

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 void function(int n){
3     int count=0;
4     int i=1;
5     count++;
6     int s=1;
7     count++;
8     while(s<=n){
9         count++;
10        i++;
11        count++;
12        s+=i;
13        count++;
14    }
15    count++;
16    printf("%d",count);
17 }
18 int main(){
19     int n;
20     scanf("%d",&n);
21     function(n);
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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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 void func(int n)
3 {
4     int count=0;
5     if(n==1)
6     {
7         count++;
8     }
9     else
10    {
11        count++;
12        for(int i=1; i<=n; i++)
13        {
14            count++;
15            count++;
16            for(int j=1; j<=n; j++)
17            {
18                count++;
19                count++;
20                break;
21            }count++;
22        }count++;
23    }
24    printf("%d",count);
25 }
26
27 int main(){
28     int n;
29     scanf("%d",&n);
30     func(n);
31 }
```

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

Passed all tests! ✓

Correct

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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 void Factor(int num) {  
3  
4     int count=0;  
5     for (int i = 1; i <= num; ++i)  
6     {  
7         count++;  
8         if (num % i == 0)  
9         {  
10             count++;  
11         }  
12     }  
13     printf("%d",count);  
14 }  
15  
16 int main()  
17 {  
18     int num;  
19     scanf("%d",&num);  
20     Factor(num);  
21 }
```

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

	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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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 void reverse(int n)
3 {
4     int count=0;
5     int rev = 0, remainder;
6     count++;
7     count++;
8     while (n != 0)
9     {
10         count++;
11         remainder = n % 10;
12         count++;
13         rev = rev * 10 + remainder;
14         count++;
15         n /= 10;
16         count++;
17     }count++;
18     printf("%d",count);
19 }
20
21 int main(){
22     int n;
23     scanf("%d",&n);
24     reverse(n);
25 }
```

	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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