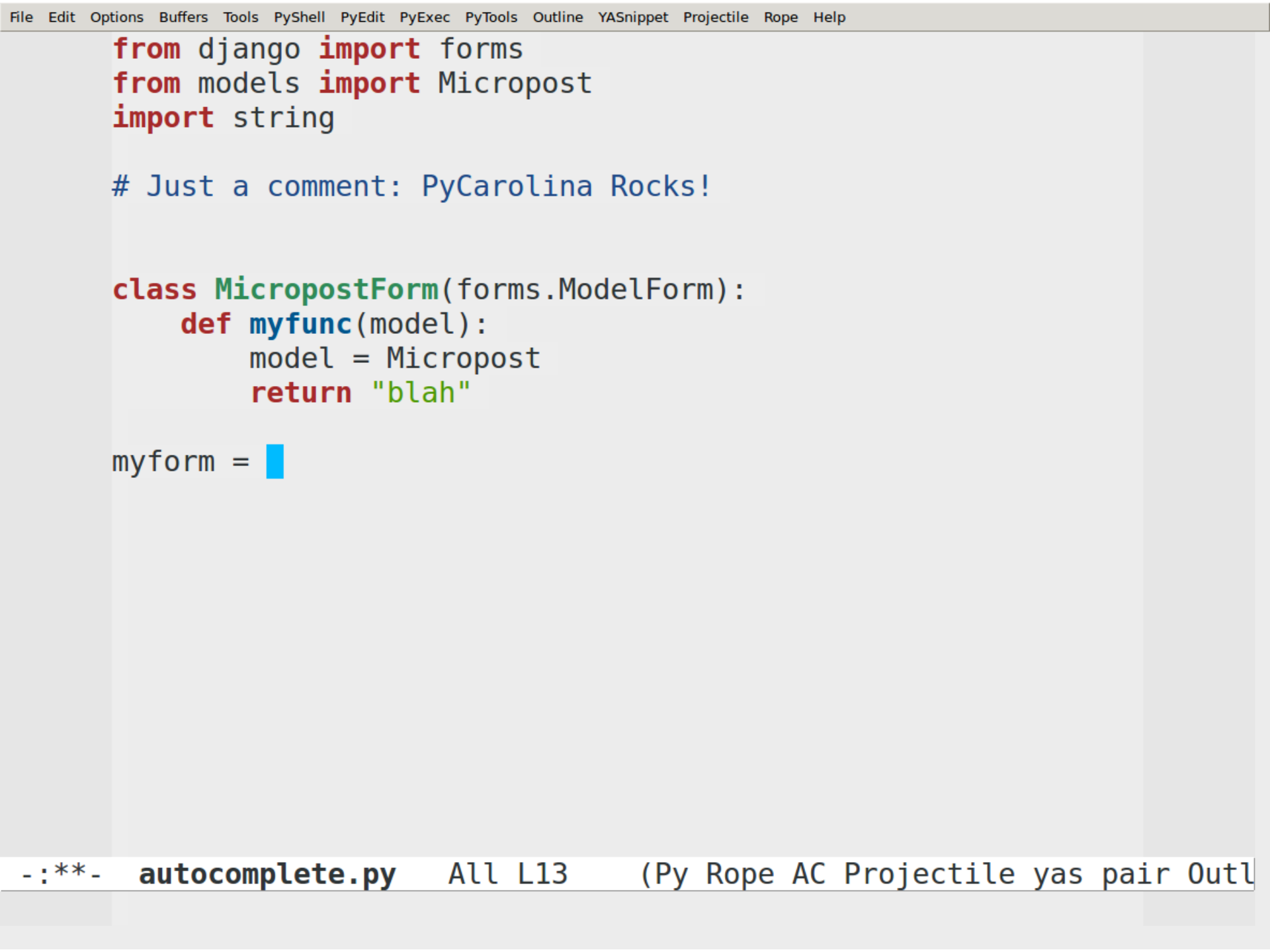
U:**- **autocomplete.py**   All L11   (Py Rope AC Projectile yas pair Outl

Code completion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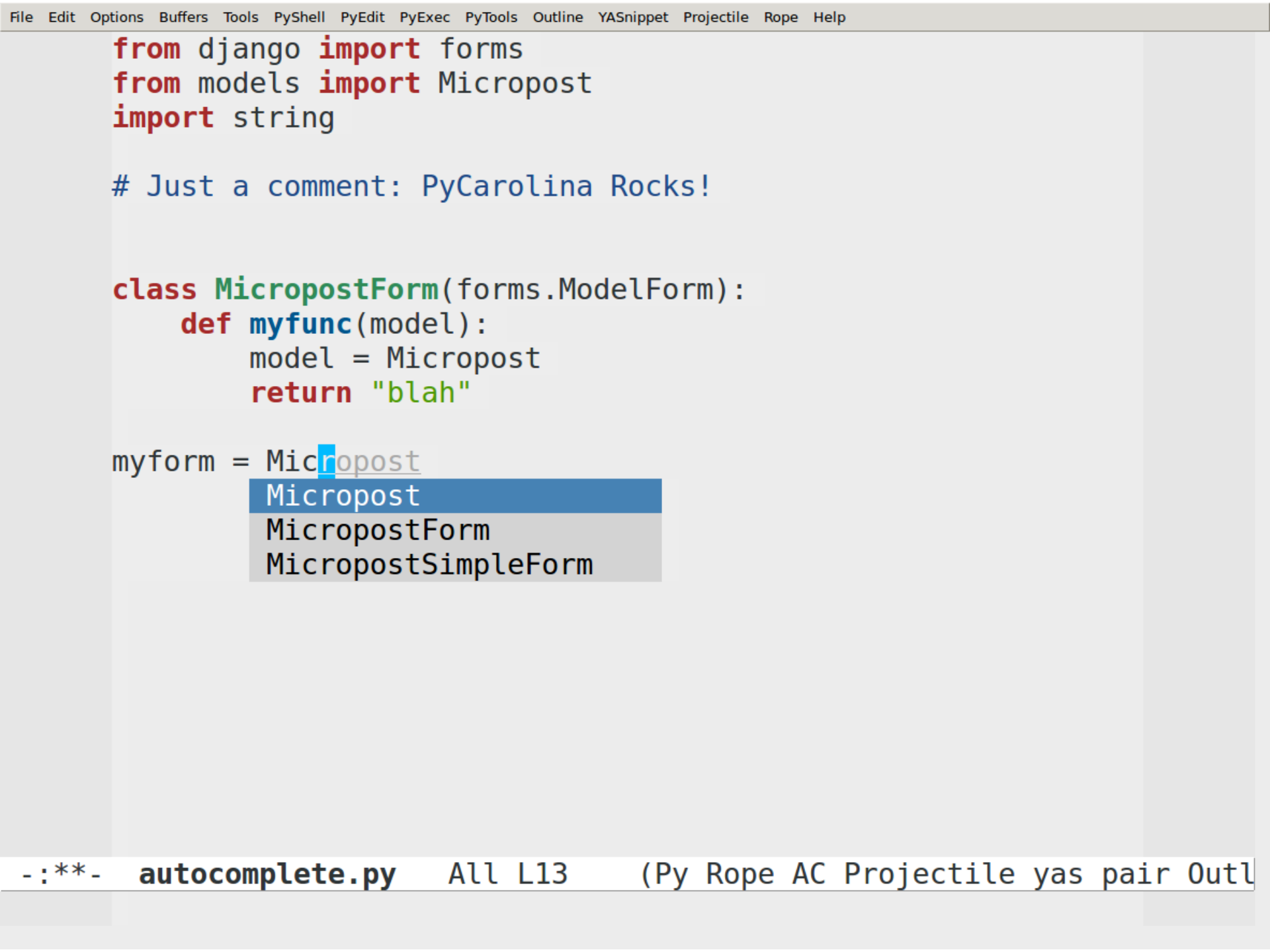
myform =
-:**- autocomplete.py All L13 (Py Rope AC Projectile yas pair Outl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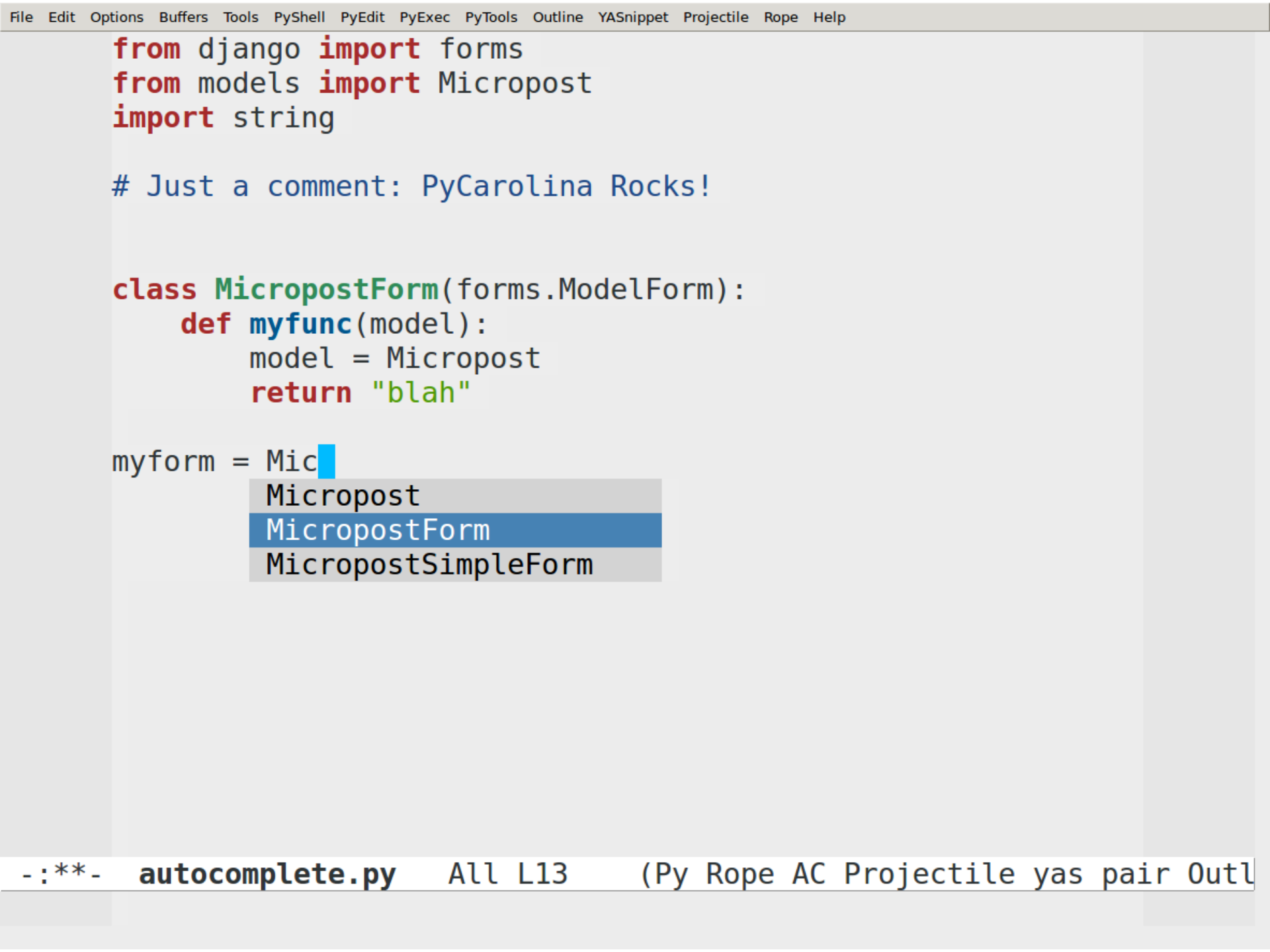
Micropost
MicropostForm
MicropostSimpleForm
-:**- autocomplete.py All L13 (Py Rope AC Projectile yas pair Outl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File Edit Options Buffers Tools PyShell PyEdit PyExec PyTools Outline YASnippet Projectile Rope Help

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-:**- **autocomplete.py**   All L13   (Py Rope AC Projectile yas pair Outl

File Edit Options Buffers Tools PyShell PyEdit PyExec PyTools Outline YASnippet Projectile Rope Help

