fnmatch — Unix-style Glob Pattern Matching

Purpose: Handle Unix-style filename comparisons.

The fnmatch module is used to compare filenames against glob-style patterns such as used by Unix shells.

Simple Matching

fnmatch() compares a single filename against a pattern and returns a boolean, indicating whether or not they match. The comparison is case-sensitive when the operating system uses a case-sensitive file system.

```
# fnmatch_fnmatch.py

import fnmatch
import os

pattern = 'fnmatch_*.py'
print('Pattern :', pattern)
print()

files = os.listdir('.')
for name in sorted(files):
    print('Filename: {:<25} {}'.format(
        name, fnmatch.fnmatch(name, pattern)))
```

In this example, the pattern matches all files starting with 'fnmatch_' and ending in '.py'.

```
$ python3 fnmatch_fnmatch.py

Pattern : fnmatch_*.py

Filename: fnmatch_filter.py         True
Filename: fnmatch_fnmatch.py        True
Filename: fnmatch_fnmatchcase.py    True
Filename: fnmatch_translate.py      True
Filename: index.rst                 False
```

To force a case-sensitive comparison, regardless of the file system and operating system settings, use fnmatchcase().

```
# fnmatch_fnmatchcase.py

import fnmatch
import os

pattern = 'FNMATCH_*.PY'
print('Pattern :', pattern)
print()

files = os.listdir('.')

for name in sorted(files):
    print('Filename: {:<25} {}'.format(
        name, fnmatch.fnmatchcase(name, pattern)))
```

Since the OS X system used to test this program uses a case-sensitive file system, no files match the modified pattern.

```
$ python3 fnmatch_fnmatchcase.py

Pattern : FNMATCH_*.PY

Filename: fnmatch_filter.py         False
Filename: fnmatch_fnmatch.py        False
```

```
Filename: fnmatch_fnmatchcase.py    False
Filename: fnmatch_translate.py      False
Filename: index.rst                 False
```

Filtering

To test a sequence of filenames, use `filter()`, which returns a list of the names that match the pattern argument.

```
# fnmatch_filter.py

import fnmatch
import os
import pprint

pattern = 'fnmatch_*.py'
print('Pattern :', pattern)

files = list(sorted(os.listdir('.')))

print('\nFiles   :')
pprint.pprint(files)

print('\nMatches :')
pprint.pprint(fnmatch.filter(files, pattern))
```

In this example, `filter()` returns the list of names of the example source files associated with this section.

```
$ python3 fnmatch_filter.py

Pattern : fnmatch_*.py

Files   :
['fnmatch_filter.py',
 'fnmatch_fnmatch.py',
 'fnmatch_fnmatchcase.py',
 'fnmatch_translate.py',
 'index.rst']

Matches :
['fnmatch_filter.py',
 'fnmatch_fnmatch.py',
 'fnmatch_fnmatchcase.py',
 'fnmatch_translate.py']
```

Translating Patterns

Internally, `fnmatch` converts the glob pattern to a regular expression and uses the re module to compare the name and pattern. The `translate()` function is the public API for converting glob patterns to regular expressions.

```
# fnmatch_translate.py

import fnmatch

pattern = 'fnmatch_*.py'
print('Pattern :', pattern)
print('Regex   :', fnmatch.translate(pattern))
```

Some of the characters are escaped to make a valid expression.

```
$ python3 fnmatch_translate.py

Pattern : fnmatch_*.py
Regex   : (?s:fnmatch_.*\.py)\Z
```

See also

- Standard library documentation for fnmatch

- Standard library documentation for fnmatch
- glob – The glob module combines `fnmatch` matching with `os.listdir()` to produce lists of files and directories matching patterns.
- re – Regular expression pattern matching.

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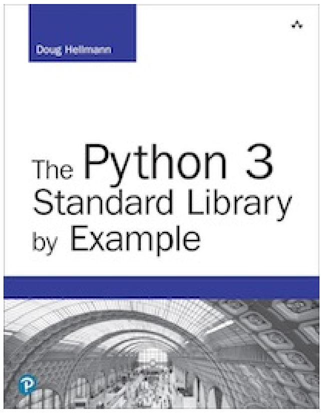

The output from all the example programs from PyMOTW-3 has been generated with Python 3.7.1, unless otherwise noted. Some of the features described here may not be available in earlier versions of Python.

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