RAJALAKSHMI ENGINEERING COLLEGE

Started on	Tuesday, 5 August 2025, 2:06 PM
State	Finished
Completed on	Tuesday, 5 August 2025, 2:34 PM
Time taken	28 mins 29 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.

Input:

A positive Integer n

Output:

Print the value of the counter variable

For example:

Input	Result
9	12

Answer: (penalty regime: 0 %)

```
/*#include <stdio.h>

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

    int i = 1;
    int s = 1;
    int count = 0;

    count++;
    count++;


    while (s <= n)
    {
        count++;
          if (s > n)
          {
             break;
          }

        i++;
        count++;

        s+=i;
        count++;
    }

    printf("%d", count);

    return 0;
}*/
#include <stdio.h>

int main()
{
    int n;
```

	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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RAJALAKSHMI ENGINEERING COLLEGE

Started on	Sunday, 31 August 2025, 8:19 AM
State	Finished
Completed on	Sunday, 31 August 2025, 8:25 AM
Time taken	6 mins 36 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 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

Answer: (penalty regime: 0 %)

```
#include<stdio.h>
int main()
{
    int n;
    scanf("%d",&n);
    int count=0;
    if (n==1)
    {
        //printr("*");
        count++;
    }
    else
    {
        for (int i=1;i<=n;i++)
        {
            count++;
            for(int j=1;j<=n;j++)
            {
                count++;
                //printr("*");
                count++;
                //printr("*");
                count++;
                break;
            }
            count++;
        }
        count++;
    }
```

	Input	Expected	Got	
✔	2	12	12	✔
✔	1000	5002	5002	✔
✔	143	717	717	✔

Passed all tests! ✔

Correct

Marks for this submission: 1.00/1.00.

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RAJALAKSHMI ENGINEERING COLLEGE

Started on	Sunday, 31 August 2025, 8:27 AM
State	Finished
Completed on	Sunday, 31 August 2025, 8:43 AM
Time taken	15 mins 28 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 count=0;
    for(int i=1;i<=num;++i)
    {
        count++;
        if (num%i==0)
        {
            //printr("%d ",i);
            count++;
        }
        count++;
    }
    count++;
    printf("%d",count);
}
```

	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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RAJALAKSHMI ENGINEERING COLLEGE

Started on	Sunday, 31 August 2025, 8:39 AM
State	Finished
Completed on	Sunday, 31 August 2025, 8:41 AM
Time taken	1 min 37 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.

```
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:

```
#include<stdio.h>
int main()
{
    int n;
    scanf("%d",&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)
            {
                count++;
                c++;
                count++;
            }
            count++;
        }
        count++;
    }
    count++;
    printf("%d",count);
}
```

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

Passed all tests! ✔

Correct

Marks for this submission: 1.00/1.00.

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RAJALAKSHMI ENGINEERING COLLEGE

Started on	Tuesday, 26 August 2025, 1:58 PM
State	Finished
Completed on	Tuesday, 26 August 2025, 2:07 PM
Time taken	9 mins 11 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.

```
void reverse(int n)
{
   int rev = 0, remainder;
   while (n != 0)
    {
        remainder = n % 10;
        rev = rev * 10 + remainder;
        n/= 10;

    }
print(rev);
}
```

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:

```
/*#include <stdio.h>

void reverse(int n) {
    int rev = 0, remainder;
    int count = 0; // Counter variable

    while (n != 0) {
        count++; // while loop condition check
        remainder = n % 10;
        count++; // modulo operation
        rev = rev * 10 + remainder;
        count++; // reverse update
        n /= 10;
        count++; // division operation
    }

    count++; // final while condition check when n == 0
    printf("Reversed number: %d\n", rev);
    printf("Counter = %d\n", count);
}

int main() {
    int n;
    printf("Enter a positive integer: ");
    scanf("%d", &n);

    reverse(n);
    return 0;
}*/
#include <stdio.h>
#include <math.h>

void calculate_counter_value(int n) {
    int num_digits;

    // Check for edge case of 0 to count as one digit
    if (n == 0) {
```

	Input	Expected	Got	
✔	12	11	11	✔
✔	1234	19	19	✔

Passed all tests! ✔

Correct

Marks for this submission: 1.00/1.00.

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