PROBLEM 4

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
1  #include<stdio.h>
2  int function(int n){
3      int count=0;
4      int c=0;
5      count++;
6      for(int i=n/2; i<n; i++){
7          count++;
8          for(int j=1; j<n; j=2*j){
9              count++;
10             for(int k=1; k<n; k=k*2){
11                 count++;
12                 c++;
13                 count++;
14             }
15             count++;
16         }
17         count++;
18     }
19     count++;
20     return count;
21 }
22 int main(){
23     int a;
24     scanf("%d",&a);
25     printf("%d",function(a));
26 }
```

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

Passed all tests! ✔

Correct

Marks for this submission: 1.00/1.00.