



Problem 3: Finding Complexity using Counter Method

Started on Sunday, 24 August 2025, 8:05 PM

State Finished

Completed on Sunday, 24 August 2025, 8:27 PM

Time taken 21 mins 51 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  int count=0;
3  void func(int n){
4      count++;
5      for(int i=1;i<=n;++i){
6          count++;
7          if(n%i==0){
8              count++;
9          }
10         count++;
11     }
12     printf("%d",count);
13 }
14 int main(){
15     int n;
16     scanf("%d",&n);
17     func(n);
18 }
```

| | 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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