

```
In [1]: r=range(5)
r
```

```
Out[1]: range(0, 5)
```

```
In [2]: list(range(0,5))
```

```
Out[2]: [0, 1, 2, 3, 4]
```

```
In [3]: r1=range(10)
r1
```

```
Out[3]: range(0, 10)
```

```
In [4]: r2=list(range(10))
r2
```

```
Out[4]: [0, 1, 2, 3, 4, 5, 6, 7, 8, 9]
```

```
In [5]: list(range(10))
```

```
Out[5]: [0, 1, 2, 3, 4, 5, 6, 7, 8, 9]
```

```
In [6]: list(range(5))
```

```
Out[6]: [0, 1, 2, 3, 4]
```

```
In [7]: r_=list(range(5,20))
```

```
In [8]: r_
```

```
Out[8]: [5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19]
```

```
In [9]: list(range(5,10,2))
```

```
Out[9]: [5, 7, 9]
```

```
In [10]: list(range(10,100,10))
```

```
Out[10]: [10, 20, 30, 40, 50, 60, 70, 80, 90]
```

```
In [11]: list(range(10,110,10))
```

```
Out[11]: [10, 20, 30, 40, 50, 60, 70, 80, 90, 100]
```

```
In [12]: list(range(10,100,5))
```

```
Out[12]: [10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95]
```

```
In [13]: list(range(5,20,5,2))
```

```
-----  
TypeError                                Traceback (most recent call last)  
Cell In[13], line 1  
----> 1 list(range(5,20,5,2))  
  
TypeError: range expected at most 3 arguments, got 4
```

```
In [14]: r=range(10)  
r
```

```
Out[14]: range(0, 10)
```

```
In [15]: list(r)
```

```
Out[15]: [0, 1, 2, 3, 4, 5, 6, 7, 8, 9]
```

```
In [16]: list(range(0,10))
```

```
Out[16]: [0, 1, 2, 3, 4, 5, 6, 7, 8, 9]
```

```
In [21]: for i in r:  
          print('yes')  
          print(i)
```

```
yes  
0  
yes  
1  
yes  
2  
yes  
3  
yes  
4  
yes  
5  
yes  
6  
yes  
7  
yes  
8  
yes  
9
```

```
In [18]: for i in enumerate(r):  
          print(i)
```

```
(0, 0)  
(1, 1)  
(2, 2)  
(3, 3)  
(4, 4)  
(5, 5)  
(6, 6)  
(7, 7)  
(8, 8)  
(9, 9)
```

```
In [19]: if 5 in r:  
        print("present")  
        else:  
        print("not present")
```

present

```
In [22]: range(10.5,11.5)
```

```
-----  
TypeError                                Traceback (most recent call last)  
Cell In[22], line 1  
----> 1 range(10.5,11.5)  
  
TypeError: 'float' object cannot be interpreted as an integer
```

```
In [23]: w1=range(10,20)  
w1
```

Out[23]: range(10, 20)

```
In [24]: list(w1)
```

Out[24]: [10, 11, 12, 13, 14, 15, 16, 17, 18, 19]

```
In [25]: list(range(w1))
```

```
-----  
TypeError                                Traceback (most recent call last)  
Cell In[25], line 1  
----> 1 list(range(w1))  
  
TypeError: 'range' object cannot be interpreted as an integer
```

```
In [26]: list(range(10,20))
```

Out[26]: [10, 11, 12, 13, 14, 15, 16, 17, 18, 19]

```
In [27]: for i in w1:  
        print(i)
```

10
11
12
13
14
15
16
17
18
19

```
In [28]: r
```

Out[28]: range(0, 10)

```
In [31]: list(r)
```

Out[31]: [0, 1, 2, 3, 4, 5, 6, 7, 8, 9]

In []:

r[4]

In [30]: r[0]

Out[30]: 0

In [32]: range(-10,10)

Out[32]: range(-10, 10)

In [33]: list(range)

```
-----  
TypeError                                Traceback (most recent call last)  
Cell In[33], line 1  
----> 1 list(range)  
  
TypeError: 'type' object is not iterable
```

In [34]: r8=range(-10,10)
r8

Out[34]: range(-10, 10)

In [35]: list(r8)

Out[35]: [-10, -9, -8, -7, -6, -5, -4, -3, -2, -1, 0, 1, 2, 3, 4, 5, 6, 7, 8, 9]

In [36]: r8[0]

Out[36]: -10

In [37]: r8[-1]

Out[37]: 9

In [38]: r[5]

