

VISAANTH M 2024-ITV2**Started on** Friday, 8 August 2025, 7:08 PM**State** Finished**Completed on** Friday, 8 August 2025, 7:12 PM**Time taken** 3 mins 58 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.

```
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 {
4     int ct=0;
5     int c=0;
6     ct++;
7     for(int i=n/2;i<n;i++){
8         ct++;
9         for(int j=1;j<n;j=2*j){
10             ct++;
11             for(int k=1;k<n;k=k*2){
12                 ct++;
13                 c++;
14                 ct++;
15             }
16             ct++;
17         }
18         ct++;
19     }
20     ct++;
21     printf("%d ",ct);
22 }
23 int main(){
24     int n;
25     scanf("%d ",&n);
26     function(n);
27 }
```

	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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