

Factorial of a given number using functional without recursion

```
1 //Factorial of a given number using function without recursion
2 #include <stdio.h>
3 int factorial(int num)
4 {
5     int fact=1,i;
6     for(i=num;i>=1;i--)
7     {
8         fact=fact*i;
9     }
10    return fact;
11 }
12
13 int main()
14 {
15     int number;
16     printf("Enter a number: ");
17     scanf("%d", &number);
18
19     int fact = factorial(number);
20     printf("Factorial of %d is %d\n", number, fact);
21
22     return 0;
23 }
```

Compilation results...

- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\VARMA\Documents\function without recursion.exe
- Output Size: 128.6630859375 KiB
- Compilation Time: 0.28s

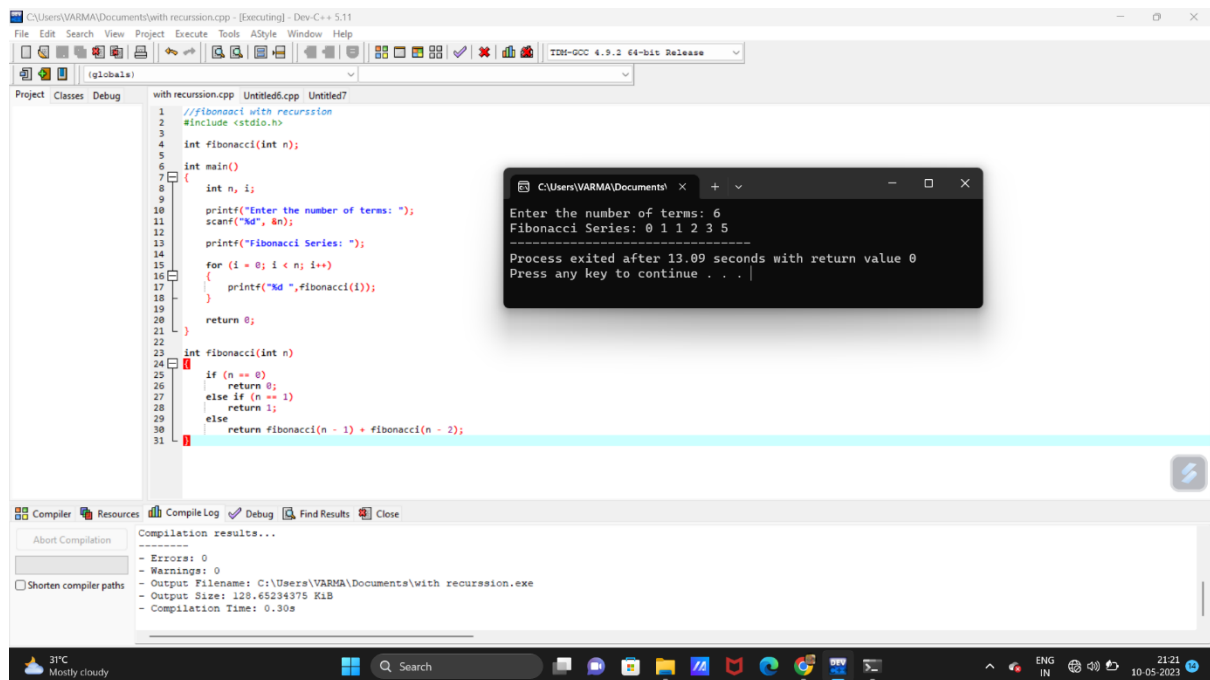
Factorial of a given number using function with recurrssion

```
1 //Factorial of a given number using function with recursion
2 #include <stdio.h>
3
4 int factorial(int n) {
5     if (n == 0 || n == 1)
6         return 1;
7     else
8         return n * factorial(n - 1);
9 }
10
11 int main()
12 {
13     int number;
14     printf("Enter a positive integer: ");
15     scanf("%d", &number);
16
17     if (number < 0)
18         printf("Error: Factorial of a negative number is undefined.");
19     else {
20         int result = factorial(number);
21         printf("Factorial of %d is %d\n", number, result);
22     }
23
24     return 0;
25 }
```

Compilation results...

- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\VARMA\Documents\number using function with recursion.exe
- Output Size: 129.173828125 KiB
- Compilation Time: 0.28s

Fibonacci with recursion



The screenshot displays a C++ IDE with a project named 'with recursion.cpp'. The code implements a recursive function to calculate the Fibonacci sequence. The main function prompts the user to enter the number of terms, which is 6. The output shows the Fibonacci series: 0 1 1 2 3 5. The process exited after 13.09 seconds with a return value of 0.

```
1 //fibonacci with recursion
2 #include <stdio.h>
3
4 int fibonacci(int n);
5
6 int main()
7 {
8     int n, i;
9
10    printf("Enter the number of terms: ");
11    scanf("%d", &n);
12
13    printf("Fibonacci Series: ");
14
15    for (i = 0; i < n; i++)
16    {
17        printf("%d ", fibonacci(i));
18    }
19
20    return 0;
21 }
22
23 int fibonacci(int n)
24 {
25     if (n == 0)
26         return 0;
27     else if (n == 1)
28         return 1;
29     else
30         return fibonacci(n - 1) + fibonacci(n - 2);
31 }
```

Compilation results...

- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\VARMA\Documents\with recursion.exe
- Output Size: 128.65234375 KiB
- Compilation Time: 0.30s

Enter the number of terms: 6
Fibonacci Series: 0 1 1 2 3 5

Process exited after 13.09 seconds with return value 0
Press any key to continue . . .