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        model = Micropost
        return "blah"

myform = MicropostForm
mystring =
```
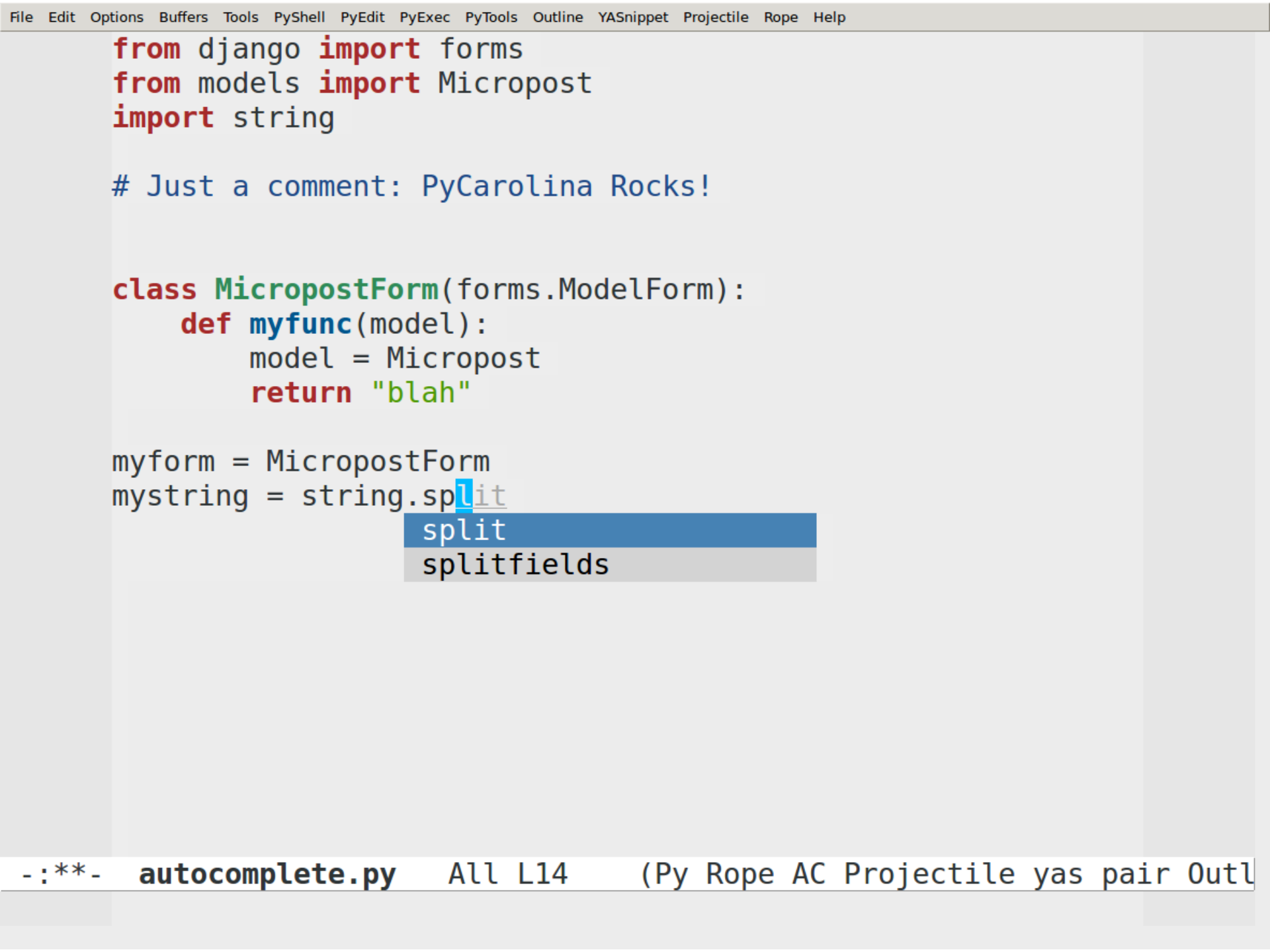

-:**- **autocomplete.py** All L14 (Py Rope AC Projectile yas pair Outl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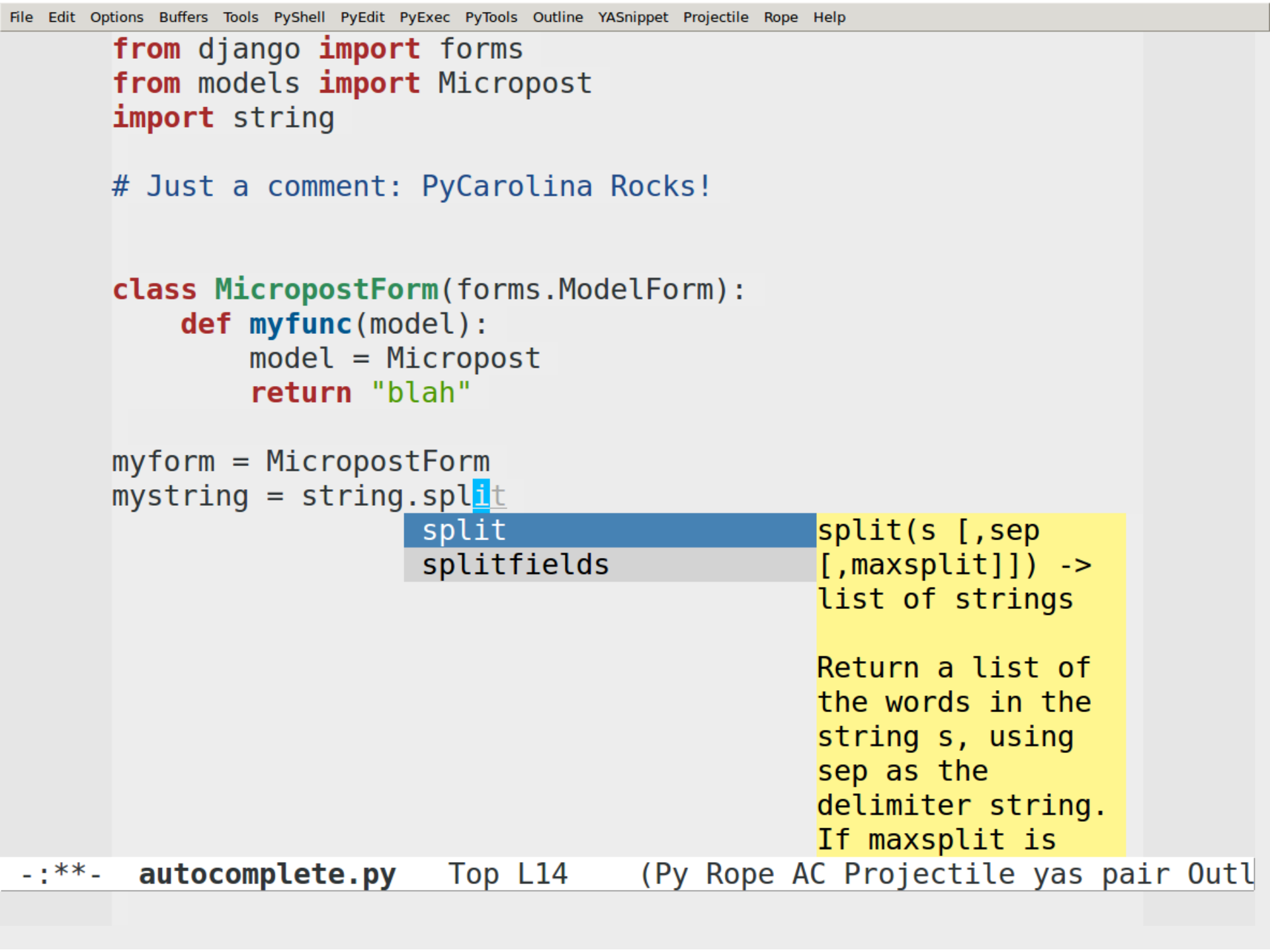
mystring = string.split
split
splitfields
-:**- autocomplete.py All L14 (Py Rope AC Projectile yas pair Outl

Documentation lookup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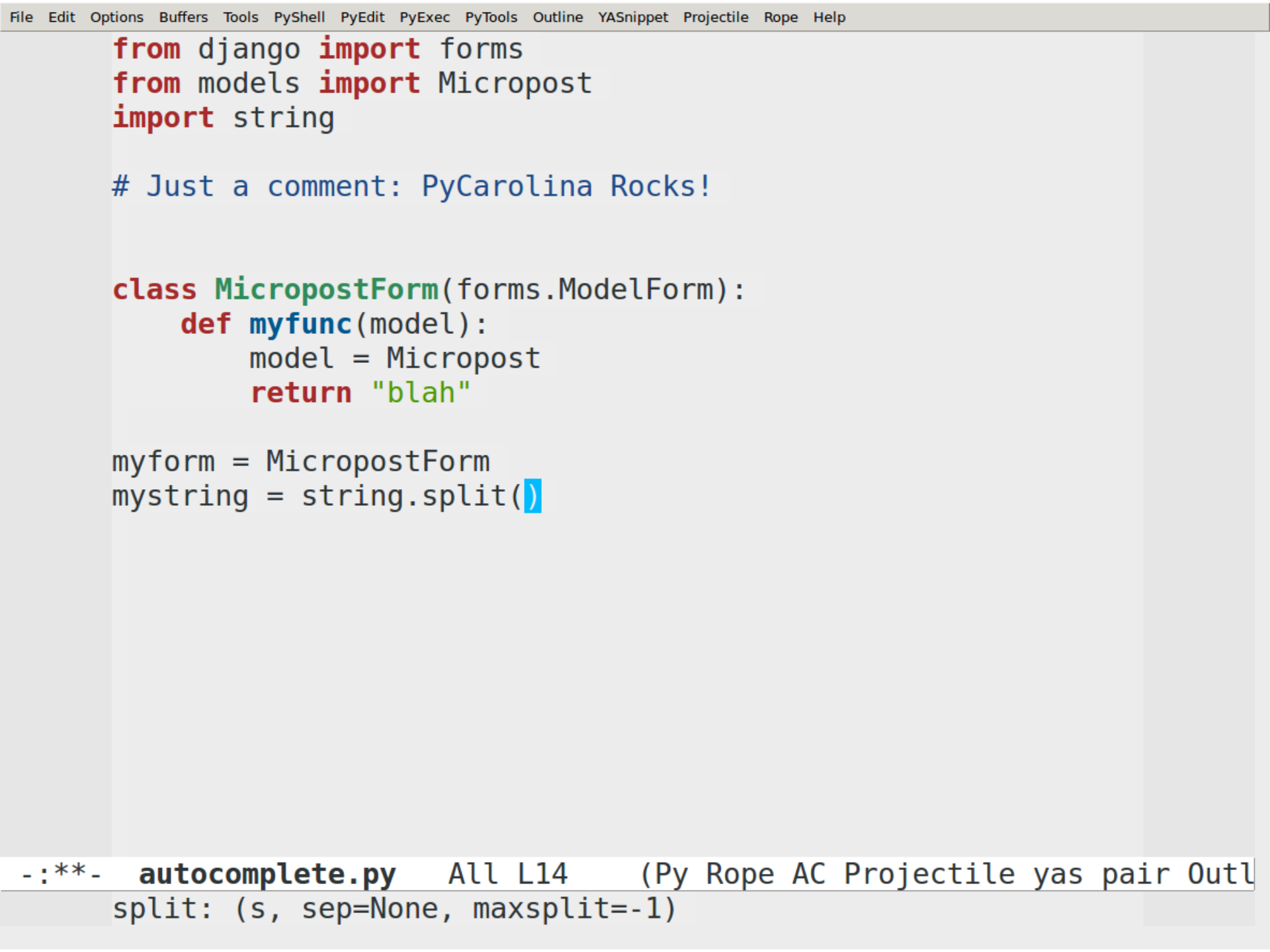
def myfunc(model):
model = Micropost
return "blah"
myform = MicropostForm
mystring = string.split
split
splitfields
split(s [,sep [,maxsplit]]) -> list of strings
Return a list of the words in the string s, using sep as the delimiter string. If maxsplit is
