

23-9-2025, Tuesday

⇒ for loop inside while loop syntax:

Initialization of while loop

while (condition): # outer loop

for var in range(start val, stop value, inc/dec):

st of inner loop

st of outer loop

inc/dec of while loop.

```
* * * * * i = 1 j = 1, 2, 3, 4, 5
*           * i = 1 i = 2 j = 1, 2, 3, 4, 5
*           * i = 1, i = 5, j = 1, j = 5
*           *
* * * * *
```

i = 1

while (i <= 5):

for j in range(1, 6, 1):

if (i == 1 or i == 5 @ j == 1 @ j == 5):

print("x", end=" ")

else:

print(" ", end=" ")

print()

i += 1

⇒ while loop inside for loop syntax

for var in range(): # outer loop

Initialization of while loop

while (condition): # inner loop

st of inner loop

inc/dec of while loop

st of outer loop

```
1
2 2
3 3 3
4 4 4 4
5 5 5 5 5
4 4 4 4
3 3 3
2 2
1
```

```
for i in range(1, 6, 1):
```

```
    j = 5
```

```
    while(j > 1):
```

```
        print(" ", end=" ")
```

```
        j -= 1
```

```
    k = 1
```

```
    while(k <= i):
```

```
        print(i, end=" ")
```

```
        k += 1
```

```
    print()
```

```
for i in range(4, 0, -1):
```

```
    j = 5
```

```
    while(j > i):
```

```
        print(" ", end=" ")
```

```
        j -= 1
```

```
    k = 1
```

```
    while(k <= i):
```

```
        print(i, end=" ")
```

```
        k += 1
```

```
    print()
```