GHANA COMMUNICATION
TECHNOLOGY UNIVERSITY

INSTITUTE OF CONTINUING
AND DISTANCE EDUCATION (ICDE)

COURSE CODE	CICS 112
COURSE TITLE	Programming with C++
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DATE	19th August, 2025

THE SOURCE CODE

```cpp
#include <iostream>

using std::cin;
using std::cout;

int factorial(int num)
{
    if (num == 0)
    {
        return 1;
    }

    return num * factorial(num - 1);
}

int main()
{
    int num;
```

```cpp
    cout << "\n\n=====    FACTORIAL    =====\n\n";

    cout << "Enter a non-negative integer: ";
    cin >> num;

    if (num < 0)
    {
        cout << "Invalid input. Enter a non-negative integer: ";
        cin >> num;
    }
    else
    {
        int fact = factorial(num);
        cout << "\n\nThe factorial of " << num << " is: " << fact << "\n\n";
    }

    return 0;
}
```

SCREENSHOT OF THE SOURCE CODE

```cpp
1    #include <iostream>
2
3    using std::cin;
4    using std::cout;
5
6  > int factorial(int num)...
15
16   int main()
17   {
18       int num;
19
20       cout << "\n\n=====        FACTORIAL        =====\n\n";
21
22       cout << "Enter a non-negative integer: ";
23       cin >> num;
24
25       if (num < 0)
26       {
27           cout << "Invalid input. Enter a non-negative integer: ";
28           cin >> num;
29       }
30       else
31       {
32           int fact = factorial(num);
33           cout << "\n\nThe factorial of " << num << " is: " << fact << "\n\n";
34       }
35
36       return 0;
37   }
```

SCREENSHOT OF THE OUTPUT

```
delanyo@thedelanyo MINGW64 /d/dev/gctu_projects (main)
$ cd second_sem/cpp/factorial

delanyo@thedelanyo MINGW64 /d/dev/gctu_projects/second_sem/cpp/factorial (main)
$ ./main


=====        FACTORIAL        =====

Enter a non-negative integer: 10


The factorial of 10 is: 3628800


delanyo@thedelanyo MINGW64 /d/dev/gctu_projects/second_sem/cpp/factorial (main)
$ ./main


=====        FACTORIAL        =====

Enter a non-negative integer: 5


The factorial of 5 is: 120


delanyo@thedelanyo MINGW64 /d/dev/gctu_projects/second_sem/cpp/factorial (main)
$
```