-:**- autocomplete.py Top L14 (Py Rope AC Projectile yas pair Outl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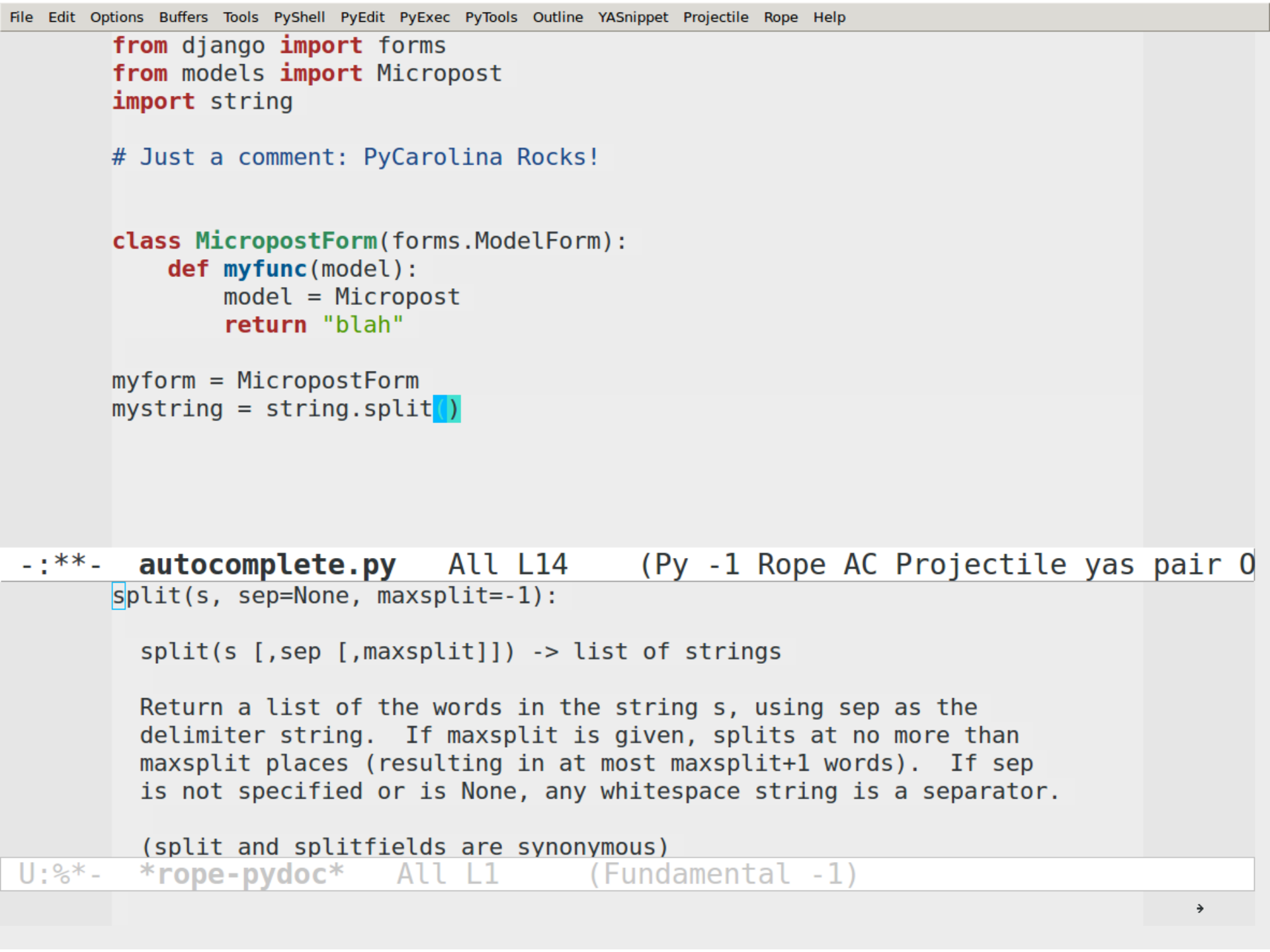
mystring = string.split()
-:**- autocomplete.py All L14 (Py Rope AC Projectile yas pair Outl
split: (s, sep=None, maxsplit=-1)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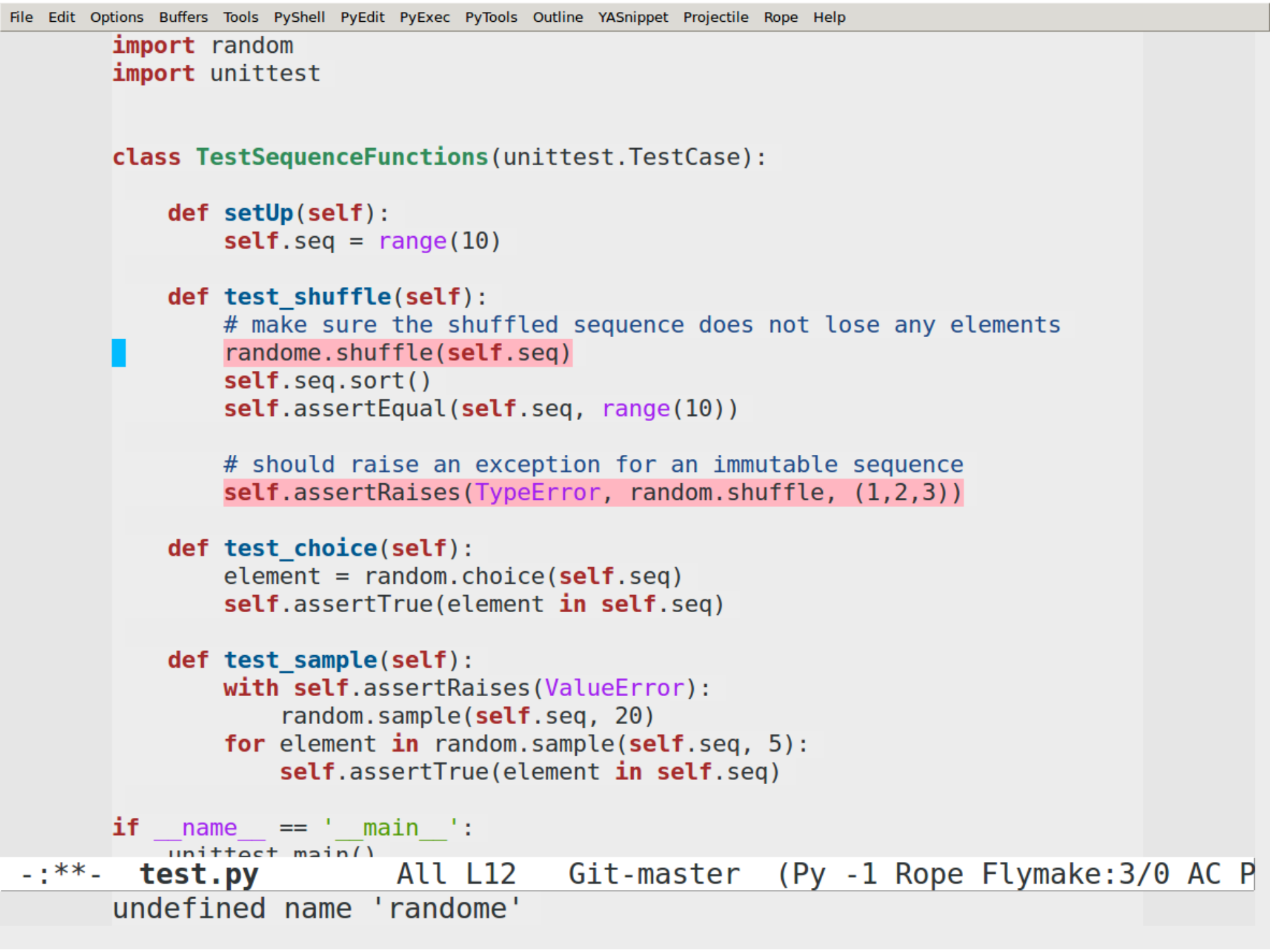
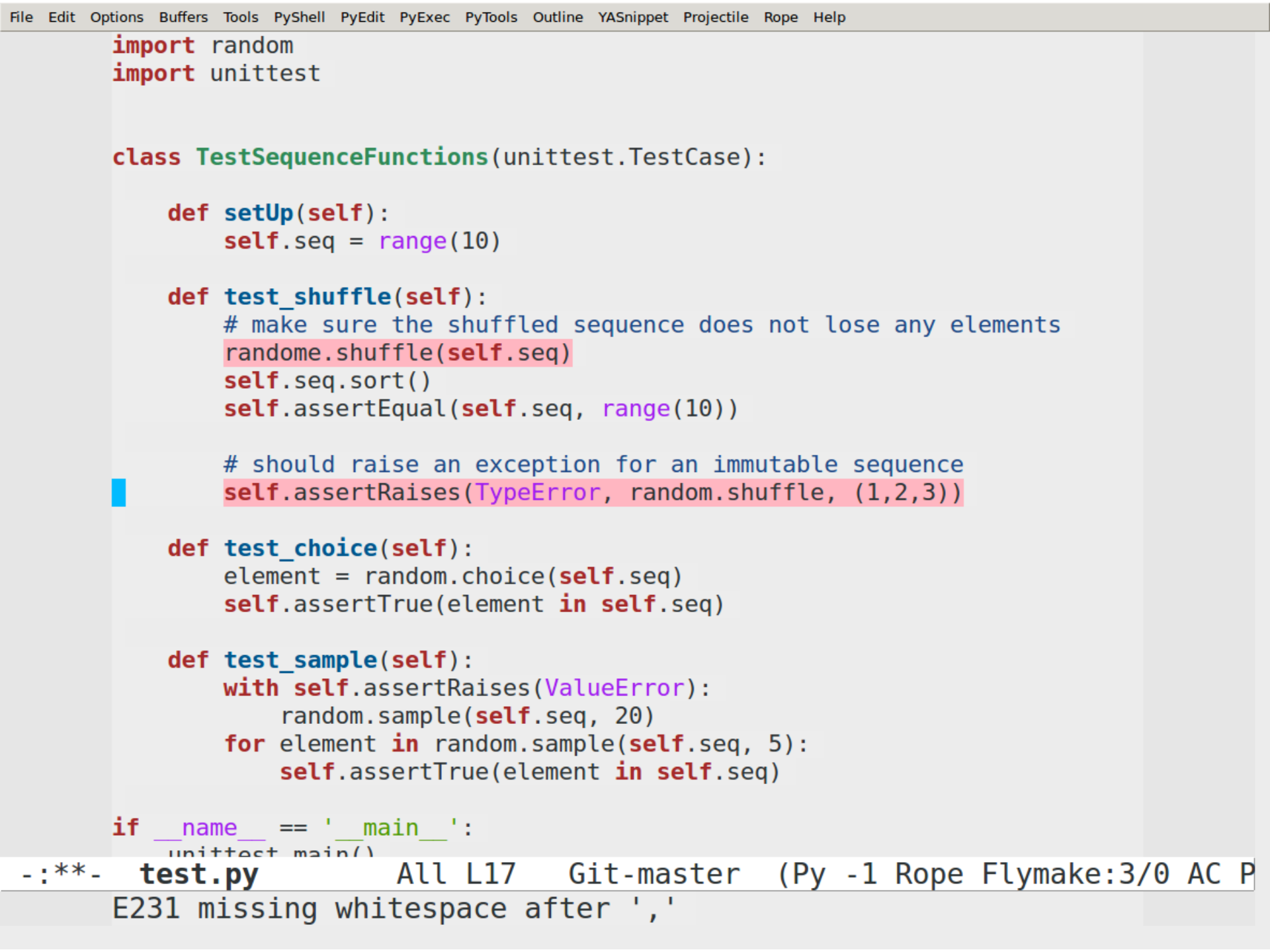
-:**- autocomplete.py All L14 (Py -1 Rope AC Projectile yas pair O
split(s, sep=None, maxsplit=-1):
split(s [,sep [,maxsplit]]) -> list of strings
Return a list of the words in the string s, using sep as the
delimiter string. If maxsplit is given, splits at no more than
maxsplit places (resulting in at most maxsplit+1 words). If sep
is not specified or is None, any whitespace string is a separator.
(split and splitfields are synonymous)
U:%*- *rope-pydoc* All L1 (Fundamental -1)

Code lookup

