



DAY 5 OF 200 DAY'S PYTHON CHALLENGE



WHILE LOOP

A while loop in Python is a programming construct that allows code to be executed repeatedly as long as a certain condition is met.



Day 5.py

```
a= 1
while a <= 10 :
    print(a)
    a = a +1
```

EXAMPLE

Sum of n numbers:



Day 5.py

```
n = int(input())
count = 1
result = 0
while count <= n:
    result = result + count
    count = count + 1
result
```

EXAMPLE

factorial of n numbers:



Day 5.py

```
n = int(input('Factorial  
of:'))  
fact = 1  
while n > 0:  
    fact = fact * n  
    n = n-1  
fact
```

WHILE-ELSE STATEMENT

It works same as a for-else



Day 5.py

```
n = int(input('Table of : '))
i = 1
while i <=10:
    if i == 5:
        break
    print(i*n)
    i = i + 1
else:
    print('Table completed!')
```

COMPREHENSION

Comprehensions in Python are a concise way to create new sequences from existing sequences. They can be used to create lists, sets, and dictionaries.

SYNTAX

[<BODY OF LOOP> <LOOP> <CONDITION>]



Day 5.py

```
l = [1,2,3,4,5,6,7]  
[i*i for i in l if i%2==0]
```

LIST COMPREHENSION

List comprehensions can be used to create new lists from existing lists in a variety of ways.

IN LOOP



Day 5.py

```
l = [1,2,3,4,5,6,7]
l1 = []
for i in l:
    l1.append(i**2)
```

IN LIST
COMPREHENSION



Day 5.py

```
l = [1,2,3,4,5,6,7]
[i**2 for i in l]
```

TUPLE COMPREHENSION

In Python, tuple comprehension doesn't exist as a built-in feature. Unlike list comprehensions, which produce lists, there's no direct equivalent for tuples

IN LOOP



Day 5.py

```
t = (1,2,3,4,5,6,7)
l1 = []
for i in t:
    l1.append(i**2)
```

IN TUPLE
COMPREHENSION



Day 5.py

```
t = (1,2,3,4,5,6,7)
tuple(i**2 for i in t)
```


DICTIONARY COMPREHENSION

Dictionary comprehension is a concise and readable way to create dictionaries in Python. It provides a way to create a new dictionary from an iterable object like a list, tuple, or set.



Day 5.py

```
d = {"key1" :1 , "key2" :2 ,  
     "key3":3 , "key4" :4}  
{k:v**2 for k , v in d.items()}  
{k : v for k , v in d.items() if v  
> 1 }
```

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