

DAY 1 - TIMECOMPLEXITY PROGRAM

PROGRAM 1

```
#include<stdio.h>

void function(int min);

int main(){

    int n;

    scanf("%d",&n);

    function(n);

    return 0;

}

void function(int n){

    int count=0;

    int i=1,s=1;

    count++;

    count++;

    while(s<=n){

        count++;

        i++;

        count++;

        s+=i;

        count++;

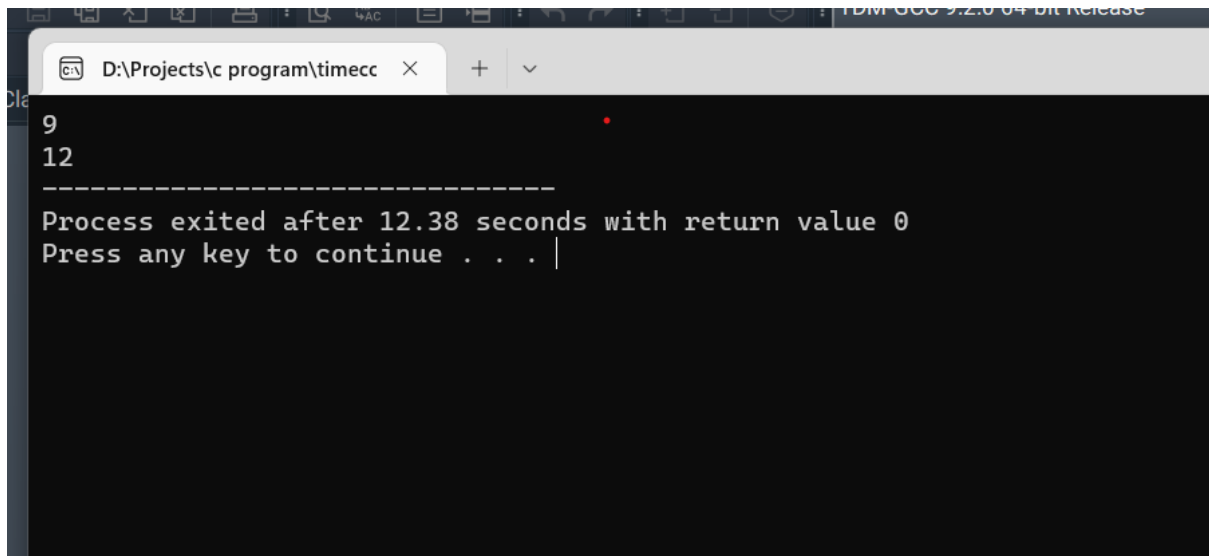
    }

    count++;

    printf("%d",count);

}
```

OUTPUT:

A screenshot of a Windows command prompt window. The title bar shows the file path "D:\Projects\c program\timeecc" and standard window controls. The command prompt has a black background with white text. It displays the numbers "9" and "12" on separate lines. Below these, a dashed line is shown. The text "Process exited after 12.38 seconds with return value 0" is displayed, followed by "Press any key to continue . . . |" with a cursor at the end of the line.

```
9
12
-----
Process exited after 12.38 seconds with return value 0
Press any key to continue . . . |
```

PROGRAM 2

```
#include<stdio.h>

void function(int min);

int main(){
    int n;
    scanf("%d",&n);
    function(n);
    return 0;
}

void function(int n){
    int count=0;
    if(n==1){
        count++;
        count++;
    }
    else{
        count++;
        for(int i=1;i<=n;i++){
```

```

        count++;

        for(int j=1;j<=n;j++){

            count++;

            count++;

            count++;

            count++;

            break;

        }

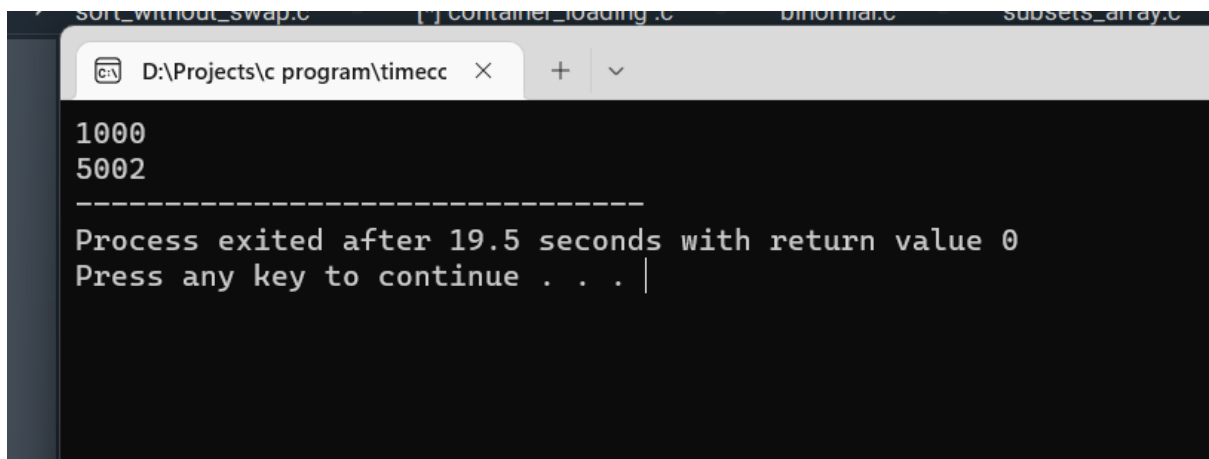
    }

    }count++;

    printf("%d",count);
}

