

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
```

```
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

```
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 order
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='_')
```

```
python is a programming language
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 []: