

# 10/11/25

## LOOPS

### while loop

```
In [3]: i=0
        while i<=5:
            print('anjali')
            i+=1
```

anjali  
anjali  
anjali  
anjali  
anjali  
anjali

```
In [4]: # increment
        i=0
        while i<=5:
            print('anjali',i)
            i+=1
```

anjali 0  
anjali 1  
anjali 2  
anjali 3  
anjali 4  
anjali 5

```
In [5]: i=5
        while i>=0:
            print('anjali')
            i-=1
```

anjali  
anjali  
anjali  
anjali  
anjali  
anjali

```
In [6]: # decrement
        i=5
        while i>=0:
            print('anjali',i)
            i-=1
```

anjali 5  
anjali 4  
anjali 3  
anjali 2  
anjali 1  
anjali 0

```
In [7]: # nested while loop
i=0
while i<=5:
    print('anjali')
    j=0
    while j<=4:
        print('panduga')
        j=j+1
    i+=1
    print()
```

anjali  
panduga  
panduga  
panduga  
panduga  
panduga  
panduga

anjali  
panduga  
panduga  
panduga  
panduga  
panduga  
panduga

anjali  
panduga  
panduga  
panduga  
panduga  
panduga  
panduga

anjali  
panduga  
panduga  
panduga  
panduga  
panduga  
panduga

anjali  
panduga  
panduga  
panduga  
panduga  
panduga  
panduga

anjali  
panduga  
panduga  
panduga  
panduga  
panduga  
panduga

```
In [8]: i=0
while i<=5:
    print('anjali', end=' ')
    j=0
    while j<=4:
        print('panduga', end=' ')
        j=j+1
    i+=1
    print()
```

```
anjali panduga panduga panduga panduga panduga
anjali panduga panduga panduga panduga panduga
anjali panduga panduga panduga panduga panduga
anjali panduga panduga panduga panduga panduga
anjali panduga panduga panduga panduga panduga
anjali panduga panduga panduga panduga panduga
```

```
In [62]: # printing numbers from 1 to 10
i=1
while i<=10:
    print(i,end=' ')
    i=i+1
```

```
1 2 3 4 5 6 7 8 9 10
```

```
In [10]: i=1
while i<=10:
    print(i,end=' ')
    i=i+1
```

```
1 2 3 4 5 6 7 8 9 10
```

```
In [11]: i=4
while i>=0:
    print(i)
    i=i-1 # decrement
```

```
4
3
2
1
0
```

```
In [12]: i=4
while i<=8:
    print(i)
    i=i+1 # increment
```

```
4
5
6
7
8
```

```
In [13]: # while loop using some numbers
i=1
while i<=5:
    j=0
    while j<=5:
        print(i+j,end=' ')
        j=j+1
```

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

```
1 2 3 4 5 6
2 3 4 5 6 7
3 4 5 6 7 8
4 5 6 7 8 9
5 6 7 8 9 10
```

```
In [14]: i=1
while i<=5:
    j=0
    while j<=5:
        print(i*j,end=' ')
        j=j+1
    i=i+1
    print()
```

```
0 1 2 3 4 5
0 2 4 6 8 10
0 3 6 9 12 15
0 4 8 12 16 20
0 5 10 15 20 25
```

```
In [15]: # while loop with else statement
i=10
while i<=5:
    j=0
    while j<=5:
        print(i+j,end=' ')
        j=j+1
    i=i+1
    print()
else:
    print('number not found')
```

number not found

```
In [16]: count=0
while count<4:
    count=count+1
    print('hello')
```

```
hello
hello
hello
hello
```

```
In [17]: #Given a number x, the task is to print the numbers from x to 0 in decreasing or
x=3
while x>=0:
    print(x)
    x=x-1
```

```
3
2
1
0
```

```
In [18]: x=5
while x>=0:
```

```
print(x)
x=x-1
```

5  
4  
3  
2  
1  
0

```
In [58]: # square of the number using while loop
i=1
x=int(input('enter the number'))
while i<=x:
    print(i**2,end=' ')
    i+=1
```

1 4 9 16 25 36 49 64 81 100

```
In [20]: num=0
while num<=5:
    print('num',num)
    num+=1
```

num 0  
num 1  
num 2  
num 3  
num 4  
num 5

```
In [21]: n=int(input('enter the number:'))
sum=0
i=1
while i<=n:
    sum=sum+i
    i=i+1
    print('the sum:',sum)
```

the sum: 1  
the sum: 3  
the sum: 6  
the sum: 10  
the sum: 15

```
In [22]: n=int(input('enter the number:'))
sum=0
i=1
while i<=n:
    print('the sum:',sum)
    sum=sum+i
    i=i+1
```

the sum: 0  
the sum: 1  
the sum: 3  
the sum: 6  
the sum: 10

```
In [23]: # reverse of a number using while loop
n=506223
rev=0
while n>0:
    remainder=n%10
    rev=rev*10+remainder
    n=n//10
print('reversed number:',rev)
```

reversed number: 322605

## for loop

```
In [25]: name='anjali'
for i in name:
    print(i)
```

a  
n  
j  
a  
l  
i

```
In [26]: list1=[1,2,3,4,5,6]
for i in list1:
    print(i)
```

