

# CS23331-Design and Analysis of Algorithms-2023 Batch-CS

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## Quiz navigation



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Status	Finished
Started	Sunday, 23 February 2025, 4:34 PM
Completed	Sunday, 23 February 2025, 4:48 PM
Duration	13 mins 50 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 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 count=1,c=0;
5     for(int i=n/2;i<n;i++)
6     {
7         count++;
8         for(int j=1;j<n;j=2*j)
9         {
10             count++;
11             for(int k=1;k<n;k=k*2)
12             {
13                 count++;
14                 c++;
15                 count++;
16             }
17             count++;
18         }
19         count++;
20     }
21     count++;
22     printf("%d",count);
23 }
24 int main()
25 {
26     int n;
27     scanf("%d",&n);
28     function(n);
29     return 0;
30 }
```

	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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◀ Problem 3: Finding Complexity using Counter Method

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Problem 5: Finding Complexity using counter method ▶