```

OUTPUT:



```

D:\Projects\c program\timecc
1000
5002
-----
Process exited after 19.5 seconds with return value 0
Press any key to continue . . .

```

PROGRAM 3

```

#include<stdio.h>

int factor(int n);

int count=0;

int main(){

    int n;

    scanf("%d",&n);

```

```

    factor(n);
    printf("%d",count);
    return 0;
}

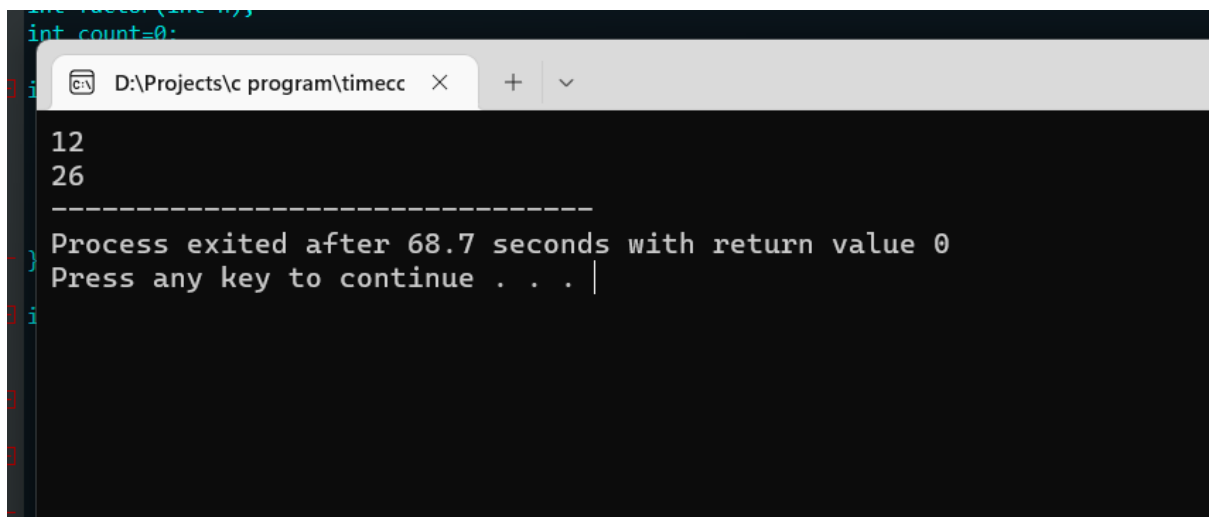
```

```

int factor(int n){
    int i;
    count++;
    for(i=1;i<=n;i++){
        count++;
        if(n%i==0){
            //print present here
        }count++;
    }
    count++;
    return 0;
}

```

OUTPUT:



```

D:\Projects\c program\timecc
12
26
-----
Process exited after 68.7 seconds with return value 0
Press any key to continue . . .