Out[38]: 5

In [39]: r8[5]

Out[39]: -5

In [40]: r8[0:12]

Out[40]: range(-10, 2)

In [41]: list(r8[0:12])

Out[41]: [-10, -9, -8, -7, -6, -5, -4, -3, -2, -1, 0, 1]

In [42]: range(100)

Out[42]: range(0, 100)

```
In [43]: list(0,100)
```

```
-----  
TypeError                                Traceback (most recent call last)  
Cell In[43], line 1  
----> 1 list(0,100)  
  
TypeError: list expected at most 1 argument, got 2
```

```
In [44]: list(range(100))
```

```
Out[44]: [0,  
1,  
2,  
3,  
4,  
5,  
6,  
7,  
8,  
9,  
10,  
11,  
12,  
13,  
14,  
15,  
16,  
17,  
18,  
19,  
20,  
21,  
22,  
23,  
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30,  
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83,  
84,  
85,  
86,  
87,  
88,  
89,  
90,  
91,  
92,  
93,  
94,  
95,  
96,  
97,  
98,  
99]
```

```
In [45]: range(10,30)
```

```
Out[45]: range(10, 30)
```

```
In [46]: list(range(10,30))
```

```
Out[46]: [10,  
         11,  
         12,  
         13,  
         14,  
         15,  
         16,  
         17,  
         18,  
         19,  
         20,  
         21,  
         22,  
         23,  
         24,  
         25,  
         26,  
         27,  
         28,  
         29]
```

```
In [47]: range(50)
```

```
Out[47]: range(0, 50)
```

```
In [48]: list(range)
```

```
-----  
TypeError                                Traceback (most recent call last)  
Cell In[48], line 1  
----> 1 list(range)  
  
TypeError: 'type' object is not iterable
```

```
In [49]: list(range(50))
```



```
Out[49]: [0,  
1,  
2,  
3,  
4,  
5,  
6,  
7,  
8,  
9,  
10,  
11,  
12,  
13,  
14,  
15,  
16,  
17,  
18,  
19,  
20,  
21,  
22,  
23,  
24,  
25,  
26,  
27,  
28,  
29,  
30,  
31,  
32,  
33,  
34,  
35,  
36,  
37,  
38,  
39,  
40,  
41,  
42,  
43,  
44,  
45,  
46,  
47,  
48,  
49]
```

```
In [50]: r=range(10,50)  
list(r)
```

```
Out[50]: [10,  
          11,  
          12,  
          13,  
          14,  
          15,  
          16,  
          17,  
          18,  
          19,  
          20,  
          21,  
          22,  
          23,  
          24,  
          25,  
          26,  
          27,  
          28,  
          29,  
          30,  
          31,  
          32,  
          33,  
          34,  
          35,  
          36,  
          37,  
          38,  
          39,  
          40,  
          41,  
          42,  
          43,  
          44,  
          45,  
          46,  
          47,  
          48,  
          49]
```

```
In [51]: r=range(10,50,5)  
list(r)
```

```
Out[51]: [10, 15, 20, 25, 30, 35, 40, 45]
```

```
In [52]: r=range(10,50,5,6)
```

```
-----  
TypeError                                Traceback (most recent call last)  
Cell In[52], line 1  
----> 1 r=range(10,50,5,6)  
  
TypeError: range expected at most 3 arguments, got 4
```

```
In [53]: r=range(10,100,10.56)  
r
```

```
-----  
TypeError                                Traceback (most recent call last)  
Cell In[53], line 1  
----> 1 r=range(10,100,10.56)  
      2 r  
  
TypeError: 'float' object cannot be interpreted as an integer
```

```
In [54]: for i in range(10):  
        print(i)
```

0
1
2
3
4
5
6
7
8
9

```
In [55]: i=range(10)  
        print(i)
```

range(0, 10)

```
In [56]: for i in range(10,20):  
        print(i)
```

10
11
12
13
14
15
16
17
18
19

```
In [58]: for i in range(10,100,10):  
        print(i)
```

10
20
30
40
50
60
70
80
90

```
In [59]: range(10,20,5,6)
```

```
-----  
TypeError                                Traceback (most recent call last)  
Cell In[59], line 1  
----> 1 range(10,20,5,6)  
  
TypeError: range expected at most 3 arguments, got 4
```

```
In [61]: r=range(10)  
         list(r)
```

```
Out[61]: [0, 1, 2, 3, 4, 5, 6, 7, 8, 9]
```

```
In [ ]:
```