Problem 2: Finding Complexity using Counter method

Aim:

Convert the following algorithm into a program and find its time complexity using the counter method.  
void func(int n)

{

if(n==1)

{

printf("\*");

}

else

{

for(int i=1; i<=n; i++)

{

for(int j=1; j<=n; j++)

{

printf("\*");

printf("\*");

break;

}

}

}

}

**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

Algorithm:

 Read the integer n and initialize count to 0.

 If n == 1, increment count twice. Otherwise, increment count and iterate through n rows and n columns, updating count during each iteration.

 Print the final value of count.

Code:

#include <stdio.h>

int main()

{

int n,count=0;

scanf("%d",&n);

if(n==1)

{

count++;

//printf("\*");

count++;

}

else

{

count++;

for(int i=1; i<=n; i++)

{

count++;

for(int j=1; j<=n; j++)

{

count++;

//printf("\*");

count++;

//printf("\*");

count++;

break;

}

count++;

}

count++;

}

printf("%d",count);

}

Output:

|  | **Input** | **Expected** | **Got** |  |
| --- | --- | --- | --- | --- |
|  | 2 | 12 | 12 |  |
|  | 1000 | 5002 | 5002 |  |
|  | 143 | 717 | 717 |  |

Passed all tests!

**Correct**

Marks for this submission: 1.00/1.00.

Result:

The expected output was obtained