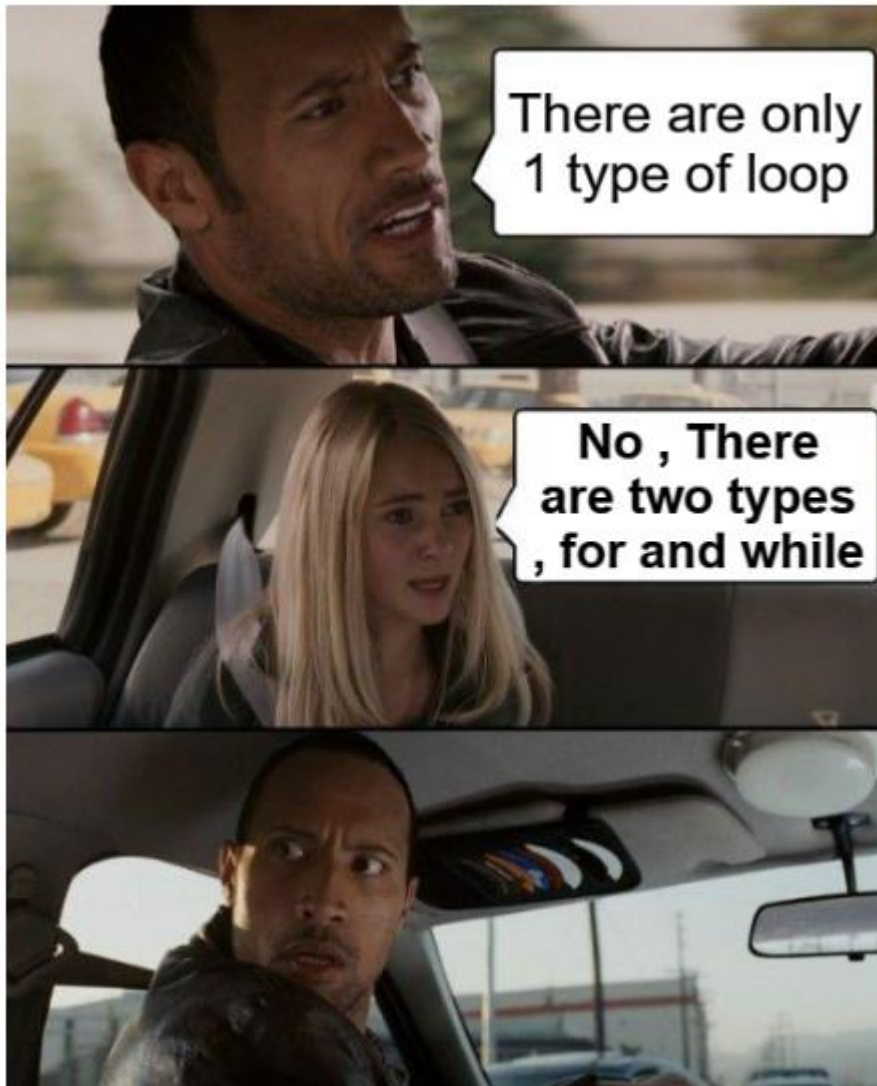




Loop

- 📄 The for loop executes a block of statements a specified number of times.
- 📄 It is the most commonly and most popular loop used in any programming language.



Syntax#

```
for i in range(1,n+1):
```

Logic....





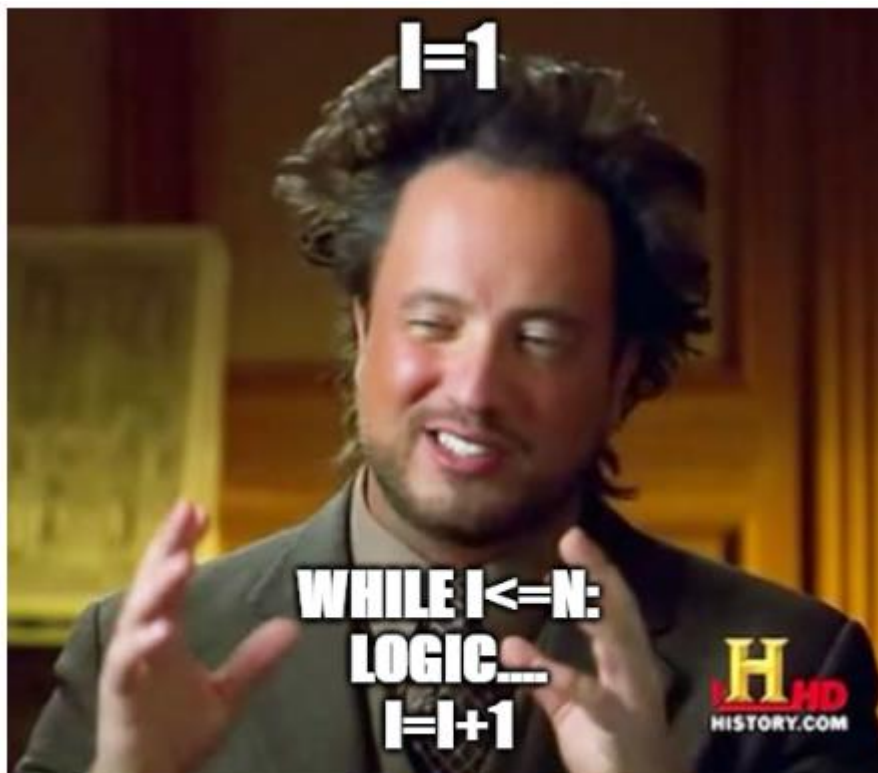
| | | |
|-------------------------------|----------------------------------|--------------------------------|
| for i in range(1,n+1): | for i in range(1,n+1,20): | for i in range(n,0,-1): |
| Logic.... | Logic.... | Logic.... |

