

## **\*\*kwargs**

```
def func(**kwargs):  
    print(kwargs)
```

```
func(x=100, y=200)  
{'x': 100, 'y': 200}
```

We can also use it in conjunction with **\*args**:

```
def func(*args, **kwargs):  
    print(args)  
    print(kwargs)
```

```
func(1, 2, a=100, b=200)  
(1, 2)  
{'a': 100, 'b': 200}
```

Note: You cannot do the following:

```
def func(*, **kwargs):  
    print(kwargs)  
File "<ipython-input-9-330c63b7f22e>", line 1  
    def func(*, **kwargs):  
                ^  
SyntaxError: named arguments must follow bare *
```

There is no need to even do this, since **\*\*kwargs** essentially indicates no more positional arguments.

```
def func(a, b, **kwargs):  
    print(a)  
    print(b)  
    print(kwargs)
```

```
func(1, 2, x=100, y=200)  
1  
2  
{'x': 100, 'y': 200}
```

Also, you cannot specify parameters **after** **\*\*kwargs** has been used:

```
def func(a, b, **kwargs, c):  
    pass  
File "<ipython-input-12-ffdc3153243b>", line 1  
    def func(a, b, **kwargs, c):  
                        ^  
SyntaxError: invalid syntax
```

If you want to specify both specific keyword-only arguments and **\*\*kwargs** you will need to first get to a point where you can define a keyword-only argument (i.e. exhaust the positional arguments, using either **\*args** or just **\***)

```
def func(*, d, **kwargs):
```

```
    print(d)
    print(kwargs)

func(d=1, x=100, y=200)
1
{'x': 100, 'y': 200}
```