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Problem 3: Finding Complexity using Counter Method

Started on	Wednesday, 6 August 2025, 9:26 AM
State	Finished
Completed on	Wednesday, 6 August 2025, 9:38 AM
Time taken	11 mins 8 secs
Marks	1.00/1.00
Grade	10.00 out of 10.00 (100%)

Question 1 | Correct Mark 1.00 out of 1.00 

Convert the following algorithm into a program and find its time complexity using counter method.

```
Factor(num) {  
    for (i = 1; i <= num; ++i)  
    {  
        if (num % i == 0)  
        {  
            printf("%d ", i);  
        }  
    }  
}
```

Note: No need of counter increment for declarations and scanf() and counter variable printf() statement.

Input:

A positive Integer n

Output:

Print the value of the counter variable

Answer:

```
1 #include <stdio.h>
2 int Factor(int num)
3 {   int count = 0;
4     for (int i = 1; i <= num; ++i)
5     {count++;
6      count++;
7      if (num % i == 0)
8      {
9          count++;
10     }
11     }
12     count++;
13     return count;
14 }
15 int main(){
16     int num;
17     scanf("%d", &num);
18     int c= Factor(num);
19     printf("%d", c);
20     return 0;
21 }
22 }
```

	Input	Expected	Got	
✓	12	31	31	✓
✓	25	54	54	✓
✓	4	12	12	✓

Passed all tests! ✓

Correct

Marks for this submission: 1.00/1.00.

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