

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

Dashboard / My courses / CS23331-DAA-2023-CSE / Finding Time Complexity of Algorithms / Problem 4: Finding Complexity using Counter Method

Quiz navigation



Finish review

Started on	Tuesday, 13 August 2024, 1:58 PM
State	Finished
Completed on	Tuesday, 13 August 2024, 2:03 PM
Time taken	4 mins 15 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 int main(){
3     int n,count=0;
4     scanf("%d",&n);
5     int function(int n){
6         count++;
7         int c=0;
8         count++;
9         for(int i=n/2;i<n;i++){
10             count++;
11             for(int j=1;j<n;j=2*j){
12                 count++;
13                 for(int k=1;k<n;k=k*2){
14                     count++;
15                     c++;
16                     count++;
17                 }
18             }
19             count++;
20         }
21     }
22     return count;
23 }
24 printf("%d",function(n));
25 }
26 }
```

	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 →

