

FINDING TIME COMPLEXITY OF ALGORITHMS

PROBLEM 3:

Finding Complexity using Counter Method

AIM:

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);  
      }  
    }  
  }  
}
```

CODE:

```
#include<stdio.h>  
  
int main(){  
  int counter=0;  
  int i,num;  
  scanf("%d",&num);  
  
  for (i = 1; i <= num; ++i)  
  {  
    counter++;  
  
    if (num % i == 0)
```

```
{counter++;  
    //printf("%d ", i);  
    }counter++;  
} counter++;  
printf("%d",counter);  
}
```

INPUT:

12	25	4
----	----	---

OUTPUT:

31	54	12
----	----	----