



5

ADITYA S 2024-CSE ▾**A2****Started on** Sunday, 17 August 2025, 11:19 PM**State** Finished**Completed on** Sunday, 17 August 2025, 11:25 PM**Time taken** 5 mins 39 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 %)

```

1  #include<stdio.h>
2
3  void function(int n){
4      int count =0;
5      int i=1, s=1;
6      count+=2;
7      int k=0;
8      while(s<=n){
9          i++;
10         s+=i;
11         k++;
12     }
13     count+=(k*2)+(k+1);
14     printf("%d",count);
15 }
16
17 int main(){
18     int n;
19     scanf("%d",&n);
20     function(n);
21     return 0;
22 }

```

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

Passed all tests! ✓

Correct

Marks for this submission: 1.00/1.00.

[Back to Course](#)



Started on	Sunday, 17 August 2025, 11:25 PM
State	Finished
Completed on	Sunday, 17 August 2025, 11:29 PM
Time taken	3 mins 56 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 %)

```
1  #include<stdio.h>
2
3  void func(int n){
4      int count=0, k=0, m=0;
5      if(n==1){
6          count++;
7      }else{
8          count++;
9          for(int i=1;i<=n;i++){
10             k++;
11             for(int j=1;j<=n;j++){
12                 m++;
13                 break;
14             }
15         }
16     }
17     count = count+k+k*(m*2)+(m+1);
18     printf("%d",count);
19 }
20
21 int main(){
22     int n;
23     scanf("%d",&n);
24     func(n);
25     return 0;
26 }
```

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

Passed all tests! ✓

Correct

Marks for this submission: 1.00/1.00.

[Back to Course](#)



Started on	Sunday, 31 August 2025, 12:47 AM
State	Finished
Completed on	Sunday, 31 August 2025, 12:53 AM
Time taken	6 mins 45 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:

```
1  #include<stdio.h>
2
3  void fact(int num){
4      int counter = 0;
5      for (int i = 1; i <= num; ++i){
6          counter++;
7          if (num % i == 0){
8              counter++;
9          }
10         counter++;
11     }
12     counter++;
13     printf("%d", counter);
14 }
15
16 int main(){
17     int n;
18     scanf("%d",&n);
19     fact(n);
20 }
```

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

Passed all tests! 

Correct

Marks for this submission: 1.00/1.00.

[Back to Course](#)



Started on	Sunday, 31 August 2025, 12:35 AM
State	Finished
Completed on	Sunday, 31 August 2025, 12:41 AM
Time taken	6 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 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:

```
1 | #include<stdio.h>
2 |
3 | void function(int n){
4 |     int counter = 0;
5 |     int c=0;
6 |     counter++;
7 |     for(int i=n/2;i<n;i++){
8 |         counter++;
9 |         for(int j=1;j<n;j=2*j){
10 |             counter++;
11 |             for(int k=1;k<n;k=k*2){
12 |                 counter++;
13 |                 c++;
14 |                 counter++;
15 |             }
16 |             counter++;
17 |         }
18 |         counter++;
19 |     }
20 |     counter++;
21 |     printf("%d",counter);
22 | }
23 |
24 | int main(){
25 |     int n;
26 |     scanf("%d",&n);
27 |     function(n);
28 | }
```

	Input	Expected	Got	
✓	4	30	30	✓

	Input	Expected	Got	
✓	10	212	212	✓

Passed all tests! ✓

Correct

Marks for this submission: 1.00/1.00.

[Back to Course](#)



Started on	Sunday, 31 August 2025, 12:42 AM
State	Finished
Completed on	Sunday, 31 August 2025, 12:46 AM
Time taken	4 mins 48 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:

```
1  #include<stdio.h>
2
3  void rev(int n){
4      int counter=0;
5      int rev=0, remainder;
6      counter++;
7      while (n != 0)
8      {
9          counter++;
10         remainder = n % 10;
11         counter++;
12         rev = rev * 10 + remainder;
13         counter++;
14         n/= 10;
15         counter++;
16     }
17     counter++;
18     counter++;
19     printf("%d",counter);
20 }
21
22 int main(){
23     int n;
24     scanf("%d",&n);
25     rev(n);
26 }
```

	Input	Expected	Got	
✓	12	11	11	✓

	Input	Expected	Got	
✓	1234	19	19	✓

Passed all tests! ✓

Correct

Marks for this submission: 1.00/1.00.

[Back to Course](#)