Problem 1: Finding Complexity using Counter Method

Started on	Thursday, 21 August 2025, 8:17 PM
State	Finished
Completed on	Thursday, 21 August 2025, 9:45 PM
Time taken	1 hour 28 mins
Marks	1.00/1.00
Grade	**10.00** out of 10.00 (**100**%)

Question 1 | Correct Mark 1.00 out of 1.00 Flag question

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 %)

```c
#include<stdio.h>
void function(int n) {
    int i = 1, s = 1, counter = 0;
    counter++;
    counter++;
    while (1) {
        counter++;
        if(!(s <= n))
            break;
        i++;
        counter++;
        s += i;
        counter++;
    }
    printf("%d\n", counter);
}
int main() {
    int n;
    scanf("%d", &n);
    function(n);
    return 0;
}
```

	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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Problem 2: Finding Complexity using Counter method

Started on	Sunday, 17 August 2025, 9:59 PM
State	Finished
Completed on	Thursday, 21 August 2025, 9:50 PM
Time taken	3 days 23 hours
Marks	1.00/1.00
Grade	**10.00** out of 10.00 (**100**%)

Question 1 | Correct Mark 1.00 out of 1.00 Flag question

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 %)

```c
#include<stdio.h>
void func(int n) {
    int count = 0;
    count++;
    if(n == 1) {
        count++;
    }
    else {
        for(int i = 1; i <= n; i++) {
            count++;
            count++;
            count++;
            count++;
            count++;
        }
        count++;
    }
    printf("%d\n", count);
}
int main() {
    int n;
    scanf("%d", &n);
    func(n);
    return 0;
}
```

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

✔	143	717	717

Passed all tests! ✔

Correct

Marks for this submission: 1.00/1.00.

Finish review

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Problem 3: Finding Complexity using Counter Method

Started on	Thursday, 21 August 2025, 9:52 PM
State	Finished
Completed on	Thursday, 21 August 2025, 9:56 PM
Time taken	4 mins 4 secs
Marks	1.00/1.00
Grade	**10.00** out of 10.00 (**100**%)

Question 1 | Correct Mark 1.00 out of 1.00 Flag question

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, i;
    int counter = 0;
    scanf("%d", &num);
    counter++;
    for(i = 1; i <= num; i++) {
        counter++;
        if(num % i == 0) {
            counter++;
        }
        counter++;
    }
    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.

Finish review

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Problem 4: Finding Complexity using Counter Method

Started on	Friday, 22 August 2025, 1:42 PM
State	Finished
Completed on	Saturday, 23 August 2025, 6:35 AM
Time taken	16 hours 52 mins
Marks	1.00/1.00
Grade	**10.00** out of 10.00 (**100**%)

Question 1 | Correct Mark 1.00 out of 1.00 Flag question

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
#include<stdio.h>
int main() {
    long long n;
    if(scanf("%lld", &n) != 1)
        return 0;
    long long counter = 0;
    long long i = n / 2;
    counter++;
    while(1) {
        counter++;
        if(!(i < n))
            break;
        long long j = 1;
        while(1) {
            counter++;
            if(!(j < n))
                break;
            long long k = 1;
            while(1) {
                counter++;
                if(!(k < n))
                    break;
                counter++;
                k = k * 2;
            }
            j = 2 * j;
        }
        i = i + 1;
    }
    printf("%lld\n", counter);
    return 0;
}
```

	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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Problem 5: Finding Complexity using counter method

Started on	Saturday, 23 August 2025, 6:36 AM
State	Finished
Completed on	Saturday, 23 August 2025, 6:40 AM
Time taken	4 mins 46 secs
Marks	1.00/1.00
Grade	**10.00** out of 10.00 (**100**%)

Question 1 | Correct Mark 1.00 out of 1.00 Flag question

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:

```c
#include<stdio.h>
int main() {
    int n;
    scanf("%d", &n);
    int rev = 0, remainder;
    int counter = 0;
    while(n != 0) {
        counter++;
        remainder = n % 10;
        counter++;
        rev = rev * 10 + remainder;
        counter++;
        n /= 10;
        counter++;
    }
    counter++;
    counter += 2;
    printf("%d\n", counter);
    return 0;
}
```

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

Passed all tests! ✔

Correct

Marks for this submission: 1.00/1.00.

Finish review

Finish review

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