```
File  Edit  Options  Buffers  Tools  PyShell  PyEdit  PyExec  PyTools  Outline  YASnippet  Rope  Help
        """rstrip(s [,chars]) -> string

        Return a copy of the string s with trailing whitespace removed.
        If chars is given and not None, remove characters in chars instead.

        """
        return s.rstrip(chars)


    # Split a string into a list of space/tab-separated words
    def split(s, sep=None, maxsplit=-1):
        """split(s [,sep [,maxsplit]]) -> list of strings

        Return a list of the words in the string s, using sep as the
        delimiter string.  If maxsplit is given, splits at no more than
        maxsplit places (resulting in at most maxsplit+1 words).  If sep
        is not specified or is None, any whitespace string is a separator.

        (split and splitfields are synonymous)

        """
        return s.split(sep, maxsplit)
    splitfields = split

    # Split a string into a list of space/tab-separated words
    def rsplit(s, sep=None, maxsplit=-1):
        """rsplit(s [,sep [,maxsplit]]) -> list of strings

        Return a list of the words in the string s, using sep as the
        delimiter string, starting at the end of the string and working
-:%%-  string.py       43% L281   (Py -1 Rope Flymake AC yas pair Outl)
```

Error highlighting


File Edit Options Buffers Tools PyShell PyEdit PyExec PyTools Outline YASnippet Projectile Rope Help
import random
import unittest
class TestSequenceFunctions(unittest.TestCase):
def setUp(self):
self.seq = range(10)
def test_shuffle(self):
# make sure the shuffled sequence does not lose any elements
randome.shuffle(self.seq)
self.seq.sort()
self.assertEqual(self.seq, range(10))
# should raise an exception for an immutable sequence
self.assertRaises(TypeError, random.shuffle, (1,2,3))
def test_choice(self):
element = random.choice(self.seq)
self.assertTrue(element in self.seq)
def test_sample(self):
with self.assertRaises(ValueError):
random.sample(self.seq, 20)
for element in random.sample(self.seq, 5):
self.assertTrue(element in self.seq)
if __name__ == '__main__':
-:**- test.py All L12 Git-master (Py -1 Rope Flymake:3/0 AC P
undefined name 'randome'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if __name__ == '__main__':
-:**- test.py All L17 Git-master (Py -1 Rope Flymake:3/0 AC P
E231 missing whitespace after ','

Code runner

- Send the current buffer to Python
  `C-c C-c`
- Choose your interpreter
  `(setq python-python-command "ipython")`
- Choose your virtualenv
  `(virtualenv-workon "myproject")`

  or

  `M-x virtualenv-workon RET myproject RET`

Test runner

File Edit Options Buffers Tools Minibuf Projectile Help

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import random
import unittest


class TestSequenceFunctions(unittest.TestCase):

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        self.seq.sort()
        self.assertEqual(self.seq, range(10))

        # should raise an exception for an immutable sequence
        self.assertRaises(TypeError, random.shuffle, (1, 2, 3))

    def test_choice(self):
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        self.assertTrue(element in self.seq)

    def test_sample(self):
        with self.assertRaises(ValueError):
            random.sample(self.seq, 20)
        for element in random.sample(self.seq, 5):
            self.assertTrue(element in self.seq)

if __name__ == '__main__':
    unittest.main()
```

-:--- **test.py** All L12 Git-master (Py -1 Rope Flymake AC Proje

Compile command: make -k

File Edit Options Buffers Tools Minibuf Projectile Help

```
import random
import unittest


class TestSequenceFunctions(unittest.TestCase):

    def setUp(self):
        self.seq = range(10)

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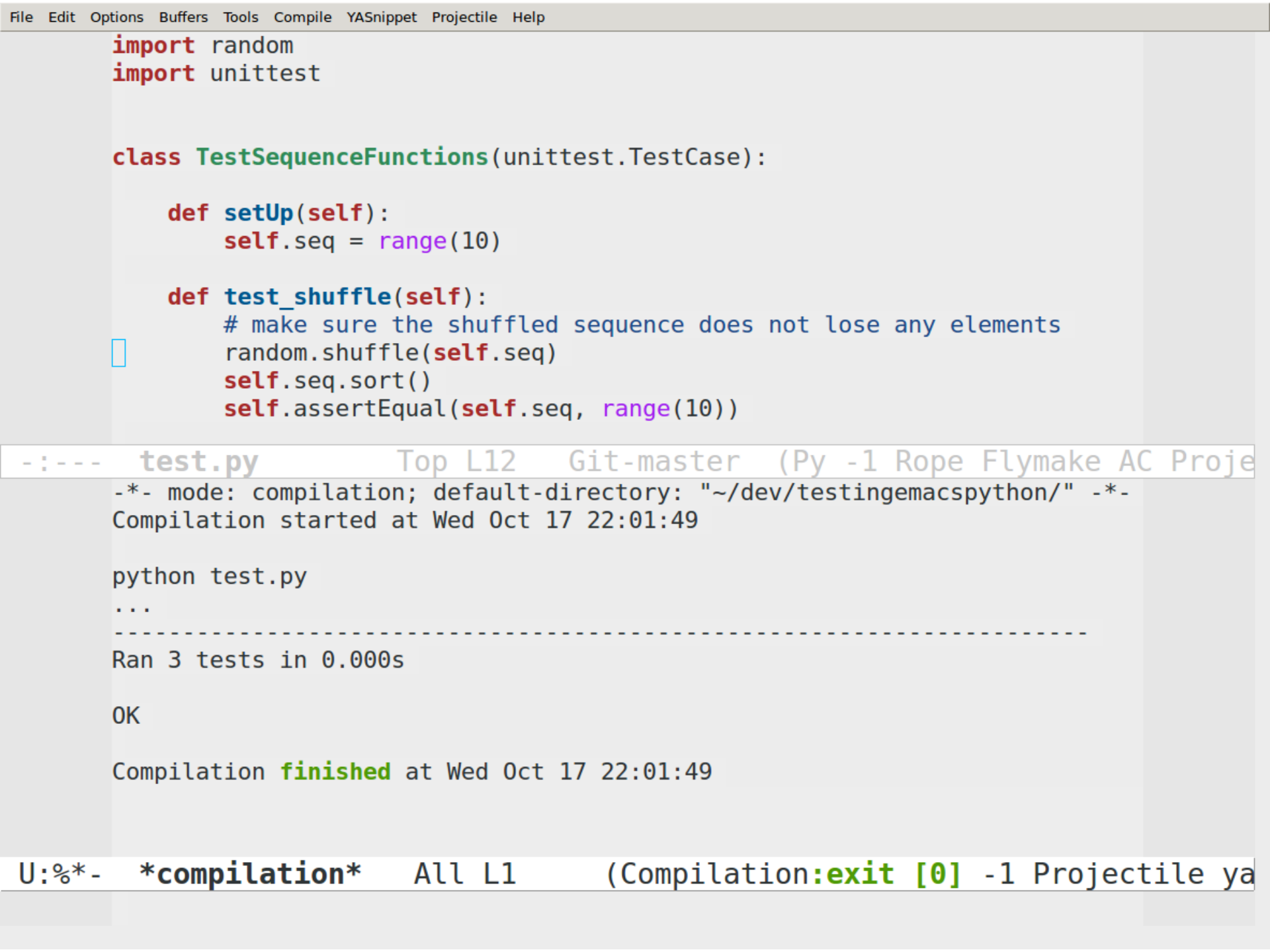
-:--- **test.py** All L12 Git-master (Py -1 Rope Flymake AC Proje

Compile command: python test.py


File Edit Options Buffers Tools Compile YASnippet Projectile Help
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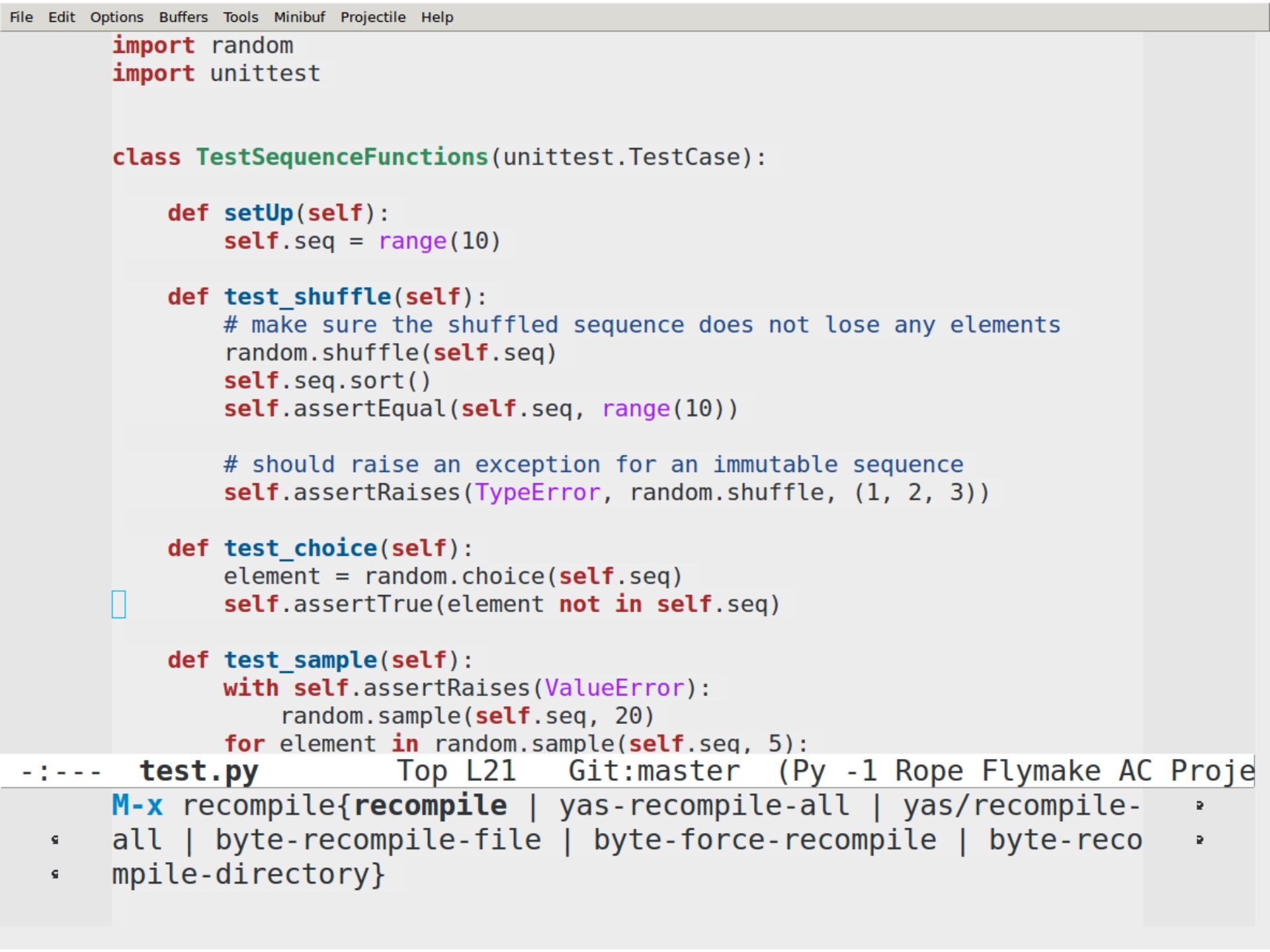
self.seq.sort()
self.assertEqual(self.seq, range(10))
-:--- test.py Top L12 Git-master (Py -1 Rope Flymake AC Proje
-*- mode: compilation; default-directory: "~/dev/testingemacspython/" -*-
Compilation started at Wed Oct 17 22:01:49
python test.py
...
Ran 3 tests in 0.000s
OK
Compilation finished at Wed Oct 17 22:01:49
U:%*- *compilation* All L1 (Compilation:exit [0] -1 Projectile ya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self.assertTrue(element not in self.seq)
def test_sample(self):
with self.assertRaises(ValueError):
random.sample(self.seq, 20)
for element in random.sample(self.seq, 5):
-:--- test.py Top L21 Git:master (Py -1 Rope Flymake AC Proje
M-x recompile{recompile | yas-recompile-all | yas/recompile-
all | byte-recompile-file | byte-force-recompile | byte-reco
mpile-directory}


File Edit Options Buffers Tools Compile YASnippet Projectile Help
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def test_sample(self):
with self.assertRaises(ValueError):
random.sample(self.seq, 20)
for element in random.sample(self.seq, 5):
-:--- test.py 35% L21 Git:master (Py -1 Rope Flymake AC Proje
-*- mode: compilation; default-directory: "~/dev/testingemacspython/" -*-
Compilation started at Wed Oct 17 22:03:02
python test.py
F..
FAIL: test_choice (__main__.TestSequenceFunctions)
Traceback (most recent call last):
File "test.py", line 21, in test_choice
self.assertTrue(element not in self.seq)
AssertionError: False is not true
Ran 3 tests in 0.000s
U:%*- *compilation* Top L10 (Compilation:exit [1] -1 Projectile ya


File Edit Options Buffers Tools PyShell PyEdit PyExec PyTools Outline YASnippet Projectile Rope Help
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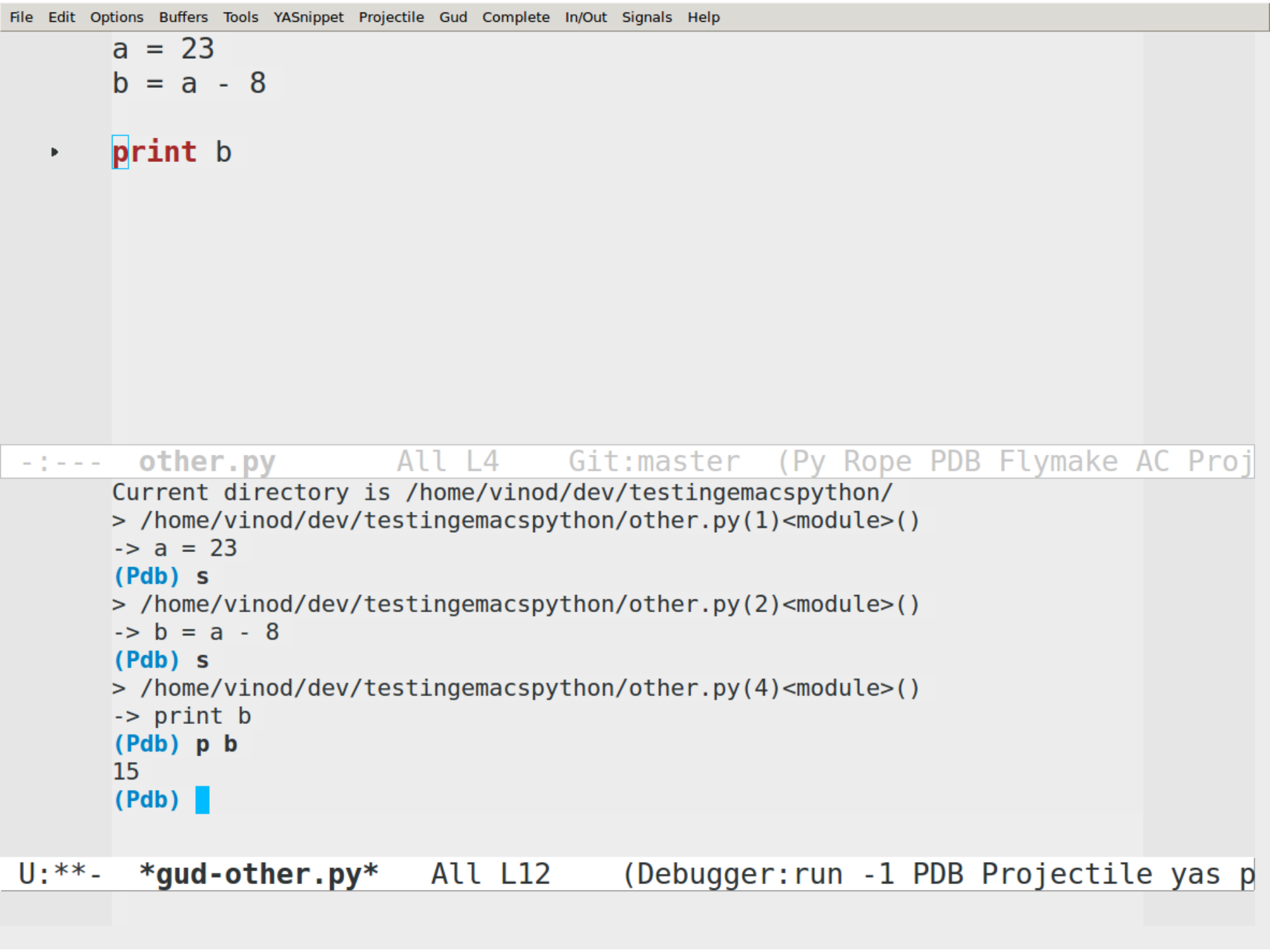
U:%*- *compilation* Top L10 (Compilation:exit [1] -1 Projectile ya

Debugging


File Edit Options Buffers Tools YASnippet Projectile Gud Complete In/Out Signals Help
a = 23
b = a - 8
print b
-:--- other.py All L4 Git:master (Py Rope PDB Flymake AC Proj
Current directory is /home/vinod/dev/testingemacspython/
> /home/vinod/dev/testingemacspython/other.py(1)<module>()
-> a = 23
(Pdb) s
> /home/vinod/dev/testingemacspython/other.py(2)<module>()
-> b = a - 8
(Pdb) s
> /home/vinod/dev/testingemacspython/other.py(4)<module>()
-> print b
(Pdb) p b
15
(Pdb)
U:**- *gud-other.py* All L12 (Debugger:run -1 PDB Projectile yas p

Brief HOWTO

Brief Howto

