

Ex: value = "Basant Tech"

for i in range (0, len (value)): # 0, 1, 2, 3 len value

print (f "position = {i}, value = {value [i]}")

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2. While loop:

→ A while loop keeps executing a block of code as

a condition is True.

Syntax:

initialization of while loop

while (condition):

Statements

increment/decrement while loop.

Ex:

= "hii good morning"

i = 1

while (i <= 10):

print ("hii good morning")

i += 1

output:

hii good morning

hii good morning

hii good morning

hii good morning

hii good morning

hii good morning

hii good morning

hii good morning

hii good morning

Nested loop :

→ A nested loop in python is a loop 'inside' another loop. That means one loop runs inside the body of another loop.

→ Nested loops are commonly used when you need to repeated operations in a 2D structure, like rows and columns in a table, or when creating patterns.

Syntax :

```
for var-a in range(): # outer loop
```

```
    for var-b in range(): # inner loop
```

```
        Statements of inner loop
```

```
    Statements of outer loop
```

Ex :

```
= for i in range(1, 11, 1):
```

```
    for j in range(1, 11, 1):
```

```
        print(i, j, end=" \t")
```

```
    print()
```

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initialization of outer loop

while (Condition of outer loop):

initialization of inner loop

while (condition of inner loop):

Statements of inner loop

inc/dec of inner loop

Statements of outer loop

inc/dec of outer loop.

Ex: $i = 1$

while ($i \leq 10$):

$j = 1$
while ($j \leq 10$):
 print($i \times j$, end = "\t")

$j = j + 1$

print()

$i = i + 1$

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Write a syntax of for loop inside while loop.

Syntax:

initialization of while loop

while (condition):

for variable in range():

 statements of for loop.

statements of while loop

inc/dec of while loop

2) Write a syntax of while loop inside for loop.

Syntax:

for variable in range ():

initialization of while loop

while (condition);

statements of while loop

inc/dec of while loop

statements of for loop.