1  
2  
3  
4  
5  
6

```
In [64]: for i in range(5):
          print(i,end=' ')
```

0 1 2 3 4

```
In [66]: for i in range(0,5):
          print(i,end=' ')
```

0 1 2 3 4

```
In [68]: for i in range(0,10,2):
          print(i,end=' ')
```

0 2 4 6 8

```
In [30]: # multiplication table using for loop
for i in range(1,41):
    if i%4==0:
        print(i)
```

4  
8  
12  
16  
20  
24  
28  
32  
36  
40

```
In [31]: # another way of writing multiplication table
num=int(input('enter the number:'))
for i in range(1,11):
    print(num,'x',i,'=',num*i)
```

4 x 1 = 4  
4 x 2 = 8  
4 x 3 = 12  
4 x 4 = 16  
4 x 5 = 20  
4 x 6 = 24  
4 x 7 = 28  
4 x 8 = 32  
4 x 9 = 36  
4 x 10 = 40

```
In [70]: n=int(input('enter a number'))
for i in range(0,n):
    print(i,end=' ')
```

0 1 2 3 4 5 6 7 8 9

```
In [33]: # for loop using string
a='apple'
for i in a:
    print(i)
```

a  
p  
p  
l  
e

```
In [34]: # for loop using list
fruits=['apple','banana','grapes','mango','cherry']
for i in fruits:
    print(i)
```

apple  
banana  
grapes  
mango  
cherry

```
In [35]: fruits=['apple','banana','grapes','mango','cherry']
for i in range(len(fruits)):
    print(fruits[i])
```

apple  
banana  
grapes  
mango  
cherry

```
In [36]: fruits=['apple','banana','grapes','mango','cherry']
        for i in range(2,len(fruits)):
            print(fruits[i])
```

grapes  
mango  
cherry

```
In [37]: #for Loop using tuple
        names=('anjali','chinni','ramchandram','arun','kiran')
        for i in names:
            print(i)
```

anjali  
chinni  
ramchandram  
arun  
kiran

```
In [38]: # for Loop using set
        flowers={'rose','lilly','marrygold'}
        for i in flowers:
            print(i)
```

rose  
lilly  
marrygold

```
In [39]: # for Loop using dictionary
        info={'name':'anjali','age':21,'city':'hyderabad'}
        for i in info:
            print(i)
```

name  
age  
city

```
In [40]: info={'name':'anjali','age':21,'city':'hyderabad'}
        for i in info:
            print(i,':',info[i])
```

name : anjali  
age : 21  
city : hyderabad

```
In [41]: sentence="python is a programming language"
        for i in sentence:
            print(i,end=' ')
        print()
        for i in range(0,len(sentence),2):
            print(sentence[i],end='_')
```

