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python pandas: apply a function with arguments to a series

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I want to apply a function with arguments to a series in python pandas:

```
x = my_series.apply(my_function, more_arguments_1)
y = my_series.apply(my_function, more_arguments_2)
...
```

The [documentation](#) describes support for an apply method, but it doesn't accept any arguments. Is there a different method that accepts arguments? Alternatively, am I missing a simple workaround?

python pandas apply

asked Aug 29 '12 at 16:46



Abe
3,327 7 38 72

2 Why not just use `functools.partial`, or `starmap`? – [Joel Cornett](#) Aug 29 '12 at 16:54

2 Answers

The documentation explains this clearly. The apply method accepts a python function which should have a single parameter. If you want to pass more parameters you should use `functools.partial` as suggested by Joel Cornett in his comment.

An example:

```
>>> import functools
>>> import operator
>>> add_3 = functools.partial(operator.add,3)
>>> add_3(2)
5
>>> add_3(7)
10
```

You can also pass keyword arguments using `partial`.

Another way would be to create a lambda:

```
my_series.apply((lambda x: your_func(a,b,c,d,...,x)))
```

But I think using `partial` is better.

Note that newer versions of pandas *do* allow you to pass extra arguments (see the [new documentation](#)). So now you can do:

```
my_series.apply(your_function, args=(2,3,4), extra_kw=1)
```

The positional arguments are added *after* the element of the series.

edited Feb 12 at 15:56
 Graham Madden
120 1 1 9

answered Aug 29 '12 at 17:36
 Bakuriu
36.1k 5 59 96

6 For a DataFrame apply method accepts `args` argument, which is a tuple holding additional positional arguments or `**kwargs` for named ones. I created an issue to have this also for Series.apply() github.com/pydata/pandas/issues/1829 – [Wouter Overmeire](#) Aug 30 '12 at 20:11

13 Feature has been implemented, will be in upcoming pandas release – [Wes McKinney](#) Sep 9 '12 at 0:23

do we have a pointer now to the aforementioned feature? – [watsonic](#) Sep 8 '15 at 21:58

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```
Series.apply(func, convert_dtype=True, args=(), **kwds)
```

args : tuple

```
x = my_series.apply(my_function, args = (arg1,))
```

answered Nov 13 '14 at 21:12



[dani_g](#)

91 1 1

Thanks! Can you explain why args = (arg1,) needs a comma after the first argument? – [MishaTeplitskiy](#)
May 5 '15 at 18:19

2 @MishaTeplitskiy, you need the comma in order for Python to understand the parentheses' contents to be a tuple of length 1. – [proofreader](#) May 18 '15 at 21:10

@proofreader Ah, hanks! – [MishaTeplitskiy](#) May 20 '15 at 22:46
