Problem 4: Finding Complexity using Counter Method

Started on	Saturday, 9 August 2025, 4:42 PM
State	Finished
Completed on	Saturday, 9 August 2025, 4:50 PM
Time taken	7 mins 30 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:

```c
#include <stdio.h>
int function(int n)
{   int count = 0;
    int c= 0;
    count++;
    for(int i=n/2; i<n; i++){
        count++;
        for(int j=1; j<n; j = 2 * j){
            count++;
            for(int k=1; k<n; k = k * 2){
                c++;
                count++;
                count++;
            }
            count++;
        }
        count++;
    }
    count++;
    return count;
}

int main(){
    int n;
    scanf("%d", &n);
    int c = function(n);
    printf("%d", c);
    return 0;

}
```

	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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