

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

### **python mainly provides two loops**

1. for loop

2. while loop

3. nested loop

i.e \*for loop inside for loop

\*for loop inside while loop

\*while loop inside while loop

\*while loop inside for loop

### **for loop**

1. for loop with sequence

syntax:

for variable in sequence:

statements

2. for loop with range() function

Syntax:

for variable in range():

statements

1. for loop with sequence

syntax:

for variable in sequence\_variable:

statements

string, list, tuple, set, dict

```
sub = "python"
```

```
for i in sub: #i is iterative variable
```

```
print(i)
```

output:

p = 0

y = 1

t = 2

h = 3

o = 4

n = 5

numbers which are given are positions

```
colors = ['black', 'white', 'red', 'yellow', 'orange']
```

```
print(colors)
```

```
for i in colors:
```

```
    print(i)
```

output:

```
['black', 'white', 'red', 'yellow', 'orange']
```

```
black
```

```
white
```

```
red
```

```
yellow
```

```
orange
```

```
sub = "python"
```

```
print(sub[0])
```

output:

```
p
```

write a program to print both position and value

```
sub = "python"
```

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

```
    print(i)
```

```
(0, 'p')
(1, 'y')
(2, 't')
(3, 'h')
(4, 'o')
(5, 'n')
```

initialization

condition

incrementation/decrementation

range(start value, stop value, step size)

we have default start value is 0

step size is 1

```
For i in range(1,11,1):
```

```
    Print(i)
```

Output:

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

```
For i in range(5):
```

```
    Print("good morning")
```

```
#i = 0,1,2,3,4
```

Output:

```
good morning
good morning
good morning
good morning
good morning
```

```
sub = "python"
```

```
for i in range(0,6,1):
    print(sub[i])
```

```
sub = "python"
```

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

Write a program to print even numbers from 1 to 20

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

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