

120CS0196

PROGRAMMING LABORATORY-4

CS1000

Assignment-4

Group-P7 : Section:'E'

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120CS0196

Codes are uploaded on my GitHub account :

<https://github.com/prachi237/justC>

1. Write a program to calculate the sum of first n natural numbers.

```
#include<stdio.h>

int main()
{
    int sum=0;

    int num,n;

    printf("enter the value of n:");

    scanf("%d",&num);

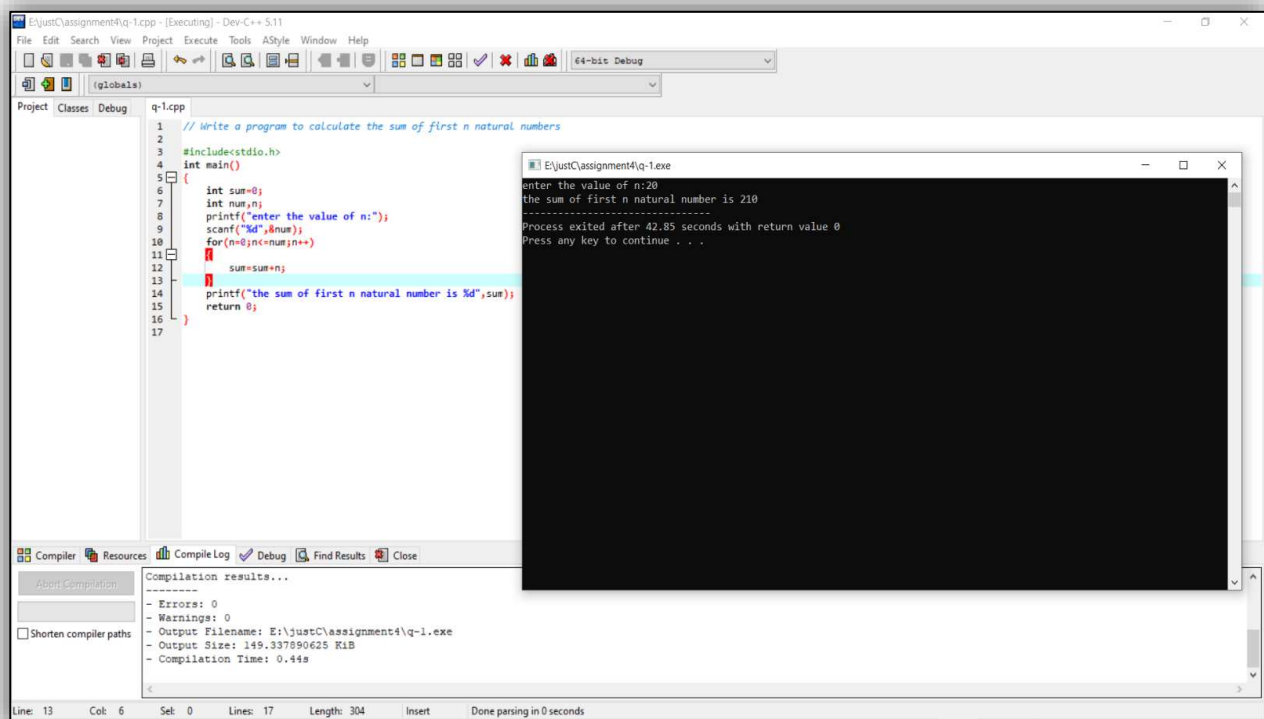
    for(n=0;n<=num;n++)
    {

        sum=sum+n;

    }

    printf("the sum of first n natural number is %d",sum);

    return 0;
}
```



2. Write a program in C to find factorial of a number.

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

```
int main()
```

```
{
```

```
    int fact=1,n;
```

```
    printf("enter the value of the number:");
```

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

```
    for(int num=1;num<=n;num++)
```

```
    {
```

```
        fact*=num;
```

```
    }
```

```
    printf("factorial of the number is %d",fact);
```

```
    return 0;
```

```
}
```

