



Challenge 4: Nested Loop with Multiplication (Basic)

This is a little-advanced exercise based on the Big O of an algorithm which involves nested loops and the loop variables increment with multiplication.

We'll cover the following ^

- Problem Statement
 - Code Snippet

Problem Statement

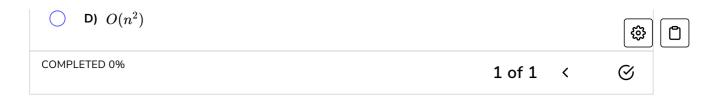
Compute the Big O complexity of the code snippet given below. It is better to solve it on a piece of paper and then see if your answer matches with the correct option!

Code Snippet

```
1 n = 10 # n can be anything, this is just an example
    sum = 0
 2
 3 pie = 3.14
 4 \text{ var} = 1
 5 while var < n:
        print(pie)
 7
        for j in range(1, n, 2):
 8
             sum += 1
 9
        var *= 3
10 print(sum)
11
\triangleright
                                                                                      :3
```

If you have computed the time complexity of the code snippet above, 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?
0	A) $O(n)$
0	B) $O(nlog_2(n))$
0	C) $O(logn)$



Now let's move forward to a more complex nested loop problem and see if you can solve it on your own.

