

Time Complexity

Problem 1:

Input:
A positive Integer n
Output:
Print the value of the counter variable

For example:

Input	Result
8	12

Answer: (penalty regime: 0 %)

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

	Input	Expected	Got	
✓	8	12	12	✓
✓	4	6	6	✓

Passed all tests! ✓

Problem 2:

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

	Input	Expected	Got	
✓	1	1	1	✓
✓	1000	5002	5002	✓
✓	143	717	717	✓

Problem 3:

Input:
A positive Integer n
Output:
Print the value of the counter variable

Answer:

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

	Input	Expected	Got	
✓	12	51	51	✓
✓	16	64	64	✓
✓	4	11	11	✓

Problem 4:

Input:
A positive Integer n
Output:
Print the value of the counter variable

Answer:

```
1 #include <stdio.h>
2
3 int function(int n) {
4     int tc = 0;
5     int c = 0;
6     tc++;
7     for (int i = n / 2; i < n; i++) {
8         tc++;
9         for (int j = 1; j < n; j = 2 * j) {
10            tc++;
11            for (int k = 1; k < n; k = k * 2) {
12                tc++;
13                c++;
14            }
15            tc++;
16        }
17        tc++;
18    }
19    tc++;
20    return tc;
21 }
22
23 int main() {
24     int n;
25     scanf("%d", &n);
26     int tc = function(n);
27     printf("%d\n", tc);
28     return 0;
29 }
```

	Input	Expected	Got	
✓	4	38	38	✓
✓	16	212	212	✓

Problem 5:

Input:
A positive integer n
Output:
Print the value of the counter variable

Answer:

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

	Input	Expected	Got	
✓	12	11	11	✓
✓	1234	18	18	✓