p y t h o n i s a p r o g r a m m i n g l a n g u a g e  
p\_t\_o\_ \_s\_a\_p\_o\_r\_m\_i\_g\_l\_n\_u\_g\_



```
In [42]: #patterns
n=5
for i in range(n+1):
    for j in range(i):
        print(i,end=' ')
    print()
```

```
1
2 2
3 3 3
4 4 4 4
5 5 5 5 5
```

```
In [43]: n=5
for i in range(n+1):
    for j in range(1,i+1):
        print(j,end=' ')
    print()
```

```
1
1 2
1 2 3
1 2 3 4
1 2 3 4 5
```

```
In [44]: n=5
for i in range(n,0,-1):
    for j in range(i):
        print(i,end=' ')
    print()
```

```
5 5 5 5 5
4 4 4 4
3 3 3
2 2
1
```

```
In [45]: n=5
for i in range(n,0,-1):
    for j in range(1,i+1):
        print(j,end=' ')
    print()
```

```
1 2 3 4 5
1 2 3 4
1 2 3
1 2
1
```

```
In [46]: n=5
for i in range(1,n):
    for j in range(i):
        print(n,end=' ')
    print()
```

```
5
5 5
5 5 5
5 5 5 5
```

```
In [47]: n=5
        for i in range(n):
            for i in range(n):
                print(i,end=' ')
            print()
```

```
0 1 2 3 4
0 1 2 3 4
0 1 2 3 4
0 1 2 3 4
0 1 2 3 4
```

```
In [48]: n=5
        for i in range(n):
            for j in range(n):
                print(i,end=' ')
            print()
```

```
0 0 0 0 0
1 1 1 1 1
2 2 2 2 2
3 3 3 3 3
4 4 4 4 4
```

```
In [49]: n=5
        for i in range(n):
            for i in range(n):
                print(n,end=' ')
            print()
```

```
5 5 5 5 5
5 5 5 5 5
5 5 5 5 5
5 5 5 5 5
5 5 5 5 5
```

```
In [50]: N=int(input('enter the number'))
        for i in range(N+1):
            for j in range(i):
                print('*',end=' ')
            print()
```

```
*
* *
* * *
* * * *
* * * * *
```

```
In [51]: N=int(input('enter the number'))
        for i in range(N,0,-1):
            for j in range(i):
                print('*',end=' ')
            print()
```

```
* * * * *
* * * *
* * *
* *
*
```

```
In [52]: N=int(input('enter the number'))
for i in range(N+1):
    for j in range(i):
        print('*',end=' ')
    print()

for i in range(N,0,-1):
    for j in range(i):
        print('*',end=' ')
    print()
```

```
*
* *
* * *
* * * *
* * * * *
* * * * *
* * * * *
* * * *
* * *
* *
*
```

## Break statement

```
In [54]: fruits=['apple','banana','cherry','grapes']
for i in fruits:
    print(i)
    if i=='banana':
        print(i)
```

```
apple
banana
banana
cherry
grapes
```

```
In [55]: fruits=['apple','banana','cherry','grapes']
for i in fruits:
    if i=='banana':
        print(i)
```

```
banana
```

```
In [56]: fruits=['apple','banana','cherry','grapes']
for i in fruits:
    if i=='banana':
        print(i)
        break
```

```
banana
```

```
In [57]: fruits=['apple','banana','cherry','grapes']
for i in fruits:
    print(i)
    if i=='banana':
        break
```

```
apple
banana
```

```
In [58]: fruits=['apple','banana','cherry','grapes']
        colors=['black','blue','white','pink']
        for i in fruits:
            for j in colors:
                print(i,j)
```

```
apple black
apple blue
apple white
apple pink
banana black
banana blue
banana white
banana pink
cherry black
cherry blue
cherry white
cherry pink
grapes black
grapes blue
grapes white
grapes pink
```

```
In [59]: values=[12,43,10,25,40,20,64,80,5]
        for i in values:
            if i%5==0:
                print(i)
```

```
10
25
40
20
80
5
```

```
In [60]: values=[12,43,10,25,40,20,64,80,5]
        for i in values:
            if i%5==0:
                print(i)
                break
```

```
10
```

```
In [61]: num=[1,2,3,6,7,8,10]
        for i in num:
            if i%2==0:
                print(i)
                break
```

```
2
```

```
In [62]: # for loop using else condition
        num=[1,2,3,6,7,8,11]
        for i in num:
            if i%5==0:
                print(i)
                break
        else:
            print('value not found')
```

```
value not found
```

```
In [63]: for i in range(6):  
        if i==3:  
            break  
        print(i)  
    else:  
        print('its finished')
```

0  
1  
2

```
In [64]: for i in range(6):  
        if i==3:  
            print(i)  
            break  
    else:  
        print('its finished')
```

3

```
In [65]: for i in ['a','b','c','d','e','f']:  
        if i=='d':  
            print('element found')  
        print(i)
```

a  
b  
c  
element found  
d  
e  
f

```
In [66]: for i in ['a','b','c','d','e','f']:  
        if i=='d':  
            print('element found')  
            break  
        print(i)
```

a  
b  
c  
element found

```
In [67]: for i in range(10):  
        print(i)  
        if i==6:  
            break
```

0  
1  
2  
3  
4  
5  
6

```
In [68]: for i in range(10):  
        #print(i)  
        if i==6:
```

```
        break
    print(i)
```

0  
1  
2  
3  
4  
5

```
In [69]: i=1
        while i<=5:
            print(i)
            break
```

1

```
In [70]: x=int(input('enter how many chocolates you want:'))
        i=1
        while i<=x:
            print('chocolate:',i)
            i=i+1
```

chocolate: 1  
chocolate: 2  
chocolate: 3  
chocolate: 4  
chocolate: 5  
chocolate: 6  
chocolate: 7  
chocolate: 8

```
In [71]: available_chocolates=5
        x=int(input('enter how many chocolates you want:'))
        i=1
        while i<=x:
            if i>available_chocolates:
                print('out of stack')
                break
            print('chocolate:',i)
            i=i+1
        print('bye for now')
```

chocolate: 1  
chocolate: 2  
chocolate: 3  
chocolate: 4  
chocolate: 5  
out of stack  
bye for now