The screenshot shows a C++ IDE window titled "E:\justC\assignment4\q-2.cpp - [Executing] - Dev-C++ 5.11". The code editor displays the C program for finding the factorial of a number. The program prompts the user to enter a number, and the user has entered 5. The output shows the factorial of 5 is 120. The program has been compiled successfully, and the execution results are shown in the console window. The status bar at the bottom indicates the current line is 9, column 31, and the program is done parsing in 0 seconds.

```
1 //Write a program in C to find factorial of a number.
2
3 #include<stdio.h>
4 int main()
5 {
6     int fact=1,n;
7     printf("enter the value of the number:");
8     scanf("%d",&n);
9     for(int num=1;num<=n;num++)
10    {
11        fact*=num;
12    }
13    printf("factorial of the number is %d",fact);
14
15    return 0;
16 }
```

Compilation results...

- Errors: 0
- Warnings: 0
- Output Filename: E:\justC\assignment4\q-2.exe
- Output Size: 149.337890625 KiB
- Compilation Time: 0.41s

enter the value of the number:5
factorial of the number is 120

Process exited after 1.046 seconds with return value 0
Press any key to continue . . .

Line: 9 Col: 31 Sek: 0 Lines: 16 Length: 290 Insert Done parsing in 0 seconds

3. Write a program in C to print fibonacci sequence. (0, 1, 1, 2, 3, 5, 8, 13, 21....) upto "n"th term. Given term is sum of its two preceding terms.

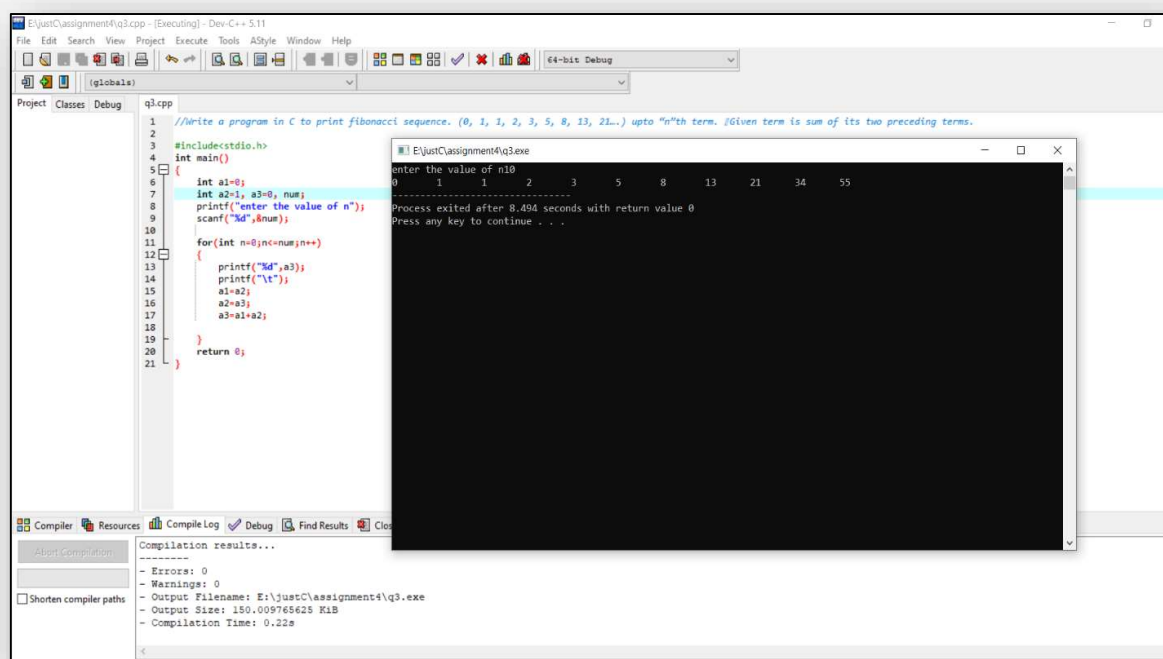
```
#include<stdio.h>

int main()
{
    int a1=0;
    int a2=1, a3=0, num;
    printf("enter the value of n");
    scanf("%d",&num);

    for(int n=0;n<=num;n++)
    {
        printf("%d",a3);
        printf("\t");

        a1=a2;
        a2=a3;
        a3=a1+a2;
    }

    return 0; }
```



