

whileloop

- If you want to apply unlimited iterations then we use while loop
- Any loop we required 3 things
 - Initial start
 - condition to stop
 - increment or decrement
- In for loop we are using all these 3 in single line
- In whileloop we will use all these 3 in 3 lines

```
In [ ]: #initial point
# while<condition>:
#     <statements>
#     <increment or decrement>
```

```
In [1]: #case-1
i=1    #start point
while i<=5:    #condition
    print(i,end=' ')
    i=i+1      #increment or decrement
```

1 2 3 4 5

```
In [2]: i=1
while i<=10:
    print(i)
    i=i+2

#step-1: initial point
#step-2: condition
#step: increment or decrement
```

1
3
5
7
9

infinite loop

- whenever infinite loop occurs apply the condition and then break

```
In [1]: i=1
while i!=0:
    print(i)
    i=i+1
    if i==10:
        break
```

1
2
3
4
5
6
7
8
9

True

- when ever we want to use infinte loop
- we want to stop the loop we use break

```
In [ ]: #wap to print -10 to -1
        #using for and while loop

        #wap to print
```

```
In [7]: for i in range(-10,0):
        print(i,end=' ')

        i=-10
        while (i<0):
            print(i)
            i=i+1
```

-10 -9 -8 -7 -6 -5 -4 -3 -2 -1 -10
-9
-8
-7
-6
-5
-4
-3
-2
-1

```
In [14]: #wap to print -1 to -10

        for i in range(-1,-10,-1):
            print(i,end='')
        i=-1
        while(i>=-10):
            print(i)
            i=i-1
```

-1-2-3-4-5-6-7-8-9-1
-2
-3
-4
-5
-6
-7
-8
-9
-10

```
In [4]: #wap tp print 10 to 1

for i in range(10,0,-1):
    print(i,end=' ')

i=10
while(i<=1):
    print(i,end='')
    i=i-1
```

10 9 8 7 6 5 4 3 2 1

```
In [2]: i=10
while(i>=1):
    print(i,end=' ')
    i=i-1
```

10 9 8 7 6 5 4 3 2 1

```
In [7]: i=11
while(i<=22):
    if i%2==0:
        print(f"{i} is even")
    else:
        print(f"{i} is odd")
    i=i+1
```

11 is odd
12 is even
13 is odd
14 is even
15 is odd
16 is even
17 is odd
18 is even
19 is odd
20 is even
21 is odd
22 is even

```
In [ ]: for i in range(1,6):
        print(f" the square of {i} is {i*i}")

i=1
while(i>=6):
    print(
```