

Looping and iteration

→ Looping :- It is use to repeat something.

↳ Two types of loop:

- For loop

- while loop

→ It is work with a limit.

→ It works with limit or without limit.

→ For loop :-

Syntax :

for Variable in range (limit):
Statements

The statement should be given with an indentation.

Ex: -

```
for i in range(10):  
    print ("Chhaya")
```

O/P

Chhaya

"

"

"

"

"

"

"

"

"

Ex: -

```
for i in range(1, 10):  
    print(i)
```

O/P

1

2

3

4

5

6

7

8

9

Ex: - Print the number is even or odd from 1 to 50

```
for i in range(1, 51):  
    if i % 2 == 0:  
        print("even number", i)  
    else:  
        print("odd number", i)
```

→ Loop on data structure

```
fruits = ['Apple', 'Banana', 'cherry']
```

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

in this no need to give range because the loop will run as per the number of item in the list or item provided

Looping through strings: In this movement of loop through string ranges b/w 0st index value to last index value.

Ex:

```
for x in "Banana":  
    print(x)
```

O/P

B

a

n

a

n

a

Ex:- Print sum of numbers upto limit provided by user.

```
print("Enter limit: ")
```

```
limit = int(input())
```

```
Sum = 0
```

```
for i in range(1, limit):
```

```
    Sum = Sum + i
```

```
print("Sum is: ", Sum)
```

O/P

enter limit :

7

Sum is : 21

Nested Loop :- Loop inside another loop is known as nested loop.

Ex:-

```
for i in range(1,5):  
    for j in range(i):  
        print("x", end=" ")  
    print("\n")
```

Parameter of print funcⁿ by default value of end is "
And we change its value to as per our choice