



Solution Review: Big O of Nested Loop with Addition

This review provides a detailed analysis of the time complexity of the Nested Loop with Addition 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
5 for var in range(1, n, 3):
6     print(pie)
7     for j in range(1, n, 2):
8         sum += 1
9         print(sum)
10
```



The line `for var in range(1,n,3):` gets executed $\frac{n}{3}$ times and the `for j in range(1,n,2):` gets executed $\frac{n}{2}$ times for each iteration of the outer loop which makes it run a total of $\frac{n}{3} \times \frac{n}{2}$ which is in $O(n^2)$.



Study the following slides for a more detailed line-by-line analysis and calculation of the running time complexity.



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

Running Time Complexity

0

We'll dry run this code to calculate its running time complexity

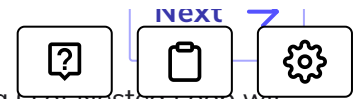
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Hence, Big O time complexity: **$O(n^2)$**

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Challenge 1: Big O of Nested Loop wit...

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

Completed

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