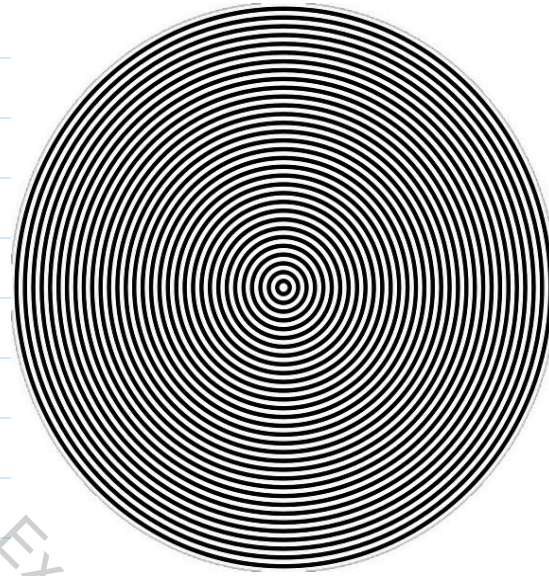


Week 3 Lecture :2 While Loop in Python

Tuesday, 16 July 2024 12:09 PM



loop

1.

What is While Loop in Python?

While loop statement in Python is used to execute statement(s) repeatedly.

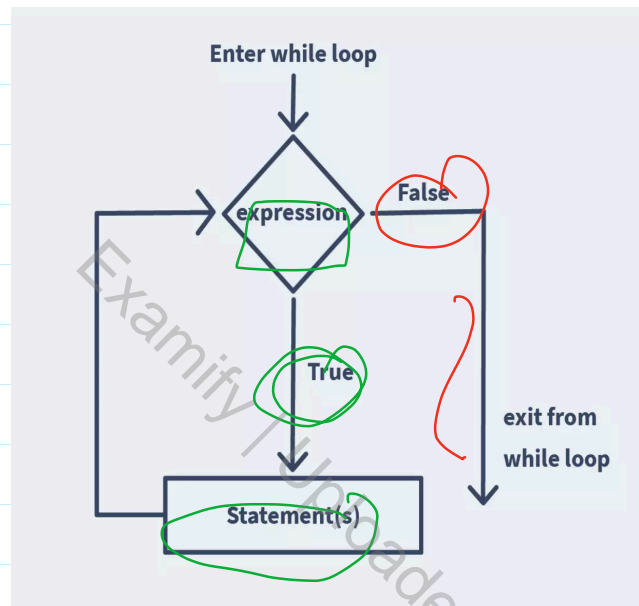
It will keep on repeatedly executing as long as a while condition is true, and it will stop repeating only if the condition becomes false.

Syntax of While Loop in Python

while expression:

{ statement(s)

Flowchart of While Loop in Python



while ()

Initial

```
while.py x
Users > suyashchaudhary > while.py > ...
1 count = 0;
2 while count < 5:
3     print("My name is Suyash")
4     count += 1
```

Exp

81

```
/usr/bin/python3 /Users/suyashchaudhary/while.py
suyashchaudhary@Suyashs-MacBook-Air ~ % /usr/bin/python3 /Us

My name is Suyash
My name is Suyash
My name is Suyash
My name is Suyash
My name is Suyash
suyashchaudhary@Suyashs-MacBook-Air ~ %
```

In/pc

Example

```
count = 0
while (count < 3):
    print("Hello Suyash")
    count = count + 1
```



HS
HS
HS

Count

0 < 3	(T)
1 < 3	(T)
2 < 3	(T)
3 < 3	(F)

$C = C + 1$
 $C = 0 + 1$
 $C = 1$

 $C = 1 + 1$
 $C = 2$

 $C = 2 + 1$
 $= 3$

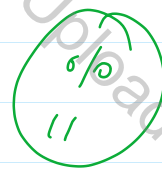
1. Print all factors/divisor of a given +ve number.

2. Read N, Print No of digits in N.

9:40

$N = 4321$

$\text{o/p} = \underline{\underline{4}}$



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1. Print all factors/divisor of a given +ve number.

✓ N = 10 factor = 1, 2, 5, 10

N = 36 factor = 1, 2, 3, 4, 6, 12, 18, 36

range[1, N]

N = int(input())

→ [1 10]

obv.

loop start $\Rightarrow 1$
end = N

i = 1

while (i <= N):

✓ if (N % i == 0): # "i is factor"

print(i)

i += 1

dry N = 10

i
1

i <= N
1 <= 10

N % i == 0

10 % 1 == 0

i = i + 1

i = 2

2

2 <= 10

10 % 2 == 0

i = 3

3

3 <= 10

10 % 3 == 0

i = 4

4

4 <= 10

i = 5

2. Read N, Print No of digits in N.

1 2 - - 5

10% 4 == 0
f

N = 100 → 3

N = 5926 → 5

N / 10 => 5926 / 10 → 4 times divide => 4 digit

=====

N = int(input())
digit = 0 → Initialization

while (N > 0): → condition

N = N // 10 → Update (integer division)

digit = digit + 1 → Work (preparing result)

print(digit)

Because N is loop control variable

N = 100

digit = 0

N // 10 = 100 / 10

1

2

3

N = 10 / 10

N = 1 / 10

= 0.1

N = 0

3

Print



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