The **range()** function returns a sequence of numbers, starting from 0 by default, and increments by 1 (by default), and ends at a specified number.

```
List1=["a","t","m","k"]
for x in List1:
```

Logic....

While



| | | |
|------------------------------------|------------------------------------|------------------------------------|
| i=1 | i=10 | i=1 |
| while i<=n: | while i>=1: | while i<=n: |
| print(..... i=i+1 | print(..... i=i-1 | print(..... i=i+1 |





For Loops programs:

1. Print your name 20 times

(Hint:
for i in range(1,21):
.....

2. 1 to 10

(Hint:
for i in range(1,11):
.....

3. 1 to N

(Hint:
for i in range(1,n+1):
.....

4. Write a program to print "4 is square of 2" from 1 to N.

(Hint:
for i in range(1,n+1):
print(i*i," is square of

5. Write a program to print sum of all numbers from given range of integer.

(Hint:
for i in range(1,n+1):
s=s+

6. Print data in given format

1 is odd
2 is even
3 is odd

(Hint:
for i in range(1,n+1):
if i%2 ==0:

6. Table

(Hint:
Enter no => 7
for i in range(1,11):
print(no," X "

7. Print only divisible by 7 upto N

(Hint:





```
Enter no => 30
for i in range(1,n+1):
    if i % ?
```

8. Print only divisible by K upto N and print Sum and Count

```
(Hint:
Enter no => 30
Enter divisable by => 7
for i in range(1,n+1):
    if i % ?
```

9. Print Sum of odd / even and Count of odd / even upto N

```
(Hint:
Enter no => 30
Enter divisable by => 7
for i in range(1,n+1):
    if i % ?
```

10. 1+2+3+4+5 , Enter limit , display series and sum
Sum = 15

```
(Hint:
s=0
Enter no => 5
for i in range(1,n+1):
    print
    s=
print
```

11. 1+4+9+16+25, Enter limit , display series and sum
Sum = 55

```
(Hint:
s=0
Enter no => 5
for i in range(1,n+1):
    print
    s=
print
```

12. 1-4+9-16+25....., Enter limit , display series and sum
Sum = 15

```
(Hint:
s=0
Enter no => 5
for i in range(1,n+1):
    if..
print
```

13. 1+3+5+7.....+n ,Enter limit , display series and sum
Sum = ..

```
(Hint:
s=0
Enter no => 10
```





- ```
for i in range(1,n+1):
 if..
print
```
14.  $1/1+1/2+1/3+1/4$ .....Enter limit and display series only  
(Hint:  
Enter no => 10  
for i in range(1,n+1):  
print
15. Find out Factorial ,Enter any number and display series and factorial of it  
(Hint:  
f=1  
Enter no => 5  
for i in range(1,n+1):  
print  
f  
print
16. Enter no and check whether that no is prime or not (The number is divisible by itself and 1)  
(Hint:  
Enter no => 13  
x=1  
for i in range(1,n):  
if..  
if x==

## While Loop

1. 1 to N
- (Hint:  
i=1  
while i<=n:  
print(  
i=i+1
2. Print Table
- (Hint:  
i=1  
while i<=11:  
print(  
i=i+1
3. 1 to N , 1 is odd , 2 is even , 3 is odd , 4 is even , n.....
- (Hint:  
i=1  
while i<=n:  
if..  
else  
i=i+1





4. Factorial  $5 \times 4 \times 3 \times 2 \times 1$  , 120

(Hint:

i=n

f=1

while i>=1:

    i=i-1