```
(emacs)vinod:~ $ pip freeze
Pymacs==0.25
pep8==1.3.3
pyflakes==0.5.0
pylint==0.25.2
rope==0.9.4
ropemacs==0.7
ropemode==0.2
wsgiref==0.1.2
```

Python

```
(defvar my-packages '(starter-kit
                      starter-kit-bindings
                      yasnippet
                      pony-mode
                      markdown-mode
                      auto-complete
                      python-mode
                      autopair)
  "A list of packages installed at launch.")
```

Emacs

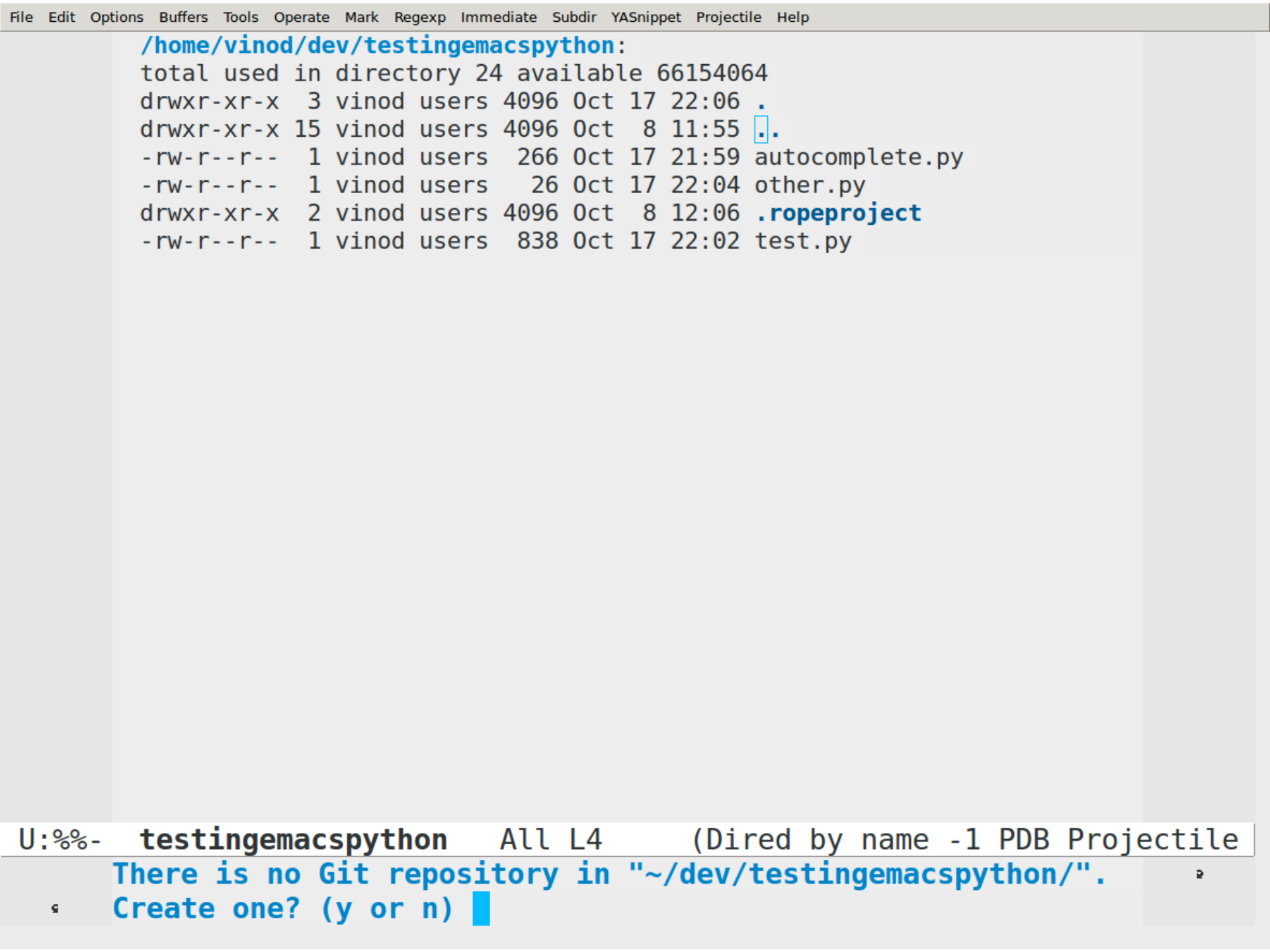
Brief Howto

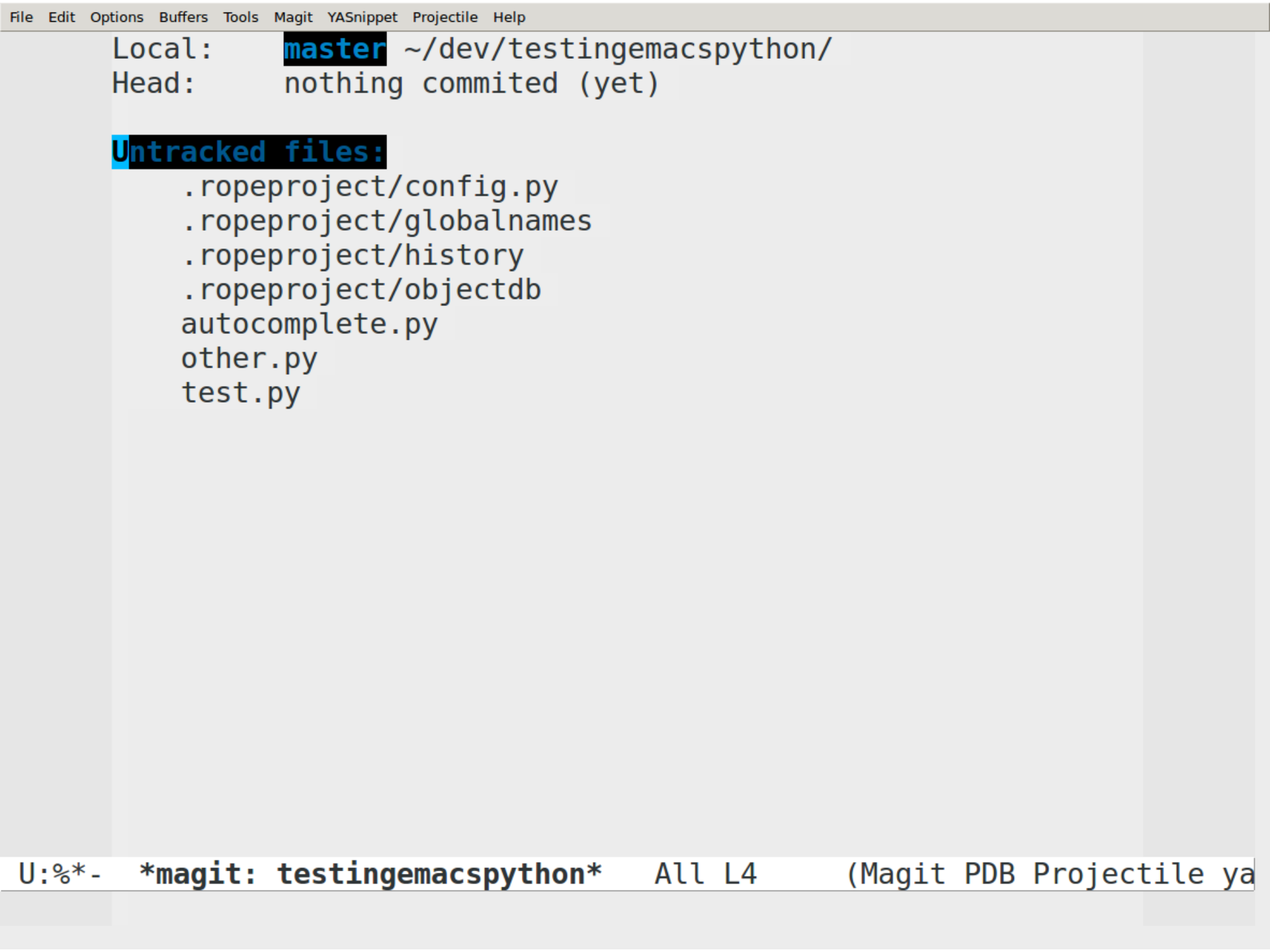
```
(setq py-load-pymacs-p t)
(require 'python-mode)

(require 'auto-complete-config)
(ac-config-default)

(require 'autopair)
(autopair-global-mode)

