RAJALAKSHMI ENGINEERING COLLEGE

Started on	Wednesday, 20 August 2025, 4:01 PM
State	Finished
Completed on	Wednesday, 20 August 2025, 4:12 PM
Time taken	10 mins 50 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 counter method.

```
Factor(num) {
{
   for (i = 1; i <= num;++i)
   {
    if (num % i== 0)
       {
         printf("%d ", i);
       }
    }
 }
```

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

Input:

A positive Integer n

Output:

Print the value of the counter variable

Answer:

```c
#include <stdio.h>

int main() {
    int num;
    scanf("%d", &num);

    int counter = 0;

    for (int i = 1; i <= num; ++i) {
        counter++; // loop condition
        counter++; // if condition
        if (num % i == 0) {
            counter++; // count successful modulo match
        }
    }

    counter++; // final loop condition failure

    printf("%d\n", counter);
    return 0;
}
```

	Input	Expected	Got	
✔	12	31	31	✔
✔	25	54	54	✔
✔	4	12	12	✔

Passed all tests! ✔

Correct

Marks for this submission: 1.00/1.00.

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