



# Solution Review: Big O of Nested Loop with Subtraction

This review provides a detailed analysis of the time complexity of the Nested Loop with Subtraction problem!

We'll cover the following ^

- Solution

## Solution #

```
1 n = 10 # n can be anything, this is just an example
2 sum = 0
3 pie = 3.14
4 for var in range(n, 1, -3):
5     print(pie)
6     for j in range(n, 0, -1):
7         sum += 1
8
9 print(sum)
10
```



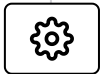
The variable **var** gets set to  $n$  then  $n - 3$ ,  $n - (2 \times 3)$ ,  $n - (3 \times 3)$ ,  $\dots$ ,  $3$  in the outer loop. So the loop runs  $\frac{n}{3}$  times. Try the following,



```
1 n = 12
```



```
2 print(len(range(n, 0, -3))) # The length is n/3
3
```



Have a look at the following slides for a more detailed derivation of the time complexity

```
n = 10 # n can be anything, this
is just an example
sum = 0
pie = 3.14
for var in range(n, 1, -3):
    print(pie)
    for j in range(n, 0, -1):
        sum+=1

print(sum)
```

Running time complexity

0

Let's dry run this code to calculate its running time complexity.

1 of 17



Big O time complexity:  $O(n^2)$

Interviewing soon? We've partnered with Hired so that



companies apply to you instead of you applying to them.

[how](#) ⓘ



← Back

Next →

Challenge 2: Big O of Nested Loop wit...

Challenge 3: Big O of Nested Loop wit...

✓ Completed

⚠ Report an Issue

