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Problem 4: Finding Complexity using Counter Method

Started on Thursday, 28 August 2025, 1:19 PM**State** Finished**Completed on** Thursday, 28 August 2025, 1:26 PM**Time taken** 7 mins 12 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.

```
void function(int n)
{
    int c= 0;
    for(int i=n/2; i<n; i++)
        for(int i=1; i<n; i = 2 * i)
```

```

        for(int k=1; k<n; k = k * 2)
            c++;
    }
}

```

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

Input:

A positive Integer n

Output:

Print the value of the counter variable

Answer:

```

1  #include<stdio.h>
2  void func(int n){
3      int count=1;
4      for(int i=n/2;i<n;i++){
5          count+=1;
6          for(int j=1;j<n;j=2*j){
7              count+=1;
8              for(int k=1;k<n;k=k*2){
9                  count+=2;
10             }
11             count++;
12         }
13         count++;
14     }
15     count++;
16     printf("%d",count);
17 }
18 int main(){
19     int n;
20     scanf("%d",&n);
21     func(n);
22     return 0;
23 }

```

Input	Expected	Got

✓	4	30	30	✓
✓	10	212	212	✓

Passed all tests! ✓

Correct

Marks for this submission: 1.00/1.00.

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