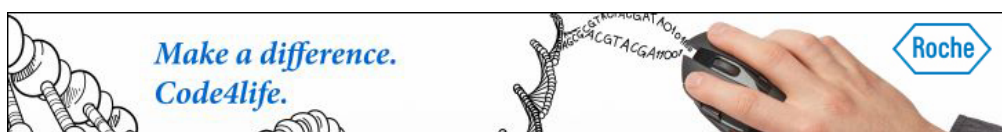


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What does enumerate mean?



I am using tkinter in Python and came across the following code:

```
for row_number, row in enumerate(cursor):
```

I was wondering whether anyone could explain what enumerate means in this context?

python enumerate

edited Aug 9 '16 at 9:23



Martijn Pieters ♦
558k 87 1648
1706

asked Mar 4 '14 at 12:08



user3374098
570 2 5 3

9 docs.python.org/2/library/functions.html#enumerate – ndpu Mar 4 '14 at 12:10

3 Answers

The `enumerate()` function adds a counter to an iterable.

So for each element in `cursor`, a tuple is produced with `(counter, element)`; the `for` loop binds that to `row_number` and `row`, respectively.

Demo:

```
>>> elements = ('foo', 'bar', 'baz')
>>> for elem in elements:
...     print elem
...
foo
bar
baz
>>> for count, elem in enumerate(elements):
...     print count, elem
...
0 foo
1 bar
2 baz
```

By default, `enumerate()` starts counting at 0 but if you give it a second integer argument, it'll start from that number instead:

```
>>> for count, elem in enumerate(elements, 42):
...     print count, elem
...
42 foo
43 bar
44 baz
```

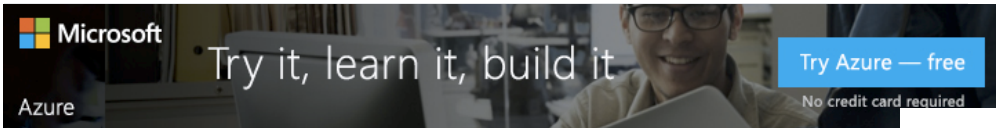
answered Mar 4 '14 at 12:10



Martijn Pieters ♦
558k 87 1648
1706

Your demo is useful, but could you explain condition also as `[i for i,x in enumerate(wl),if x == "gonna"]` – [Hemant Yadav](#) May 28 at 16:53

- 1 [@HemantYadav](#): that's just part of a *list comprehension* (albeit with an error in it, that second comma should probably not be there), and is not specific to `enumerate()`. See [Python for-in loop preceded by a variable](#); it builds a list of indices for all occurrences of the string `'gonna'` in `wl`. – [Martijn Pieters](#) ♦ May 28 at 17:17



It's a builtin generator function, see <http://docs.python.org/2/library/functions.html#enumerate>.

In short, it yields the elements of an iterator, as well as an index number:

```
for item in enumerate(["a", "b", "c"]):  
    print item
```

prints

```
(0, "a")  
(1, "b")  
(2, "c")
```

It's helpful if you want to loop over an iterator, and also want to have an index counter available. If you want the counter to start from some other value (usually 1), you can give that as second argument to `enumerate`.

edited Mar 4 '14 at 12:31

answered Mar 4 '14 at 12:12



RemcoGerlich
15.2k 2 23 37

I think you're missing a `]` in your first line of code. – [elParaguayo](#) Mar 4 '14 at 12:29

Thanks, edited. – [RemcoGerlich](#) Mar 4 '14 at 12:32

if you add a second variable to `item` then you can remove the parenthesis :D – [Abdelouahab](#) Dec 14 '14 at 0:19

```
# import modules  
import numpy as np  
import pandas as pd  
  
# generate some time series for six different categories  
myts = list("abcdefgh")  
  
tsd = np.random.randn(2000)  
  
tgt = np.random.choice(myts, 2000)  
  
for i, l in enumerate(myts):  
    tsd[tgt == l] += i // 2  
  
# Populate into data frame  
df = pd.DataFrame(dict(score = tsd, group = tgt))  
  
# Check the results  
df.head()
```

Which results into:

```
group  score  
0     d  1.658331  
1     h  3.020331  
2     d  0.253232  
3     d  1.494033  
4     e  3.533548
```

edited May 25 at 10:22



Fawzan
2,194 1 12 39

answered Jan 22 '16 at 5:33



Manoj Kumar
1,733 8 13

14 For majority of people looking for an answer to this question, this would only create more questions and wouldn't explain anything. You don't need pandas or numpy to explain what `enumerate()` does. – [ski](#) Mar 9 '16 at 19:34

3 skyjur.. actually this is an explanation given to newbie and not to pro. – [Manoj Kumar](#) Mar 11 '16 at 4:30

4 Yes that is what I want to say, that a newbie who would find this answer wouldn't understand a thing. And non-newbies probably know what is `enumerate()` or can refer to documentation. – [ski](#) Mar 11 '16 at 10:21

Is there a particular reason for using numpy to explain enumerate here? – [Fawzan](#) May 25 at 10:15

@Fawzan The main reason was to bring it `reproducible` example into picture to give an idea about `enumerate()` , specifically for the readers who are new to Python, relatively. – [Manoj Kumar](#) May 25 at 10:58
