

LOOPS IN PYTHON

while loop

```
In [1]: i = 1 # initializing

while i<=5: # condition
    print('data science :',i)
    i +=1 # increment
```

```
data science : 1
data science : 2
data science : 3
data science : 4
data science : 5
```

```
In [2]: i = 5

while i>=1:
    print('data science :',i)
    i -=1 # decrement
```

```
data science : 5
data science : 4
data science : 3
data science : 2
data science : 1
```

nested while loop

```
In [3]: i = 1
while i<=5:
    print('data science')
    j = 1
    while j<=4:
        print('technology')
```

```
    j +=1
    i +=1
    print()
```

data science
technology
technology
technology
technology

data science
technology
technology
technology
technology

data science
technology
technology
technology
technology

data science
technology
technology
technology
technology

data science
technology
technology
technology
technology

In [4]: i = 1

```
while i<=5:
    print('data science',end=' ')
    j = 1
    while j<=3:
```

```

    print('technology',end = ' ')
    j +=1
i +=1
print()

```

```

data science technology technology technology
data science technology technology technology
data science technology technology technology
data science technology technology technology
data science technology technology technology

```

In [5]: i = 1

```

while i<=2:
    j=0
    while j<=2:
        print(i*j,end = ' ')
        j +=1
    i +=1
    print()

```

```

0 1 2
0 2 4

```

In [6]: i = 1

```

while i<=4:
    j=0
    while j<=3:
        print(i*j,end = ' ')
        j +=1
    i +=1
    print()

```

```

0 1 2 3
0 2 4 6
0 3 6 9
0 4 8 12

```

for loop

In [7]: `name = 'nit'`

```
for i in name:  
    print(i)
```

n
i
t

In [8]: `name1 = [1,3.5,'hello']`

```
for i in name1:  
    print(i)
```

1
3.5
hello

In [9]: `for i in range(5):`

```
    print(i)
```

0
1
2
3
4

In [10]: `for i in range(10,51,5):`

```
    print(i)
```

10
15
20
25
30
35
40
45
50

print the value which is divisible by 5

```
In [11]: for i in range(1,31):  
         if i % 3 ==0:  
             print(i)
```

3
6
9
12
15
18
21
24
27
30

print a multiple table of 3

```
In [12]: for i in range(1,31):  
         if i % 3 ==0:  
             print(i)
```

3
6
9
12
15
18
21
24
27
30

BREAK , CONTINUE ,PASS

```
In [13]: for i in range(1,11):  
         print(i)
```

1
2
3
4
5
6
7
8
9
10

```
In [14]: for i in range(1,11):  
         if i == 4:  
             break    # break the loop  
         print(i)
```

1
2
3

```
In [15]: for i in range(1,11):  
         if i == 5:  
             continue # skips the given position  
         print(i)
```

1
2
3
4
6
7
8
9
10

```
In [16]: for i in range(1,11): pass  
  
         # it pass the bugs or errors
```

chocolate machine problem

```
In [17]: x = int(input('How many chocolates you want :?'))
        i = 1
        while i<=x:
            print('choclet',i)
            i +=1
```

choclet 1
choclet 2
choclet 3
choclet 4
choclet 5

```
In [18]: ava = 5 # machine have only 5 chocolets

        x =int(input('How many chocolets you want :?'))
        i = 1
        while i<=x:
            if i>ava:
                break
            print('choclet')
            i +=1
        print('Buy for now out of stock')
```

choclet
choclet
choclet
choclet
choclet
Buy for now out of stock

```
In [19]: ava = 5 # machine have only 5 chocolets

        x =int(input('How many chocolets you want :?'))
        i = 1
        while i<=x:
            if i>ava:
                print('out of stock')
                break
            print('choclet')
            i +=1
        print('Buy for now')
```

chocolat
chocolat
chocolat
chocolat
chocolat
out of stock
Buy for now

```
In [20]: for i in range(1,51):  
         if i %3 ==0 or i %5 ==0:  
             continue  
         print(i)
```

1
2
4
7
8
11
13
14
16
17
19
22
23
26
28
29
31
32
34
37
38
41
43
44
46
47
49

In [21]: `nums = [10,21,33,54,45,30,60]`

```
for num in nums:
    if num%5 ==0:
        print(num)
```

10
45
30
60

In [22]: `nums = [10,21,33,54,45,30,60]`

```
for num in nums:
    if num%5 ==0:
        print(num)
        break
```

10