4. Write a program in C to reverse a given number.

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

```
int main()
```

```
{
```

```
    int num,last,num2=0;
```

```
    printf("Enter the number you want to get eversed:");
```

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

```
    while(num!=0)
```

```
    {
```

```
        last=num%10;
```

```
        num2=num2*10+last;
```

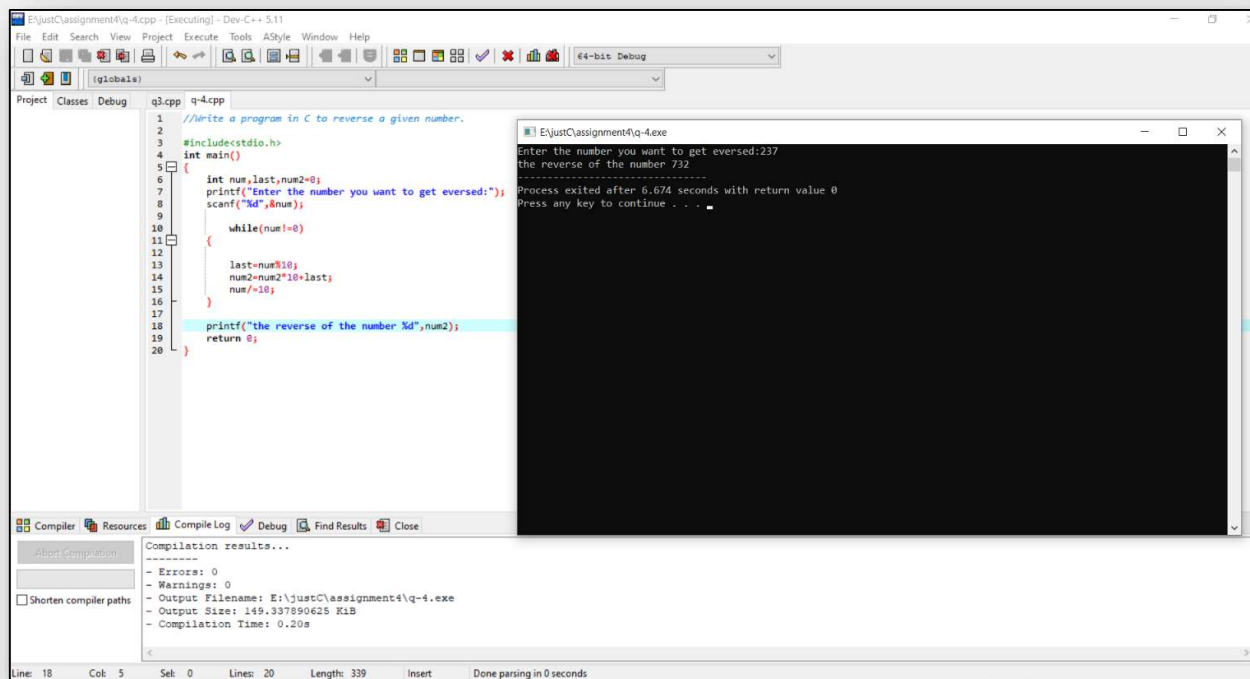
```
        num/=10;
```

```
    }
```

```
    printf("the reverse of the number %d",num2);
```

```
    return 0;
```

