Challenge 3: Big O of Nested Loop with Multiplication

Compute Big O of an algorithm which involves nested loops and the loop variables increment with multiplication.

We'll cover the following

Problem Statement

Compute the Big O time complexity of the following code the way we did in the previous lessons. It is better to solve it on a piece of paper and then see if your answer matches with the correct option!

Code Snippet

You have to calculate the time complexity of code given below:

```
n = 10  # Can be anything
sum = 0
pie = 3.14
var = 1
while var < n:
    print(pie)
    for j in range(var):
        sum += 1
    var *= 2
print(sum)

```

Answer the following question and see if your result matches the correct answer!

Q Which of the following best describes the Big(O) of the program written above?

A) $O(nlogn)$

B) $O(n^2logn)$

C) $O(n)$

D) $O(n^2)$

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1 of 1

Back

Solution Review: Big O of Nested Loo...

Next

Solution Review: Big O of Nested Loo...

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