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Problem 4: Finding Complexity using Counter Method

Started on	Sunday, 17 August 2025, 8:44 PM
State	Finished
Completed on	Sunday, 17 August 2025, 8:49 PM
Time taken	4 mins 38 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 count=0;
4       int n;
5       scanf("%d",&n);
6       int c=0;
7       count++;
8       for(int i=n/2;i<n;i++){
9           count++;
10          for(int j=1;j<n;j=2*j){
11              count++;
12              for(int k=1;k<n;k=k*2){
13                  count++;
14                  c++;
15                  count++;
16              }
17              count++;
18          }
19          count++;
20      }
21      count++;
22      printf("%d",count);
23
24  }
```

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

Passed all tests! ✔

Correct

Marks for this submission: 1.00/1.00.

Finish review

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Data retention summary