(shell)
(add-to-list 'load-path "~/.emacs.d/vendor/")
(virtualenv-workon "emacs/")
(require 'pymacs)
(pymacs-load "ropemacs" "rope-")
(setq ropemacs-enable-autoimport t)
```

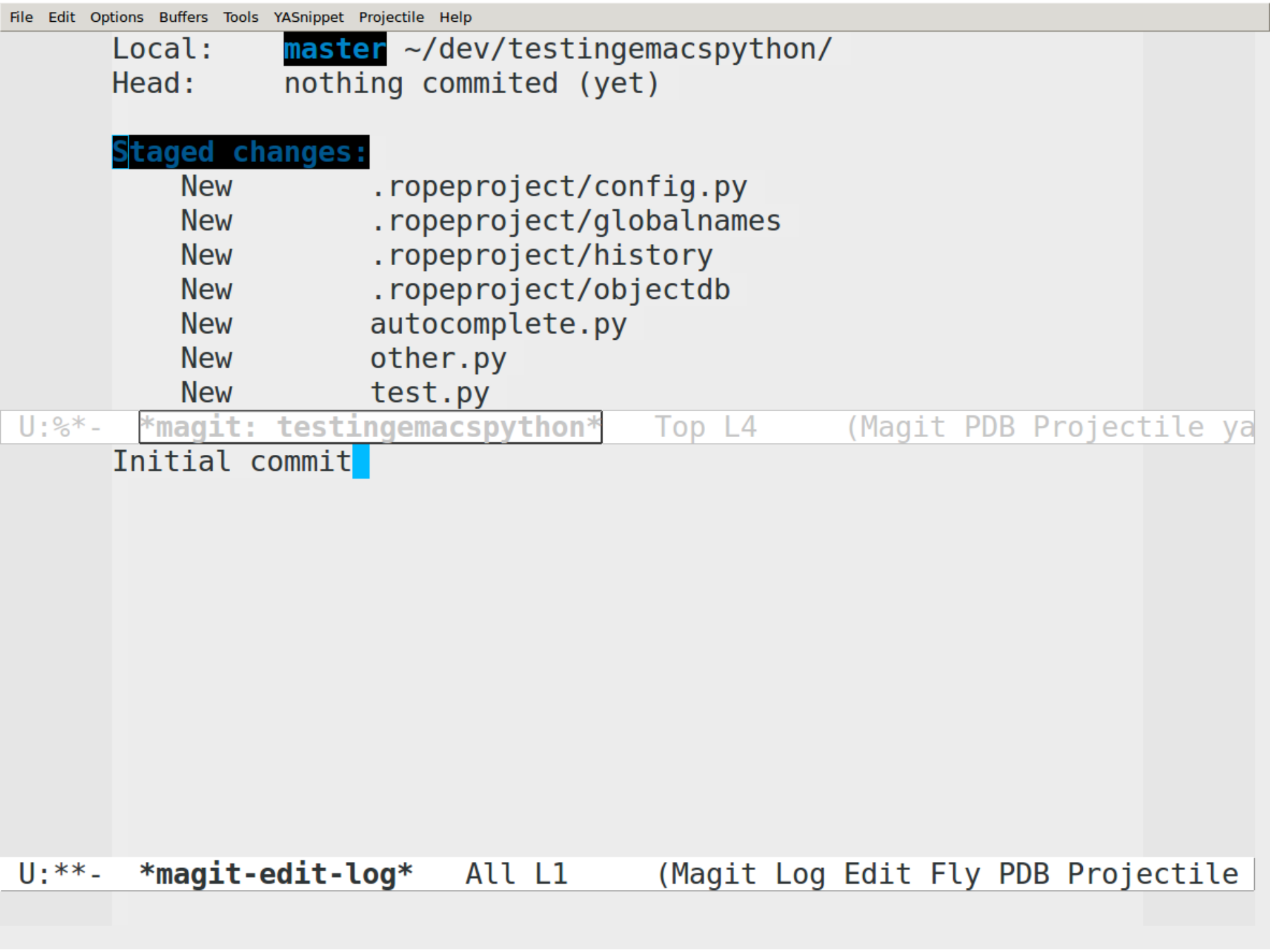
```
;; pyflakes flymake integration
;; http://stackoverflow.com/a/1257306/347942
(when (load "flymake" t)
  (defun flymake-pyflakes-init ()
    (let* ((temp-file (flymake-init-create-temp-
buffer-copy
                       'flymake-create-temp-inplace))
           (local-file (file-relative-name
                        temp-file
                        (file-name-directory buffer-
file-name))))
      (list "pycheckers" (list local-file))))
  (add-to-list 'flymake-allowed-file-name-masks
               '("\\.py\\'" flymake-pyflakes-init)))
(add-hook 'python-mode-hook 'flymake-mode)
```

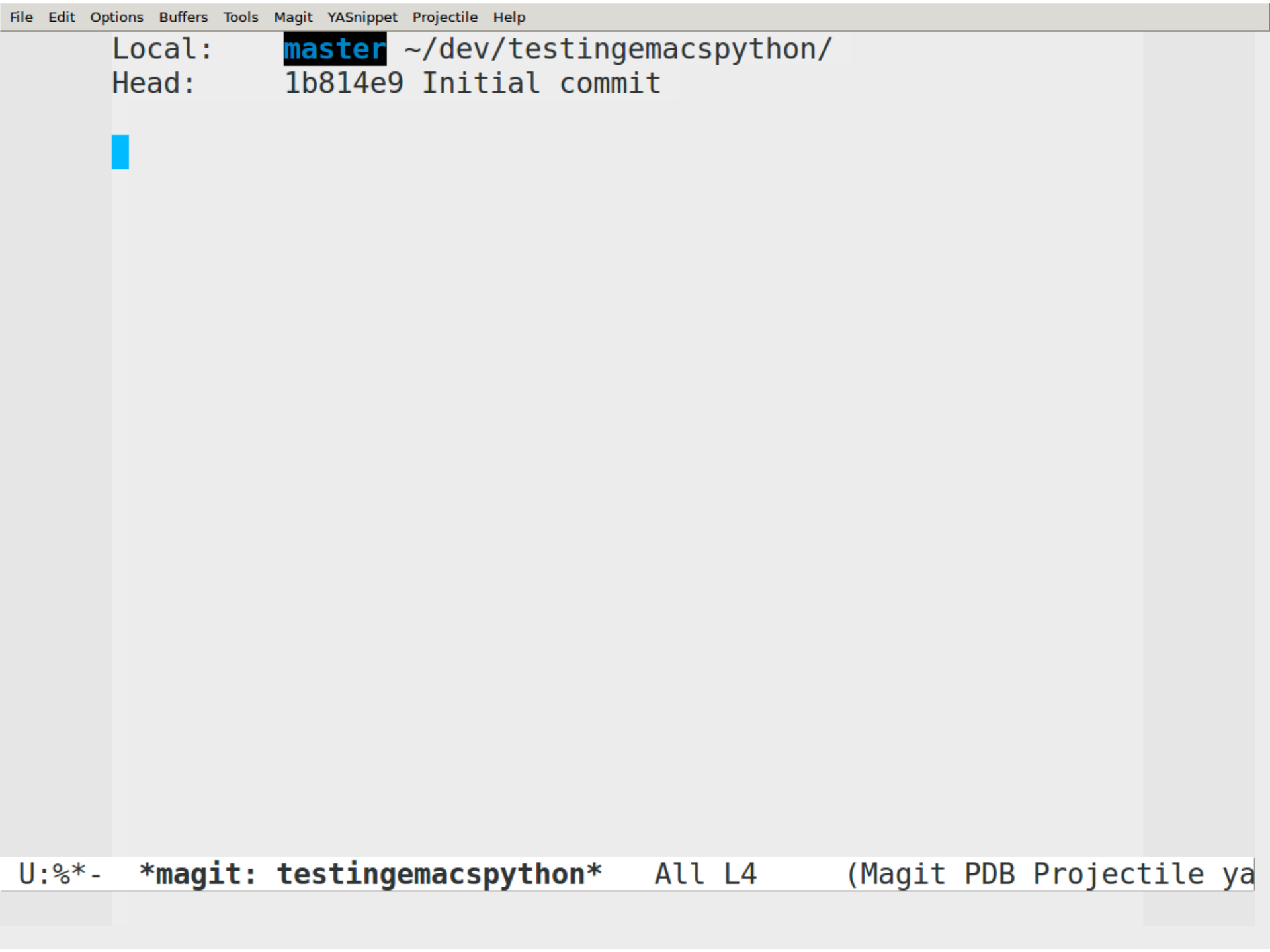
Non-python stuff

Magit mode

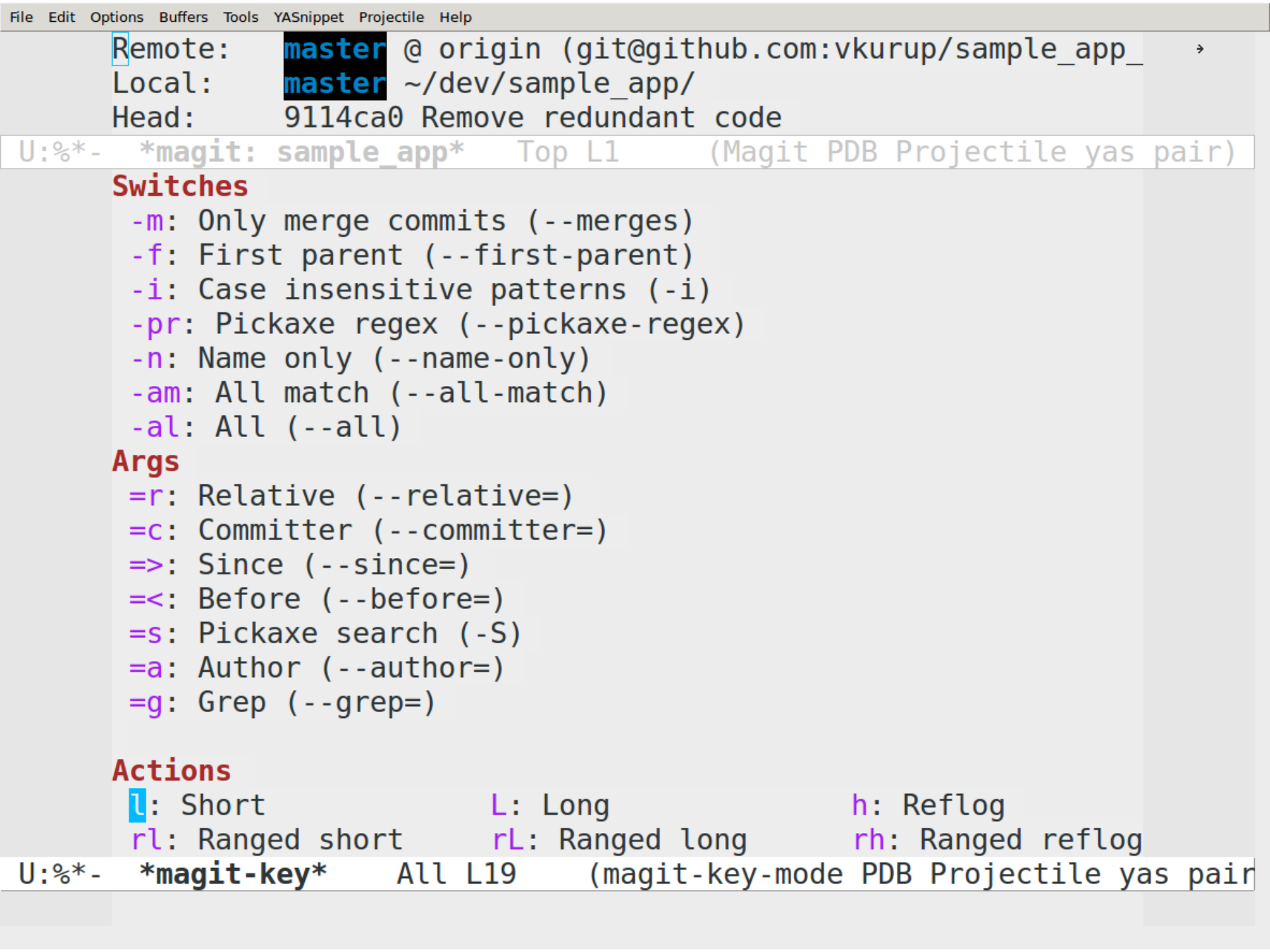

File Edit Options Buffers Tools Operate Mark Regexp Immediate Subdir YASnippet Projectile Help
/home/vinod/dev/testingemacspython:
total used in directory 24 available 66154064
drwxr-xr-x 3 vinod users 4096 Oct 17 22:06 .
drwxr-xr-x 15 vinod users 4096 Oct 8 11:55 ..
-rw-r--r-- 1 vinod users 266 Oct 17 21:59 autocomplete.py
-rw-r--r-- 1 vinod users   26 Oct 17 22:04 other.py
drwxr-xr-x 2 vinod users 4096 Oct 8 12:06 .ropeproject
-rw-r--r-- 1 vinod users 838 Oct 17 22:02 test.py
U:%%- testingemacspython All L4 (Dired by name -1 PDB Projectile
There is no Git repository in "~/dev/testingemacspython/".
Create one? (y or n)

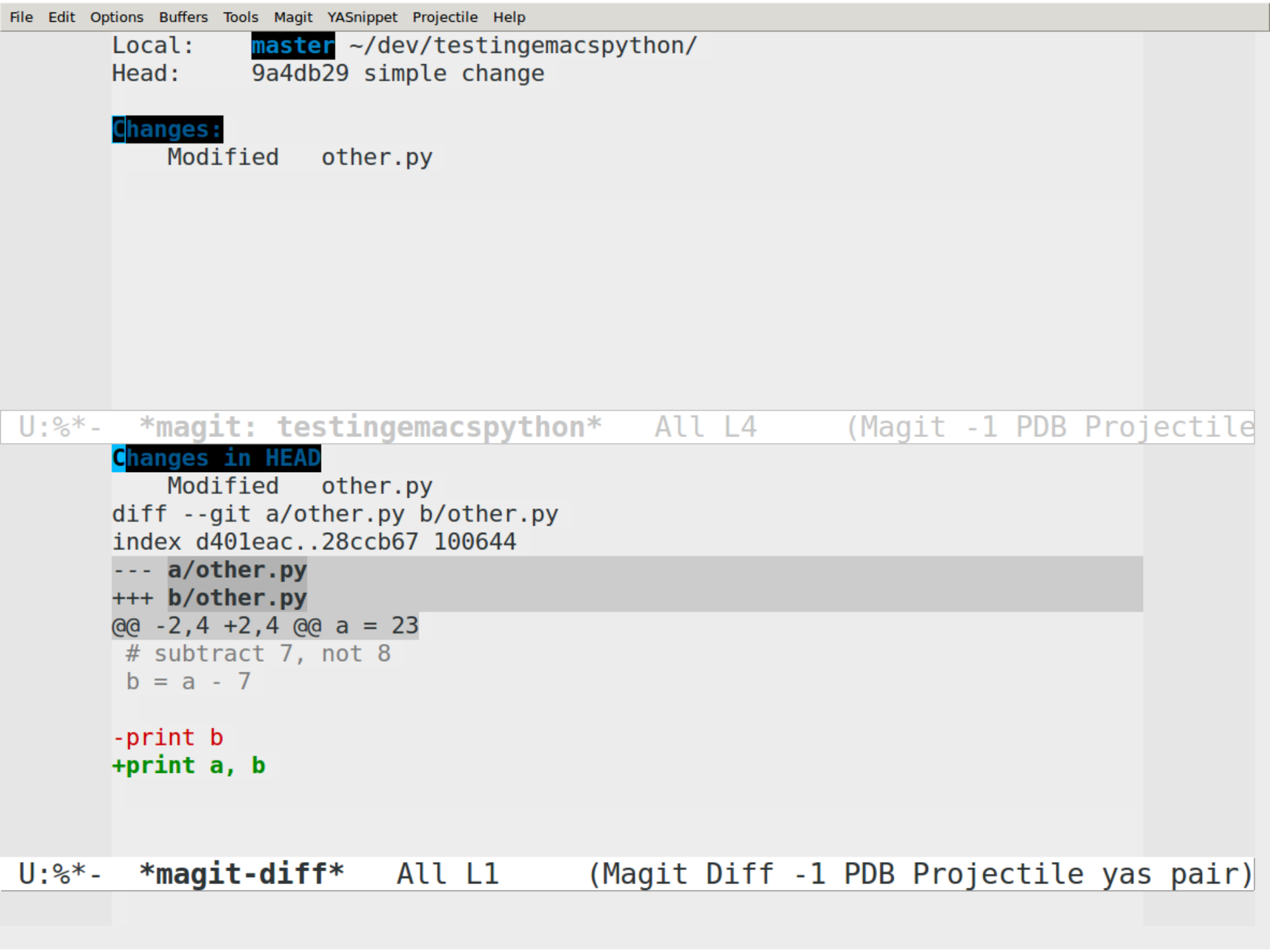

File Edit Options Buffers Tools Magit YASnippet Projectile Help
Local: master ~/dev/testingemacspython/
Head: nothing commited (yet)
Untracked files:
.ropeproject/config.py
.ropeproject/globalnames
.ropeproject/history
.ropeproject/objectdb
autocomplete.py
other.py
test.py
U:%*- *magit: testingemacspython* All L4 (Magit PDB Projectile ya


File Edit Options Buffers Tools YASnippet Projectile Help
Local: master ~/dev/testingemacspython/
Head: nothing commited (yet)
Staged changes:
New .ropeproject/config.py
New .ropeproject/globalnames
New .ropeproject/history
New .ropeproject/objectdb
New autocomplete.py
New other.py
New test.py
U:%*- *magit: testingemacspython* Top L4 (Magit PDB Projectile ya
Initial commit
U:**- *magit-edit-log* All L1 (Magit Log Edit Fly PDB Projectile


File Edit Options Buffers Tools Magit YASnippet Projectile Help
Local: master ~/dev/testingemacspython/
Head: 1b814e9 Initial commit
U:%*- *magit: testingemacspython* All L4 (Magit PDB Projectile ya

