Python Regex finditer()

Summary: in this tutorial, you'll learn how to use the Python regex `finditer()` function to find all matches in a string and return an iterator that yields match objects.

Introduction to the Python regex finditer function

The `finditer()` function matches a pattern in a string and returns an iterator (https://www.pythontutorial.net/advanced-python/python-iterators/) that yields the `Match` objects of all non-overlapping matches.

The following shows the syntax of the `finditer()` function:

```
re.finditer(pattern, string, flags=0)
```

In this syntax:

- `pattern` is regular expression (https://www.pythontutorial.net/python-regex/python-regular-expressions/) that you want to search for in the string.

- `string` is the input string.

- `flags` parameter is optional and defaults to zero. The `flags` parameter accepts one or more regex flags (https://www.pythontutorial.net/python-regex/python-regex-flags/) . The `flags` parameter changes how the regex engine matches the pattern.

If the search is successful, the `finditer()` function returns an iterator yielding the `Match` objects. Otherwise, the `finditer()` also returns an iterator that will yield no `Match` object.

Python regex finditer example

The following example uses the `finditer()` function to search for all vowels in a string:

```python
import re

s = 'Readability counts.'
pattern = r'[aeoui]'

matches = re.finditer(pattern, s)
for match in matches:
    print(match)
```

Output:

```
<re.Match object; span=(1, 2), match='e'>
<re.Match object; span=(2, 3), match='a'>
<re.Match object; span=(4, 5), match='a'>
<re.Match object; span=(6, 7), match='i'>
<re.Match object; span=(8, 9), match='i'>
<re.Match object; span=(13, 14), match='o'>
<re.Match object; span=(14, 15), match='u'>
```

Summary

- Use the `finditer()` function to match a pattern in a string and return an iterator yielding the Match objects.