



Problem 3: Finding Complexity using Counter Method

Started on	Monday, 18 August 2025, 10:47 PM
State	Finished
Completed on	Monday, 18 August 2025, 10:51 PM
Time taken	4 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 [Flag question](#)

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
```

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```

3 + int main(void) {
4     int num, counter = 0;
5     if (scanf("%d", &num) != 1) return 0;
6
7 +     for (int i = 1; i <= num; ++i) {
8         counter++;
9         counter++;
10 +        if (num % i == 0) {
11            counter++;
12
13        }
14    }
15    counter++;
16
17    printf("%d", counter);
18    return 0;
19 }
20
21

```

	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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