## continue statement

```
In [73]: for i in range(0,11):
        if i==5:
            continue
        print(i)
```

0  
1  
2  
3  
4  
6  
7  
8  
9  
10

```
In [74]: for i in range(0,11):  
        if i%3==0:  
            continue  
        print(i)
```

1  
2  
4  
5  
7  
8  
10

```
In [75]: x=0  
        while x<=10:  
            x=x+1  
            if x%2==0:  
                continue  
            print(x)
```

1  
3  
5  
7  
9  
11

```
In [76]: num=int(input('enter the number:'))  
        for i in range(0,num+1):  
            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

```
In [77]: for i in range(0,11):
         if i==6:
             continue
         print(i,end=' ')
```

0 1 2 3 4 5 7 8 9 10

```
In [78]: for char in 'greekforgreeks':
         if char=='e':
             continue
         print(char)
```

g  
r  
k  
f  
o  
r  
g  
r  
k  
s

```
In [79]: for char in 'greekforgreeks':
         if char=='e':
             continue
         print(char,end=' ')
```

g r k f o r g r k s

```
In [80]: # nested for loop
matrix=[[1,2,3],[4,5,6],[7,8,9]]
for i in matrix:
    for j in i:
        if j==3:
            continue
        print(j,end=' ')
```

1 2 4 5 6 7 8 9

```
In [ ]: i=1
        while i<=10:
            if i==5:
                continue
            print(i)
            i=i+1
```

1  
2  
3  
4

```
In [1]: i = 0
        while i < 9:
            i += 1
            if i == 3:
                continue
            print(i)
```



1  
2  
4  
5  
6  
7  
8  
9

```
In [3]: x=0
        for x in range(10):
            x=x+1
            if x==3 or x==6:
                continue
            print('number is:',x)
        print('out of loop')
```

number is: 1  
number is: 2  
number is: 4  
number is: 5  
number is: 7  
number is: 8  
number is: 9  
number is: 10  
out of loop

```
In [15]: for number in range(1, 10):
          if number % 2 == 1:
              continue
          print(number ** 2)
        else:
            print("Done")
```

4  
16  
36  
64  
Done

```
In [17]: for i in ['a','b','c','d','e','f']:
          if i=='d':
              print('element found')
              continue
          print(i)
```

a  
b  
c  
element found  
e  
f

```
In [19]: values=[12,43,10,25,40,20,64,80,5]
          for i in values:
              if i%5==0:
                  print(i)
                  continue
```

```
10
25
40
20
80
5
```

```
In [23]: values=[12,43,1,2,4,2,64,83,13]
         for i in values:
             if i%5==0:
                 print(i)
                 continue
             else:
                 print('element not found')
```

element not found

```
In [26]: for letter in 'geeksforgeeks':
         if letter == 'e' or letter == 's':
             continue
         print('Current Letter :', letter)
```

Current Letter : g  
Current Letter : k  
Current Letter : f  
Current Letter : o  
Current Letter : r  
Current Letter : g  
Current Letter : k

## pass statement

```
In [60]: x=10
         if x>5:
             pass
         else:
             print('abac')
```

```
In [36]: x=1
         if x>5:
             pass
         else:
             print('x is lessthan 5')
```

x is lessthan 5

```
In [40]: for i in range(10):
         if i==3:
             pass
         else:
             print(i)
```

0  
1  
2  
4  
5  
6  
7  
8  
9

```
In [44]: n=10
         if n>10:
             #write some code here
         print('hello')
```

Cell In[44], line 4  
 print('hello')  
 ^  
**IndentationError:** expected an indented block after 'if' statement on line 2

```
In [46]: n=10
         if n>10:
             pass
         print('hello')
```

hello

```
In [48]: for letter in 'Python':
         if letter == 'h':
             pass
             print ('This is pass block')
         print ('Current Letter :', letter)
         print ("Good bye!")
```

Current Letter : P  
 Current Letter : y  
 Current Letter : t  
 This is pass block  
 Current Letter : h  
 Current Letter : o  
 Current Letter : n  
 Good bye!

```
In [54]: count=0
         while count<10:
             count=count+1
             if count%2==0:
                 pass
             else:
                 print(count)
```

1  
3  
5  
7  
9

```
In [56]: for i in [1,2,3,4,5,6,7,8,9,10]:
         if i%2==0:
             pass
```

```
else:  
    print(i)
```

```
1  
3  
5  
7  
9
```

In [ ]: