```cpp
// FunctionRecursion_Ch 6.cpp : Defines the entry point for the console
// application.

#include "stdafx.h"
#include <iostream>
#include <iomanip>
using namespace std;

unsigned long factorial(unsigned long); // function prototype

int main() {

     // calculate the factorials of 0 - 10 and print result
     for (unsigned int counter{ 0 }; counter <= 10; ++counter) {
          cout << setw(2) << counter << "! " << factorial(counter)
               << endl;
     }

     system("pause");
    return 0;
}

// recursive definition of function factorial
unsigned long factorial(unsigned long number) {
     if (number <= 1) { // test for base case
          return 1; // base cases: 0! = 1, 1! = 1
     }
     else { // recursion step
          return number * factorial(number - 1);
     }
}
```