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Python for beginners

Loop operation in python

- The for statement in Python differs a bit from what you may be used to in C or Pascal
- Python's for statement iterates over the items of any sequence (a list or a string), in the order that they appear in the sequence



Loop

```
words = ['apple' , 'banana' , 'orange' , 'cherry' , 'straberry']
```

```
for w in words:  
    print(w , len(w))
```

```
apple 5  
banana 6  
orange 6  
cherry 6  
straberry 9
```



Loop

```
words = ['apple' , 'banana' , 'orange' , 'cherry' , 'straberry']  
for item in words[1:4]:  
    print (item)
```

banana
orange
cherry

```
for item in words[2:5]:  
    print(item)
```

orange
cherry
straberry



Loop

`range (5)` **output** : 0, 1, 2, ... , 5
`range (2 , 7)` **output** : 2, 3, 4, 5, 6, 7
`range (2, 10, 2)` **output**: 2, 4, 6, 8
`range (-30, -50, -2)` **output**:-30, -32 , ... , -48

```
for i in range(5):  
    print (i)
```

```
0  
1  
2  
3  
4
```

```
for i in range (2 ,5):  
    print (i)
```

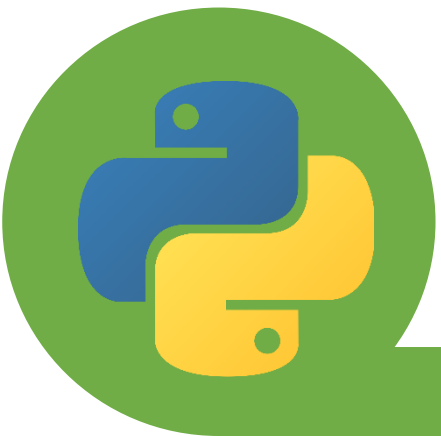
```
2  
3  
4
```

```
for i in range (2 ,10 , 2):  
    print (i)
```

```
2  
4  
6  
8
```

```
for i in range(-30 , -50 , -2):  
    print (i)
```

```
-30  
-32  
-34  
-36  
-38  
-40  
-42  
-44  
-46  
-48
```



Loop

```
words = ['apple' , 'banana' , 'orange' , 'cherry' , 'straberry']
```

```
for i in range(len(words)):  
    print(i , words[i])
```

```
0 apple  
1 banana  
2 orange  
3 cherry  
4 straberry
```



Loop

Reversed (iter) : return iterable object in reversed order

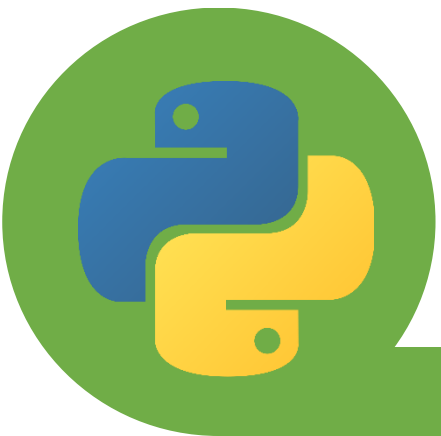
sorted(iter) : sort iterable object

```
for i in reversed(range(1, 10, 2)):  
    print(i)
```

9
7
5
3
1

```
basket = ['apple', 'orange', 'apple', 'pear', 'orange', 'banana']  
for f in sorted(set(basket)):  
    print(f)
```

apple
banana
orange
pear



Loop

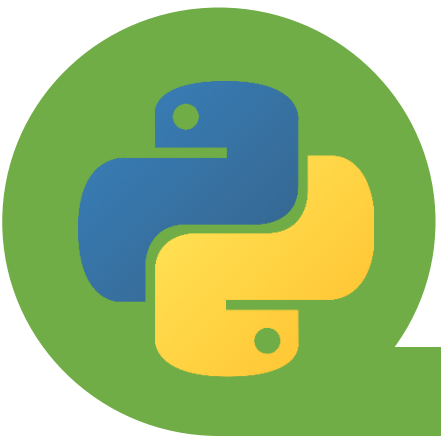
`enumerate(ittratableObj , start)` : return enumerate starting from start as tuple

```
words = ['apple' , 'banana' , 'orange' , 'cherry' , 'straberry']  
for item in enumerate(words):  
    print(item)
```

```
(0, 'apple')  
(1, 'banana')  
(2, 'orange')  
(3, 'cherry')  
(4, 'straberry')
```

```
for count,ele in enumerate(words,100):  
    print (count,ele)
```

```
100 apple  
101 banana  
102 orange  
103 cherry  
104 straberry
```



Loop

Zip(iter1, iter2) : return zip format of iter1 and iter2 as tuple

```
words = ['apple' , 'banana' , 'orange' , 'cherry' , 'straberry']  
quality = ['A','B','A+','C','B+']
```

```
for item,qu in zip(words,quality):  
    print (item,qu)
```

```
apple A  
banana B  
orange A+  
cherry C  
straberry B+
```

```
for item,qu in zip(words,quality):  
    print ("Fruite : %s      Quality : %s" %(item,qu))
```

```
Fruite :  apple      Quality : A  
Fruite :  banana     Quality : B  
Fruite :  orange     Quality : A+  
Fruite :  cherry     Quality : C  
Fruite :  straberry   Quality : B+
```



Loop

Zip(iter1, iter2) : return zip format of iter1 and iter2 as tuple

```
questions = ['name', 'quest', 'favorite color']  
answers = ['lancelot', 'the holy grail', 'blue']  
  
for q, a in zip(questions, answers):  
    print('What is your {0}? It is {1}.'.format(q, a))
```

```
What is your name? It is lancelot.  
What is your quest? It is the holy grail.  
What is your favorite color? It is blue.
```

