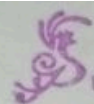


Sept 11th



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Loop Definition :

Loop in python are used to execute a block of code repeatedly until a certain condition is met.

Python mainly provide a two loops :

1. for loop
2. while loop
3. nested loop

- * for loop inside for loop
- * for loop inside while loop
- * while loop inside while loop
- * while loop inside for loop

1. For loop

1) for loop with sequence :

syntax:

for variable in sequence :
 statements

String, list, ~~typ~~ tuple, set, dict

```
Sub = "python"
```

```
print(sub)
```

Output = python



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for i in sub: # i is iterative variable
print(i)

Output :-
p
y
t
h
o
n
(p, 0)
(y, 1)
(t, 2)
(h, 3)
(o, 4)
(n, 5)
(0, 6)

Colours = ['black', 'white', 'red', 'yellow', 'orange']
print(colours)

Output :- ['black', 'white', 'red', 'yellow', 'orange']

for i in colours:
print(i)

Output :-
black
white
red
yellow
orange.

sub = "python"
sub[0]
'p'



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write a program to print both position and value

```
for i in enumerate(sub):  
    print(i)
```

(0, 'p')

(1, 'y')

(2, 't')

(3, 'h')

(4, 'o')

(5, 'n')

Q). for loop with range() function
for variable in range():
 statements

Initialization

Condition

Incrementation / decrementation

~~range(1, n, 1)~~

range(start value, stop value, step size)

we have default start value is 0

step size is 1

range (1, 11, 1) : (0) start of 1 step

(i=1; i<11; + (i+1))

i=1, 2, 3, 4, 5, 6, 7, 8, 9, 10

range (1, 11, 1)

(i=1; i<11; i+1)

i=1, 2, 3, 4, 5, 6, 7, 8, 9, 10

for i in range (1, 11, 1):
 print (i)

Output :-

1
2
3
4
5
6
7
8
9
10



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```
for i in range(5):  
    print("good morning")
```

Output :-
good morning
good morning
good morning
good morning
good morning

write a program to print both position and value

```
sub = 'python'  
for i in range(0, 6):  
    print(i, sub[i])
```

Output :

0	p
1	y
2	t
3	h
4	o
5	n



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```
sub = 'python'
for i in range(5, -1, -1):
    print(i, sub[i])
```

Output:-

5	n
4	o
3	h
2	t
1	y
0	p

''' write a program to print even number from 1 to 20 '''

```
for i in range(2, 21, 2):
    print(i)
```

Output:

2
4
6
8
10
12
14
16
18
20



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1 to 10
1 = odd number
2 = even number
3 = odd number
.
.
.
10 = even number.

```
for i in range(1, 11, 1):  
    if (i % 2 == 0):  
        print(i, "= even number")  
    else:  
        print(i, "= odd number")
```

Output :-

1 = odd number
2 = even number.
3 = odd number
4 = even number
5 = odd number
6 = even number
7 = odd number
8 = even number
9 = odd number
10 = even number