```
File  Edit  Options  Buffers  Tools  Magit  YASnippet  Projectile  Help
Commits in HEAD
9114ca0 * origin/master master Remove redundant code
4a0626f * Show micropost count on all pages
13e2552 * Clean up user profile references
c932e2f * origin/django-izing Django-ized
8c266c3 * Start using UserProfile and contrib.auth
dc2e94f * Make manage.py executable
621d9d2 * Add user following
3958868 * cleanup micropost formatting
bfe4d44 * Added user microposts
57a7e2f * Fix up javascript includes
4d1ff5b * Finish user edit
607dd4b * Remove locals() trick
fa4c0b6 *   Merge branch 'sign-in-out'
        |\
24a9d83 | * Finish sign in
f14896b * | Added the flash message
        |/
4d7b9e6 * Finish user signup
5a9643f * origin/modeling-users Make a basic User model (including passwor    ›
add342b * Halfway through user modeling
fe1cd9c * Finish layout and routes
f30a6b5 * Import Bootstrap 2.0
6f78a84 * Add a contact page.
e53281f * Finish static pages
274d958 * Add a StaticPages app
ab01883 * A Django gitignore file
81d4874 * Improve the README
4f2c78b * Initial commit
U:%*-  *magit-log*    All L1     (Magit Log -1 PDB Projectile yas pair)
```


File Edit Options Buffers Tools YASnippet Projectile Help
Remote: master @ origin (git@github.com:vkurup/sample_app_
Local: master ~/dev/sample_app/
Head: 9114ca0 Remove redundant code
U:%*- *magit: sample_app* Top L1 (Magit PDB Projectile yas pair)
Switches
-m: Only merge commits (--merges)
-f: First parent (--first-parent)
-i: Case insensitive patterns (-i)
-pr: Pickaxe regex (--pickaxe-regex)
-n: Name only (--name-only)
-am: All match (--all-match)
-al: All (--all)
Args
=r: Relative (--relative=)
=c: Committer (--committer=)
=>: Since (--since=)
=<: Before (--before=)
=s: Pickaxe search (-S)
=a: Author (--author=)
=g: Grep (--grep=)
Actions
l: Short L: Long h: Reflog
rl: Ranged short rL: Ranged long rh: Ranged reflog
U:%*- *magit-key* All L19 (magit-key-mode PDB Projectile yas pair


File Edit Options Buffers Tools Magit YASnippet Projectile Help
Local: master ~/dev/testingemacspython/
Head: 9a4db29 simple change
Changes:
Modified other.py
U:%*- *magit: testingemacspython* All L4 (Magit -1 PDB Projectile
Changes in HEAD
Modified other.py
diff --git a/other.py b/other.py
index d401eac..28ccb67 100644
--- a/other.py
+++ b/other.py
@@ -2,4 +2,4 @@ a = 23
# subtract 7, not 8
b = a - 7
-print b
+print a, b
U:%*- *magit-diff* All L1 (Magit Diff -1 PDB Projectile yas pair)

Help in emacs

- `C-h t` => tutorial
- `C-h f` => function docs
- `C-h v` => variable docs
- `C-h k` => keybindings

Emacs can teach you emacs

Dired mode

File Edit Options Buffers Tools Operate Mark Regexp Immediate Subdir YASnippet Projectile Help

/home/vinod/dev/sample_app:
total used in directory 104 available 66169596
drwxr-xr-x 10 vinod users 4096 Sep 15 13:08 .
drwxr-xr-x 15 vinod users 4096 Oct 8 11:55 ..
drwxr-xr-x 3 vinod users 4096 Sep 15 13:11 accounts
drwxr-xr-x 8 vinod users 4096 Oct 17 10:37 .git
-rw-r--r-- 1 vinod users   50 Jul 31 20:24 .gitignore
-rwxr-xr-x 1 vinod users   253 Jul 31 20:24 manage.py
drwxr-xr-x 3 vinod users 4096 Oct 17 10:37 microposts
-rw-r--r-- 1 vinod users   503 Jul 31 20:24 README.md
drwxr-xr-x 2 vinod users 4096 Sep 10 20:38 .ropeproject
drwxr-xr-x 2 vinod users 4096 Aug 1 06:33 sample_app
-rw-r--r-- 1 vinod users 53248 Aug 8 20:12 sample_app.db
drwxr-xr-x 3 vinod users 4096 Jul 31 20:24 static
drwxr-xr-x 4 vinod users 4096 Aug 1 06:33 static_pages
drwxr-xr-x 2 vinod users 4096 Jul 31 20:47 templates

U:%%- sample_app   All L4   (Dired by name PDB Projectile yas pair)

File Edit Options Buffers Tools Operate Mark Regexp Immediate Subdir YASnippet Projectile Help

```
/home/vinod/dev/sample_app:
total used in directory 104 available 66169596
drwxr-xr-x 10 vinod users  4096 Sep 15 13:08 .
drwxr-xr-x 15 vinod users  4096 Oct  8 11:55 ..
* drwxr-xr-x  3 vinod users  4096 Sep 15 13:11 accounts
drwxr-xr-x  8 vinod users  4096 Oct 17 10:37 .git
-rw-r--r--  1 vinod users    50 Jul 31 20:24 .gitignore
-rwxr-xr-x  1 vinod users   253 Jul 31 20:24 manage.py
* drwxr-xr-x  3 vinod users  4096 Oct 17 10:37 microposts
* -rw-r--r--  1 vinod users   503 Jul 31 20:24 README.md
drwxr-xr-x  2 vinod users  4096 Sep 10 20:38 .ropeproject
drwxr-xr-x  2 vinod users  4096 Aug  1 06:33 sample_app
-rw-r--r--  1 vinod users 53248 Aug  8 20:12 sample_app.db
drwxr-xr-x  3 vinod users  4096 Jul 31 20:24 static
drwxr-xr-x  4 vinod users  4096 Aug  1 06:33 static_pages
drwxr-xr-x  2 vinod users  4096 Jul 31 20:47 templates
```

U:%*- **sample_app** All L11 (Dired by name PDB Projectile yas pair)

Keyboard Macros

File Edit Options Buffers Tools HTML SGML YASnippet Help

```
<head>
<title>Bhaskaran Nair 121</title>
<base target="_top">
<META NAME="keywords" CONTENT="family, book reviews, family tree, programming">
<META NAME="description" CONTENT="My entire life summarized in HTML">
<META NAME="copyright" CONTENT="Vinod Kurup 1997 - 2001">
<META NAME="author" CONTENT="Vinod Kurup">
<LINK REL="stylesheet" HREF="/stylesheet.css">
</head>

<body topmargin=0 leftmargin=0 marginwidth=0 marginheight=0>
<a href="/index.html"><IMG SRC=images/title.jpg width="471" height="70" border=0 alt=" [Vinod's Home Page] "
 title="Vinod's Home Page"></A>
<table width=100% border=0 cellpadding=0 cellspacing=0>
<tr>
<td width=115 valign=top align=left>
<img src=/images/space.gif width=115 height=1 border=0 alt="">
<br>
</td>
<td width=15><img src=/images/space.gif width=15 height=1 border=0 alt="">

