Challenge 7: Nested Loop with Multiplication (Pro)

A pro-level exercise based on the Big O of an algorithm which involves nested loops and the loop variables increment with multiplication and addition.

> **We'll cover the following** ∧
>
> - Problem Statement
>   - Code Snippet

Problem Statement

Compute the Big O complexity of the code snippet given below. It is better to solve it on a piece of paper and then see if your answer matches with the correct option!

Code Snippet

```python
1   n = 10   # can be anything
2   sum = 0
3   pie = 3.14
4   j = 1
5   for var in range(n):
6       while j < var:
7           sum += 1
8           j *= 2
9       print(sum)
10
```

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?
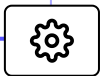
A) $O(logn)$

B) $O(nlogn)$

C) $O(n)$

D) $O(n^2logn)$

Submit Answer

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