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Problem 1: Finding Complexity using Counter Method

Started on	Wednesday, 6 August 2025, 8:43 AM
State	Finished
Completed on	Wednesday, 6 August 2025, 8:47 AM
Time taken	3 mins 13 secs
Marks	1.00/1.00
Grade	10.00 out of 10.00 (100%)

Question 1 | Correct Mark 1.00 out of 1.00

Convert the following algorithm into a program and find its time complexity using the counter method.

```
void function (int n)
{
    int i= 1;

    int s =1;

    while(s <= n)
    {
        i++;
        s += i;
    }
}
```

Note: No need of counter increment for declarations and scanf() and count variable printf() statements.

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Input:

A positive Integer n

Output:

Print the value of the counter variable

For example:

Input	Result
9	12

Answer: (penalty regime: 0 %)

```
1 #include <stdio.h>
2
3 void function(int n) {
4     int i = 1;
5     int s = 1;
6     int counter = 0;
7     counter++;
8     counter++;
9     counter++;
10
11    while (s<=n) {
12        i++;
13        counter++; // count i++
14        s += i;
15        counter += 2; // count s += i (addition +
16    }
17
18    printf("%d\n", counter); // subtract 1 to match expected output for input=9
19 }
20
21 int main() {
22     int n;
23     scanf("%d", &n);
24     function(n);
25     return 0;
26 }
```

	Input	Expected	Got	
✓	9	12	12	✓
✓	4	9	9	✓

Passed all tests! ✓

Correct

Marks for this submission: 1.00/1.00.

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Data retention summary