

decorator

August 8, 2017

```
In [2]: def now():  
        print('2015-3-25')
```

```
In [13]: f = now  
         f()  
         now.__name__
```

2015-3-25

Out[13]: 'now'

```
In [15]: f.__name__
```

Out[15]: 'now'

```
In [17]: def log(func):  
        def wrapper(*args, **kw):  
            print('call %s():' % func.__name__)  
            return func(*args, **kw)  
        return wrapper
```

```
In [19]: @log  
        def now():  
            print('2015-3-25')
```

```
In [20]: now()
```

call now():

2015-3-25

```
In [39]: def logI(func):  
        def my_now(*args, **kw):  
            print('I call %s():' % func.__name__)  
            return func(*args, **kw)  
        return my_now  
        #wrapper(my_now)wrapper  
        #wrapperwrapper*arg **kw
```

```

In [40]: @logI
         def now():
             print('2015-3-25')

In [ ]: now()

In [ ]: def logII(func):
         def my_now(*arg):
             print('II call %s():' % func.__name__)
             return func(*arg)
         return my_now
         #wrapper(my_now)wrapper

In [37]: @logII
         def now():
             print('2015-3-25')

In [38]: now()

II call now():
2015-3-25

In [44]: def logIII(func):
         def my_now(argI):
             print('III call %s():' % func.__name__)
             return func(argI)
         return my_now
         #wrapper(my_now)wrapper

In [49]: @logIII
         def nowIII(request):
             print('One positional arg request: {}'.format(request))
             print('2015-3-25')

In [51]: nowIII('My name is ArgRequest!')

III call nowIII():
One positional arg request: My name is ArgRequest!
2015-3-25

In [58]: def logIV(func, handler = 'ArgTwo'):
         print(handler)
         def my_now(argI):
             print('IV call %s():' % func.__name__)
             return func(argI)
         return my_now
         #wrapper(my_now)wrapper

```

```
In [59]: @logIV
def nowIV(request):
    print('One positional arg request: {}'.format(request))
    print('2015-3-25')
```

ArgTwo

```
In [60]: nowIV('My name is ArgRequest!')
```

```
IV call nowIV():
One positional arg request: My name is ArgRequest!
2015-3-25
```

```
In [63]: #decoratordecorator
#
#cellddecorator
def logV(func, argthree, handler = 'ArgTwo'):
    print(handler)
    def my_now(argI):
        print('V call %s():' % func.__name__)
        return func(argI)
    return my_now
```

```
In [67]: @logV('My name is argthree. ')
def nowV(request):
    print('One positional arg request: {}'.format(request))
    print('2015-3-25')
```

TypeError Traceback (most recent call last)

```
<ipython-input-67-3dabcc249532> in <module>()
----> 1 @logV('My name is argthree. ')
      2 def nowV(request):
      3     print('One positional arg request: {}'.format(request))
      4     print('2015-3-25')
```

TypeError: logV() missing 1 required positional argument: 'argthree'

```
In [68]: @logV('My name is argthree. ', 'Argfour')
def nowV(request):
    print('One positional arg request: {}'.format(request))
    print('2015-3-25')
```

ArgTwo

```
AttributeError                                Traceback (most recent call last)

<ipython-input-68-e2b59f04c3f4> in <module>()
----> 1 @logV('My name is argthree. ', 'Argfour')
      2 def nowV(request):
      3     print('One positional arg request: {}'.format(request))
      4     print('2015-3-25')

<ipython-input-63-80ac55356739> in my_now(argI)
      2     print(handler)
      3     def my_now(argI):
----> 4         print('V call %s():' % func.__name__)
      5         return func(argI)
      6     return my_now
```

AttributeError: 'str' object has no attribute '__name__'

```
In [69]: def logVI(func, handler = 'ArgTwo'):
        print(handler)
        def my_now(argI):
            print('VI call %s():' % func.__name__)
            return func(argI)
        return my_now
        #wrapper(my_now)wrapper

In [70]: @logVI(handler = 'Mybe KeyWord is OK ')
        def nowVI(request):
            print('One positional arg request: {}'.format(request))
            print('2015-3-25')
```

```
TypeError                                Traceback (most recent call last)

<ipython-input-70-3c69a414725d> in <module>()
----> 1 @logVI(handler = 'Mybe KeyWord is OK ')
      2 def nowVI(request):
      3     print('One positional arg request: {}'.format(request))
      4     print('2015-3-25')
```

TypeError: logVI() missing 1 required positional argument: 'func'

```
In [71]: #decorator3
        #now = logVI('execute')(now)
        #logIV('execute')decorator,now
        #wrapper
        def logVI(text):
            def decorator(func):
                def wrapper(*args, **kw):
                    print('VI call')
                    print('%s %s():' % (text, func.__name__))
                    return func(*args, **kw)
                return wrapper
            return decorator

In [76]: @logVI('Execute')
        def nowVI(request):
            print('One positional arg request: {}'.format(request))
            print('2015-3-25')

In [77]: nowVI('My name is ArgRequest!')
```

```
VI call
Execute nowVI():
One positional arg request: My name is ArgRequest!
2015-3-25
```