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

## Quiz navigation

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Finish review

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| **Started on** | Friday, 9 August 2024, 1:51 PM |
| **State** | Finished |
| **Completed on** | Friday, 9 August 2024, 1:54 PM |
| **Time taken** | 2 mins 27 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 a= 0;
5      int c=1;
6      for(int i=n/2; i<n; i++){
7          c++;
8          for(int j=1; j<n; j = 2 * j){
9              c++;
10             for(int k=1; k<n; k = k * 2){
11                 c++;
12                 a++;
13                 c++;
14             }
15             c++;
16         }
17         c++;
18     }
19     printf("%d",++c);
20  }
21  int main(){
22      int n;
23      scanf("%d",&n);
24      function(n);
25  }
```

| | Input | Expected | Got | |
|---|---|---|---|---|
| ✔ | 4 | 30 | 30 | ✔ |
| ✔ | 10 | 212 | 212 | ✔ |

Passed all tests! ✔

**Correct**
Marks for this submission: 1.00/1.00.

Finish review

◄ Problem 3: Finding Complexity using Counter Method          Jump to...          Problem 5: Finding Complexity using counter method ►