# Problem 1: Finding Complexity using Counter Method

| | |
|---|---|
| **Started on** | Friday, 8 August 2025, 5:58 PM |
| **State** | Finished |
| **Completed on** | Sunday, 10 August 2025, 3:35 PM |
| **Time taken** | 1 day 21 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 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;
    int s=1;
    int c1=1,c2=1,c3=1;
    while(s<=n){
        i++;
        s+=i;
        c1++;
        c2++;
        c3++;
    }
    int c=c1+c2+c3;
    printf("%d\n",c);
}
int main()
{
    int n;
    scanf("%d",&n);
    function(n);
    return 0;
```

```
22 }
```

| | 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** | Friday, 8 August 2025, 6:07 PM |
| **State** | Finished |
| **Completed on** | Sunday, 10 August 2025, 3:36 PM |
| **Time taken** | 1 day 21 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 c1=1,c2=0,c3=1;
    if(n==1){
        printf("*");
        c1++;
    }
    else{
        for(int i=1;i<=n;i++){
            c2+=2;
            for(int j=1;j<=n;j++){
                c3+=3;
                break;
            }
        }
    }
    int c=c1+c2+c3;
```

```
18      printf("%d",c);
19  }
20  int main(){
21      int n;
22      scanf("%d",&n);
23      func(n);
24      return 0;
25  }
```

| | 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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# Problem 3: Finding Complexity using Counter Method

| | |
|---|---|
| **Started on** | Friday, 8 August 2025, 6:26 PM |
| **State** | Finished |
| **Completed on** | Sunday, 10 August 2025, 3:37 PM |
| **Time taken** | 1 day 21 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 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>
void Factor(int num){
    int c1=0,c2=1;
    for(int i=1;i<=num;i++){
        c1+=2;
        if(num%i==0){
            c2++;
        }
    }
    int c=c1+c2;
    printf("%d",c);
}
int main()
{
    int n;
    scanf("%d",&n);
    Factor(n);
    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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# Problem 4: Finding Complexity using Counter Method

| | |
|---|---|
| **Started on** | Friday, 8 August 2025, 6:40 PM |
| **State** | Finished |
| **Completed on** | Sunday, 10 August 2025, 3:40 PM |
| **Time taken** | 1 day 20 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 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>
void function(int n)
{
    int c=1;
    for(int i=n/2;i<n; i++){
        c++;
        for(int j=1;j<n;j=2*j){
            c++;
            for(int k=1;k<n;k=k*2){
                c++;
                c++;
            }
            c++;
        }
        c++;
    }
    c++;
    printf("%d",c);
}
int main()
{
    int n;
    scanf("%d",&n);
    function(n);
}
```

| | 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** | Friday, 8 August 2025, 7:05 PM |
| **State** | Finished |
| **Completed on** | Sunday, 10 August 2025, 3:42 PM |
| **Time taken** | 1 day 20 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 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>
void reverse(int n)
{
   int rev = 0, remainder;
   int c1=1,c2=1,c3=1,c4=0;
   while (n != 0)
    {
        c1++;
        remainder = n % 10;
        c2++;
        rev = rev * 10 + remainder;
        c3++;
        n/= 10;
        c4++;
    }
    int c=c1+c2+c3+c4;
    printf("%d",c);
}
int main()
{
    int n;
    scanf("%d",&n);
    reverse(n);
}
```

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

Passed all tests! ✔

**Correct**

Marks for this submission: 1.00/1.00.

Finish review

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