```

PROGRAM 4

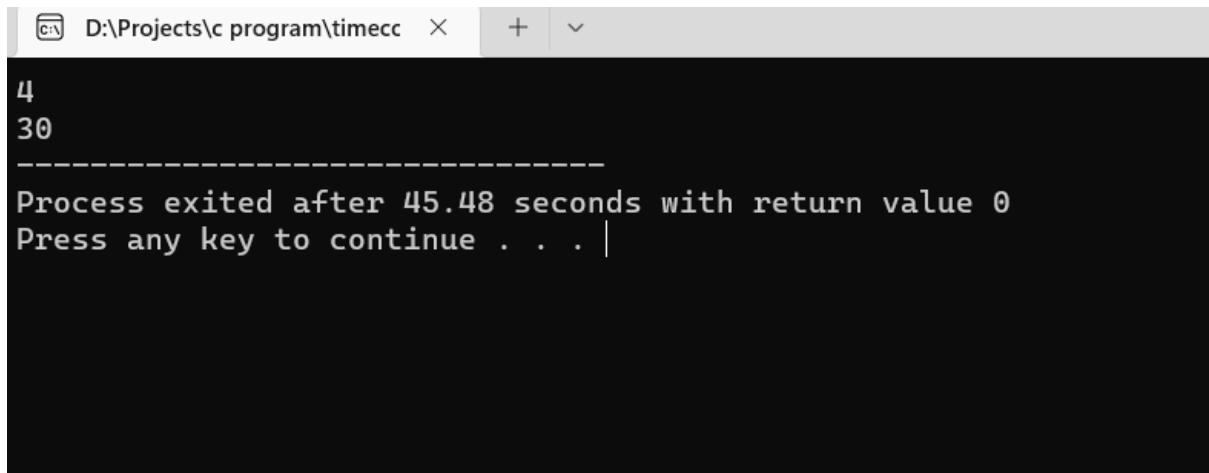
```
#include<stdio.h>
```

```
void function(int n);
```

```
int main(){  
    int n;  
    scanf("%d",&n);  
    function(n);  
    return 0;  
}
```

```
void function(int n){  
    int count=0;  
    int c=0;  
    count++;  
    for(int i=n/2;i<n;i++){  
        count++;  
        for(int j=1;j<n;j=2*j){  
            count++;  
            for(int k=1;k<n;k=k*2){  
                count++;  
                c++;  
                count++;  
            }count++;  
        }count++;  
    }count++;  
    printf("%d",count);  
}
```

OUTPUT



```
D:\Projects\c program\timecc  X  +  v
4
30
-----
Process exited after 45.48 seconds with return value 0
Press any key to continue . . . |
```

PROGRAM 5

```
#include<stdio.h>
```

```
void reverse(int n);
```

```
int main(){
```

```
    int n;
```

```
    scanf("%d",&n);
```

```
    reverse(n);
```

```
    return 0;
```

```
}
```

```
void reverse(int n){
```

```
    int count =0;
```

```
    int rev=0,remainder;
```

```
    count++;
```

```
    while(n!=0){
```

```
        count++;
```

```
        remainder=n%10;
```

```
        count++;
```

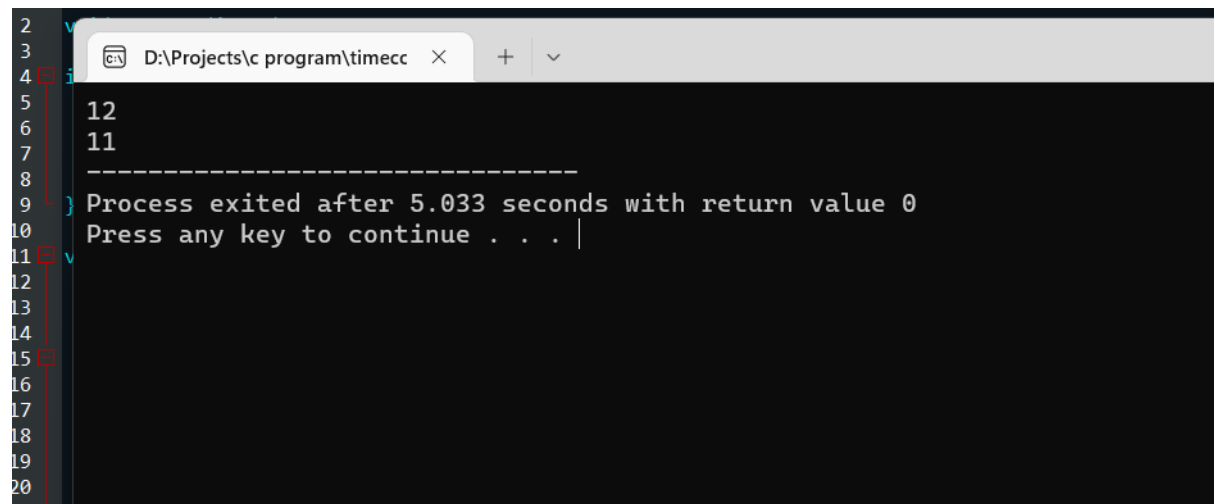
```
        rev=rev*10+remainder;
```

```
        count++;
```

```
        n=n/10;
```

```
        count++;  
    }  
    count++;  
    count++; //print  
    printf("%d",count);  
}
```

OUTPUT:



The screenshot shows a terminal window titled "D:\Projects\c program\timecc" with a dark background. On the left, a vertical list of line numbers from 2 to 20 is visible. The terminal output displays the numbers 12 and 11 on separate lines, followed by a horizontal dashed line. Below the line, the text "Process exited after 5.033 seconds with return value 0" and "Press any key to continue . . ." are shown. The cursor is positioned at the end of the second line of output.

```
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20
```

D:\Projects\c program\timecc X + v

```
12  
11  
-----  
Process exited after 5.033 seconds with return value 0  
Press any key to continue . . . |
```