

Day - 5

Concept of Loops

While Loop

program to display numbers from 1 to 5

In [1]:

```
i = 1
n = 5
while i <= n:
    print(i)
    i = i + 1
```

1
2
3
4
5

In [2]:

```
""" enter the value and write its multiplication table till 10"""
x = int(input("enter the value"))
i = 1
while i<=10:
    print(x*i)
    i=i+1
print("this is the mulplication table")
```

enter the value8
8
16
24
32
40
48
56
64
72
80
this is the mulplication table

Infinite - while loop

```
In [ ]: age = 32
        while age > 18:
            print('You can vote')
```

Python program to illustrate while loop

```
In [3]: count = 0
        while (count < 3):
            count = count + 1
            print("Hello Students")
```

Hello Students
Hello Students
Hello Students

Using else statement with While Loop in Python

```
In [4]: # Python program to illustrate
        # combining else with while
        count = 0
        while (count < 3):
            count = count + 1
            print("Hello students")
        else:
            print("In Else Block")
```

Hello students
Hello students
Hello students
In Else Block

write a program to find the exponent of a number

```
In [5]: a = int(input("enter the number"))
        i = 0
        while i<=a:
            print(i**2)
            i = i+1
```

enter the number5
0
1
4
9
16
25

While Loop

Print each fruit in a fruit list:

```
In [6]: fruits = ["apple", "banana", "cherry"]  
for x in fruits:  
    print(x)
```

```
apple  
banana  
cherry
```

Looping Through a String

```
In [7]: for x in "banana":  
        print(x)
```

```
b  
a  
n  
a  
n  
a
```

The range() Function To loop through a set of code a specified number of times, we can use the range() function, The range() function returns a sequence of numbers, starting from 0 by default, and increments by 1 (by default), and ends at a specified number.

```
In [8]: for x in range(6):  
        print(x)
```

```
0  
1  
2  
3  
4  
5
```

```
In [9]: for x in range(2, 6):  
        print(x)
```

```
2  
3  
4  
5
```

Else in For Loop

```
In [10]: for x in range(6):
         print(x)
         else:
         print("Finally finished!")
```

```
0
1
2
3
4
5
Finally finished!
```

```
In [11]: """ write a program and to print the square of the number till 10"""

L = []
for i in range(10):
    print(i+1)
    L.append(i**2)
print(L)
```

```
1
2
3
4
5
6
7
8
9
10
[0, 1, 4, 9, 16, 25, 36, 49, 64, 81]
```

```
In [12]: """ write a program to separate positive and negative integers from the list"""
L = [24,-15,89,12,36,-85,-2,-9,-31,32,14]
L1=[]
L2=[]
for i in range(11):
    if L[i]>=0:
        L1.append(L[i])
    else :
        L2.append(L[i])
print(" the list of positive numbers are",L1)
print("the list of negative number are", L2)
```

```
the list of positive numbers are [24, 89, 12, 36, 32, 14]
the list of negative number are [-15, -85, -2, -9, -31]
```

break statment

We can use the break statement with the for loop to terminate the loop when a certain condition

```
In [1]: for i in range(5):  
        if i == 3:  
            break  
        print(i)
```

```
0  
1  
2
```

Continue statement

The continue statement is used to skip the current iteration of the loop and the control flow of the program goes to the next iteration.

```
In [6]: for i in range(5):  
        if i == 3:  
            continue  
        print(i)  
print("i am learning python")
```

```
0  
1  
2  
4  
i am learning python
```

```
In [ ]:
```