

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 j=1; j<n; j = 2 * j)
            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 function(int n){
3      int c = 0;
4          c++;
5      for(int i=0;i<n;i++){
6          c++;
7
8
9          for(int j=1;j<n;j= 2*j){
10             c++;
11             for(int k=1;k<n;k=k*2){
12                 c++;
13
14
15             }
16         }
17     }
18     printf("%d\n",c+1);
19 }
20
21 int main(){
22     int n;
23     scanf("%d",&n);
24     function(n);
25 }
26
```

	Input	Expected	Got	
✓	4	30	30	✓
✓	10	212	212	✓

Passed all tests! ✓

Correct