<td valign=top align=left>
<br>

<TABLE>
 <TR>
  <TD CLASS="proband">
   <img src="images/indiaflag.gif" height=14 width=21 alt=" [indiaflag] " border=0> Bhaskaran Nair <img src=
"images/indiaflag.gif" height=14 width=21 alt=" [indiaflag] " border=0>  </TD>
 </TR>
 <TR VALIGN=TOP>
  <TD>
   <TABLE>
    <TR ALIGN=CENTER>
     <TD COLSPAN=11>
       <P CLASS="small"><a href="notFound.html"><img src="images/tnnopic.gif" height=50 width=30 alt=" [No P
ic] " border=1></a> </P>
      <P CLASS="small">Bhaskaran Nair</P>
     </TD>
    </TR>

    <TR ALIGN=CENTER>
```

-:**- **bn9996.html** Top L23 (HTML Fly PDB yas pair Fill)

File Edit Options Buffers Tools Operate Mark Regexp Immediate Subdir YASnippet Help

```
-rw-r--r-- 1 vinod users  6413 May 24  2010 an1972.html
-rw-r--r-- 1 vinod users  6520 May 24  2010 ap9999.html
-rw-r--r-- 1 vinod users  7034 May 24  2010 au1945.html
-rw-r--r-- 1 vinod users  6603 May 24  2010 b9991.html
-rw-r--r-- 1 vinod users  6477 May 24  2010 b9992.html
-rw-r--r-- 1 vinod users  6732 May 24  2010 b9993.html
-rw-r--r-- 1 vinod users  6677 May 24  2010 b9994.html
-rw-r--r-- 1 vinod users  6669 May 24  2010 b9995.html
-rw-r--r-- 1 vinod users  6585 May 24  2010 b9996.html
-rw-r--r-- 1 vinod users  6422 May 24  2010 b9997.html
-rw-r--r-- 1 vinod users  6452 May 24  2010 b9998.html
-rw-r--r-- 1 vinod users  6458 May 24  2010 b9999.html
-rw-r--r-- 1 vinod users  6794 May 24  2010 ba9996.html
-rw-r--r-- 1 vinod users  6929 May 24  2010 ba9997.html
-rw-r--r-- 1 vinod users  6839 May 24  2010 ba9998.html
-rw-r--r-- 1 vinod users  7158 May 24  2010 ba9999.html
-rw-r--r-- 1 vinod users  7234 May 24  2010 bn1921.html
-rw-r--r-- 1 vinod users  7118 May 24  2010 bn1932.html
-rw-r--r-- 1 vinod users  6783 May 24  2010 b 9996.html
-rw-r--r-- 1 vinod users  6770 May 24  2010 bn9997.html
-rw-r--r-- 1 vinod users  6923 May 24  2010 bn9999.html
-rw-r--r-- 1 vinod users  6674 May 24  2010 bp9999.html
-rw-r--r-- 1 vinod users  6419 May 24  2010 c9995.html
-rw-r--r-- 1 vinod users  6591 May 24  2010 c9996.html
-rw-r--r-- 1 vinod users  6476 May 24  2010 c9997.html
-rw-r--r-- 1 vinod users  6476 May 24  2010 c9998.html
-rw-r--r-- 1 vinod users  6519 May 24  2010 c9999.html
-rw-r--r-- 1 vinod users  6408 May 24  2010 d9994.html
-rw-r--r-- 1 vinod users  6508 May 24  2010 d9995.html
-rw-r--r-- 1 vinod users  6415 May 24  2010 d9996.html
-rw-r--r-- 1 vinod users  6569 May 24  2010 d9997.html
-rw-r--r-- 1 vinod users  6564 May 24  2010 d9998.html
-rw-r--r-- 1 vinod users  6365 May 24  2010 d9999.html
-rw-r--r-- 1 vinod users  6685 May 24  2010 dk1921.html
-rw-r--r-- 1 vinod users  6460 May 24  2010 dn1971.html
-rw-r--r-- 1 vinod users  6675 May 24  2010 drn1967.html
-rw-r--r-- 1 vinod users  6555 May 24  2010 dsn1978.html
-rw-r--r-- 1 vinod users  6493 May 24  2010 e9999.html
-rw-r--r-- 1 vinod users  6679 May 24  2010 ek9999.html
-rw-r--r-- 1 vinod users  3135 May 24  2010 fb9903.html
-rw-r--r-- 1 vinod users  3678 May 24  2010 fb9904.html
-rw-r--r-- 1 vinod users  3129 May 24  2010 fb9905.html
```

U:%%- **tree** 5% L40 (Dired by name PDB yas pair)

Wrote /home/vinod/dev/project-euler/22.py

Pretty Themes

File Edit Options Buffers Tools PyShell PyEdit PyExec PyTools Outline YASnippet Projectile Rope Help

```
import random
import unittest


class TestSequenceFunctions(unittest.TestCase):

    def setUp(self):
        self.seq = range(10)

    def test_shuffle(self):
        # make sure the shuffled sequence does not lose any elements
        random.shuffle(self.seq)
        self.seq.sort()
        self.assertEqual(self.seq, range(10))

        # should raise an exception for an immutable sequence
        self.assertRaises(TypeError, random.shuffle, (1, 2, 3))

    def test_choice(self):
        element = random.choice(self.seq)
        self.assertTrue(element in self.seq)

    def test_sample(self):
        with self.assertRaises(ValueError):
            random.sample(self.seq, 20)
        for element in random.sample(self.seq, 5):
            self.assertTrue(element in self.seq)

if __name__ == '__main__':
    unittest.main()
```

-:--- **test.py** All L1 Git-master (Py Rope PDB Flymake AC Projectile yas pair Outl)

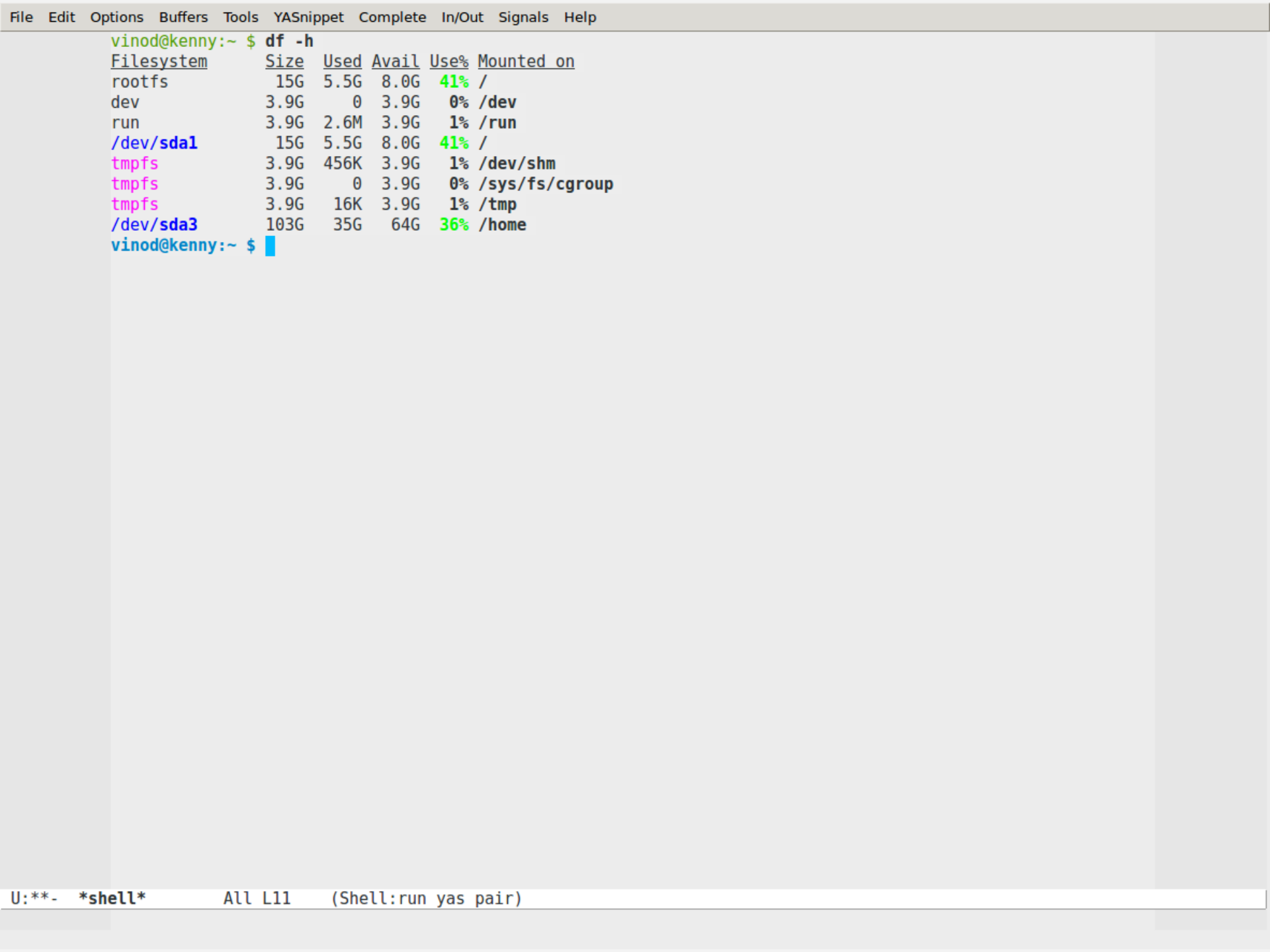
```
        import random
        import unittest


        class TestSequenceFunctions(unittest.TestCase):

            def setUp(self):
                self.seq = range(10)

            def test_shuffle(self):
                # make sure the shuffled sequence does not lose any elements
                random.shuffle(self.seq)
                self.seq.sort()
                self.assertEqual(self.seq, range(10))

                # should raise an exception for an immutable sequence
                self.assertRaises(TypeError, random.shuffle, (1, 2, 3))

            def test_choice(self):
                element = random.choice(self.seq)
                self.assertTrue(element in self.seq)

            def test_sample(self):
                with self.assertRaises(ValueError):
                    random.sample(self.seq, 20)
                for element in random.sample(self.seq, 5):
                    self.assertTrue(element in self.seq)

        if __name__ == '__main__':
            unittest.main()
```

File Edit Options Buffers Tools PyShell PyEdit PyExec PyTools Outline YASnippet Projectile Rope Help

```python
import random
import unittest


class TestSequenceFunctions(unittest.TestCase):

    def setUp(self):
        self.seq = range(10)

    def test_shuffle(self):
        # make sure the shuffled sequence does not lose any elements
        random.shuffle(self.seq)
        self.seq.sort()
        self.assertEqual(self.seq, range(10))

        # should raise an exception for an immutable sequence
        self.assertRaises(TypeError, random.shuffle, (1, 2, 3))

    def test_choice(self):
        element = random.choice(self.seq)
        self.assertTrue(element in self.seq)

    def test_sample(self):
        with self.assertRaises(ValueError):
            random.sample(self.seq, 20)
        for element in random.sample(self.seq, 5):
            self.assertTrue(element in self.seq)

if __name__ == '__main__':
    unittest.main()
```

-:--- test.py All L1 Git-master (Py Rope PDB Flymake AC Projectile yas pair Outl)

Shell modes


File Edit Options Buffers Tools YASnippet Complete In/Out Signals Help
vinod@kenny:~ $ df -h
Filesystem Size Used Avail Use% Mounted on
rootfs 15G 5.5G 8.0G 41% /
dev 3.9G 0 3.9G 0% /dev
run 3.9G 2.6M 3.9G 1% /run
/dev/sda1 15G 5.5G 8.0G 41% /
tmpfs 3.9G 456K 3.9G 1% /dev/shm
tmpfs 3.9G 0 3.9G 0% /sys/fs/cgroup
tmpfs 3.9G 16K 3.9G 1% /tmp
/dev/sda3 103G 35G 64G 36% /home
vinod@kenny:~ $
U:**- *shell* All L11 (Shell:run yas pair)

File Edit Options Buffers Tools YASnippet Help

Welcome to the Emacs shell

```
~ $ df -h
Filesystem      Size  Used Avail Use% Mounted on
rootfs           15G  5.5G  8.0G  41% /
dev             3.9G     0  3.9G   0% /dev
run             3.9G  2.6M  3.9G   1% /run
/dev/sda1        15G  5.5G  8.0G  41% /
tmpfs           3.9G  456K  3.9G   1% /dev/shm
tmpfs           3.9G     0  3.9G   0% /sys/fs/cgroup
tmpfs           3.9G   16K  3.9G   1% /tmp
/dev/sda3       103G   35G   64G  36% /home
~ $
```

U:--- *eshell*   All L13   (EShell yas pair)

And more!!

- Kill ring
- yasnippet
- org-mode
- ace-jump

Emacs for life!

One interface
to rule them all

Infinitely customizable

Stands the test of time

Eight Megs And Constantly Swapping

(Mine takes 41M now, though)