

**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 %)

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```
#include<stdio.h>
void function (int n)
{
    int i=1;
    int s=1;
    while(s<=n)
    {
        i++;
        s+=i;
    }
    printf("%d",3*i);
}
int main()
{
    int n;
    scanf("%d",&n);
    function(n);
}
```

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

Passed all tests! ✓

Correct

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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 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 int main() {
3     int n;
4     scanf("%d",&n);
5     int count=0;
6     if(n==1) {
7     }
8     else {
9         count++;
10        count+=(n+1);
11        count+=n;
12        count+=2*n;
13        count+=n;
14    }
15    printf("%d",count);
16 }
```

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

	Input	Expected	Got	
✓	143	717	717	✓

Passed all tests! ✓

Correct

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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.

```
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 int main() {
3     int n;
4     scanf("%d",&n);
5     int count=0;
6     for (int i=1;i<=n;i++) {
7         count++;
8         count++;
9         if (n%i==0) {
10             count++;
11         }
12     }
13     count++;
14     printf("%d\n",count);
15     return 0;
16 }
17 }
```

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

Passed all tests! ✓

Correct

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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 int main(){
3     int n, counter=0;
4     scanf("%d",&n);
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             {
13                 counter++;
14                 c++;
15                 counter++;
16             }
17             counter++;
18         }
19         counter++;
20     }
21     counter++;
22     printf("%d", counter);
23 }
```

	Input	Expected	Got	
✓	4	30	30	✓
✓	10	212	212	✓

Passed all tests! ✓

Correct

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

	Input	Expected	Got	
✓	12	11	11	✓
✓	1234	19	19	✓

Passed all tests! ✓

Correct

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