11/09

LOOPS :-

Loops in the python are used to execute a block of code repeatedly until a certain condition is met.

Python mainly provides a two loops :-

1) For loop
2) while loop
3) Nested loop

* For loop inside for loop
* For loop inside while loop
* while loop inside while loop

* while loop inside for loop

For loop

1) For loop with sequence

Syntax:

```
for variable in sequence:
    statement
```

a, b } constant variable

2) for loop with range() function

```
for variable in range():
    statements
```

string, tuple, sets, list, dict => Sequence data types

iterative variable

=> for i in Sub:
    print(i)

o/p =>
p
y
t
h
o
n

=> colors = ['black', 'white', 'red', 'yellow', 'orange']
print (colors)
for i in colors:
    print (i)

o/p => ['black', 'white', 'red', 'yellow', 'orange']
black
white
red
yellow
orange.

=) Sub = "python"

Sub[0]

o/p =) 'p'

write a prog to print both posit^n and value.

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

o/p :- (0, 'p')
(1, 'y')
(2, 't')
(3, 'h')
(4, 'o')
(5, 'n')

Initial

* Initialization
* Condition
* Incrementat^n / decrementat^n

range(start value, stop value, step size)

we have defualt start value is 0

default step size is 1

range(1, 11, 1)

(i=1; i<11; i+1) =) i = 1, 2, 3, 4, 5, 6, 7, 8, 9, 10

range(1, 10, 1)

(i=1; i<10; i+1) =) i = 1, 2, 3, 4, 5, 6, 7, 8, 9.

=) For i in range(1, 11, 1):
        print(i)

o/p :- 1 5 10
2 6
3 7
4 8
9

=) for i in range(5): # i = 0, 1, 2, 3, 4
    print(" good morning ")

o/p:- good morning
good morning
good morning
"
"

=) Sub = 'python'
for i in range(0, 6, 1):
    print(i, Sub[i])

o/p:-
0 p
1 y
2 t
3 h
4 o
5 n

for i in range(5, -1, -1):
(for reverse)

5 n
4 o
3 h
2 t
1 y
0 p

Write a prog to print even numbers from 1 to 20.

for i in range(2, 21, 2):
    print(i)

o/p:-
2
4
6
8
10
12
14
16
18
20

=) for i in range(1, 11, 2):

```
    if (i%2==0):
        print(i, " = even number")
    else:
        print(i, " = odd number")
```

o/p :- 1 = odd num

3 = "

5 = "

7 = "

9 = "

=) for i in range [1, 11, 1):

```
    if (i%2 ==0):
        print(i, " = even number")
    else:
        print(i, " = odd number)
```

o/p :- 1 = odd number

2 = even number

3 = odd

4 = even

5 = odd

6 = even

7 = odd

8 = even

9 = odd

10 = even