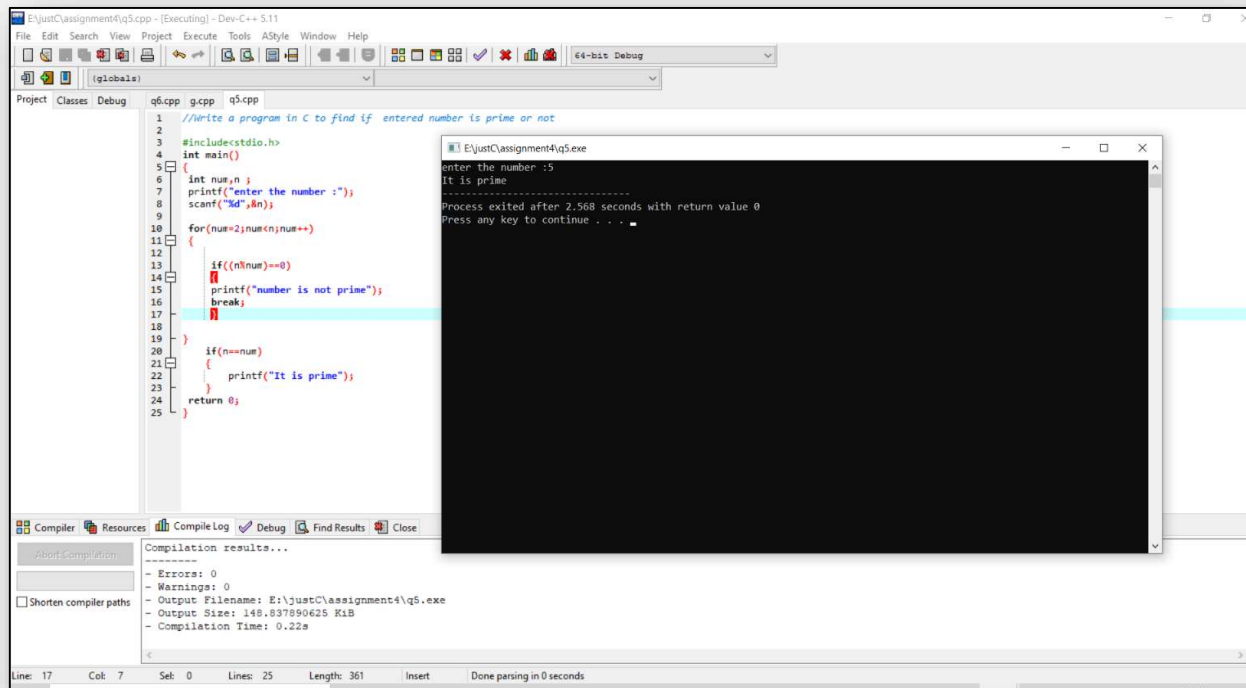
```
}
```



5. Write a program in C to find if entered number is prime or not.

```
#include<stdio.h>

int main()
{
    int num, n ;
    printf("enter the number :");
    scanf("%d",&n);
    for(num=2;num<n;num++)
    {
        if((n%num)==0)
        { printf("number is not prime"); break;
        }
    }
    if(n==num)
    { printf("It is prime");
    }
    return 0;
}
```



6. Write a program in C to display the pattern like right angle triangle with a number.

The pattern like : 1

1 2

1 2 3

:

: ...n

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

```
int main()
```

```
{
```

```
    int n;
```

```
    printf(" %d enter the no. of rows till which you want the triangle to form :");
```

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

```
    for(int num=1;num<=n;num++)
```

```
    {
```

```
        for(int num2=1;num2<num;num2++)
```

```
        {
```

```
            printf("%d",num2);
```

```
        }
```

```
        printf("%d",num);
```

```
        printf("\n");
```

```
    }
```

```
    return 0;
```

```
}
```

The screenshot shows a C++ IDE with a project named 'q6.cpp'. The code is as follows:

```
1 //Write a program in C to display the pattern like right angle triangle with a number.
2 The pattern like : 1
3           1 2
4         1 2 3 */
5
6 #include<stdio.h>
7 int main()
8 {
9
10     int n;
11     printf("Enter the no. of rows till which you want the triangle to form :");
12     scanf("%d",&n);
13
14     for(int num=1;num<=n;num++)
15     {
16         for(int num2=1;num2<=num;num2++)
17         {
18             printf("%d",num2);
19         }
20         printf("\n");
21     }
22
23     return 0;
24 }
```

The output window shows the execution of the program. It prompts the user to enter the number of rows, and the output displays a right-angled triangle pattern for 9 rows:

```
136080 enter the no. of rows till which you want the triangle to form :9
1
12
123
1234
12345
1234567
123456789
-----
Process exited after 9.886 seconds with return value 0
Press any key to continue . . .
```

The bottom panel shows the compilation results, indicating that the program compiled successfully with no errors or warnings.

Codes are uploaded on my GitHub account :
<https://github.com/prachi237/justC>

Submitted by: **Prachi Nandi** 120CS0196

-Thank you-