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Loops:

In python, loops allow us to repeatedly execute a block of code as long as a specified condition is true.

Python mainly provides two types of loops:

1) for loop
2) while loop
3) nested loop
   i) for loop inside for loop
   ii)for loop inside while loop
   iii)while loop inside while loop
   iv)while loop inside for loop

1) for loop

for loop in python is a control structure used to iterate over a sequence and execute a block of code once for each item in that sequence.

i)for loop with sequence

syntax: for variable in sequence:

        statements

ii)for loop with range() function

syntax: for variable in range():

        statements

sequence data type: string, list, tuple, set, dict

* Initialization

* Condition

* Incrementation/ Decrementation

range(start value, stop value, step size)

we have default start value is 0 and step size is 1

ex: sub="python"

```
for i in sub:
    print(i)
```

o/p: p

y

t

h

o

n

ex: colors=['black','white','red','yellow','orange']

```
print(colors)
for i in colors:
    print(i)
```

o/p: black

white

red

yellow

orange

Write a program to print both position and value

```
for i in enumerate(sub):
    print(i)
```

o/p: (0, 'p')

(1, 'y')

(2, 't')

(3, 'h')

(4, 'o')

(5, 'n')

Ex:for i in range(5):

    print(i)

    print("good morning")

o/p: 0

good morning

1

good morning

2

good morning

3

good morning

4

good morning