

else:

code of cond 1 false

eg: num = int(input("Enter a no:"))

if (num > 0):

if (num == 0):

Print("no is zero")

else:

Print("no is true")

else:

Print("no is -ve")

loops

1) For loop

A for loop is used when you know the exact number of times you want to repeat a block of code. It goes through a sequence (like numbers, lists, strings, etc).

Syntax:

for loop with sequence:-

for a var in sequence_name:
Statements

For loop with range:-

for var in range(start value, stop value, step):
Statements

Ex

for i in range(1, 6):

Print(i)

output

1

2

3

4

5

2) while loop

A while loop is used when you don't know how many times you need to repeat. It runs as long as the condition is true.

Syntax:

Initialization

while (condition):

Statements

inc/dec

Ex:

i = 1

while (i <= 5):

Print(i)

i += 1

output

1

2

3

4

5

3) Nested loop

A nested loop means a loop inside another loop. It is used when you need rows & columns (like patterns, tables, matrices).

1) for loop inside for loop

Syntax:

for i in var a in range(start):

for var b in range():

Statements of inner loop

Statements of outer loop

Ex:

for i in range(1,4):

for j in range(1,4):

Print(i,j)

Output

```
1 1
1 2
1 3
2 1
2 2
2 3
3 1
3 2
3 3
```

2) while loop inside while loop

Initialization of outer loop

while (condition of outer loop):

Initialization of inner loop

while (condition of inner loop):

Statements of inner loop

include # of inner loop

Statements of outer loop

include of outer loop