

```
In [1]: def cubes(n):  
        for n in range(n+1):  
            print n**3  
cubes(10)
```

```
0  
1  
8  
27  
64  
125  
216  
343  
512  
729  
1000
```

```
In [5]: def genfibon(n): #generator  
        for x in range(3):  
            yield x  
        '''  
        Generate a fibonnaci sequence up to n  
        '''  
        a = 1  
        b = 1  
        for i in range(n):  
            yield a  
            a,b = b,a+b  
for num in genfibon(10):  
    print num
```

```
1  
1  
2  
3  
5  
8  
13  
21  
34  
55
```

```
In [6]: def fibon(n): #normal function
        a = 1
        b = 1
        output = []

        for i in range(n):
            output.append(a)
            a,b = b,a+b

        return output
fibon(10)
```

Out[6]: [1, 1, 2, 3, 5, 8, 13, 21, 34, 55]

```
In [8]: def simple_gen():
        for x in range(3):
            yield x
# Assign simple_gen
g = simple_gen()
print next(g)
```

0

```
In [9]: print next(g)
```

1

```
In [10]: print next(g)
```

2

```
In [11]: print next(g)
```

```
-----
StopIteration                                Traceback (most recent call last)
<ipython-input-11-d013a5691c47> in <module>()
----> 1 print next(g)
```

**StopIteration:**

```
In [12]: s = 'hello'

#Iterate over string
for let in s:
    print let
```

h  
e  
l  
l  
o

```
In [13]: s_iter = iter(s)
```

In [14]: `next(s_iter)`

Out[14]: `'h'`

In [15]: `next(s_iter)`

Out[15]: `'e'`

In [16]: `next(s_iter)`

Out[16]: `'l'`

In [17]: `next(s_iter)`

Out[17]: `'l'`

In [18]: `next(s_iter)`

Out[18]: `'o'`

In [19]: `next(s_iter)`

```
-----  
StopIteration                                Traceback (most recent call last)  
<ipython-input-19-d24ba86a3c4d> in <module>()  
----> 1 next(s_iter)
```

**StopIteration:**