

## LAB REPORT 实验报告

Lab Title	Convert a Celsius temperature into its Fahrenheit equivalent			Lab No.	01
Stud. Name		Major	Computer Science & Technology	Class	
Student ID			Date		

**Lab description/objectives:**

1. Modify example Program 2.9 in section 2.6 to convert a Celsius temperature into its Fahrenheit equivalent.
2. By using the formula  $1^2+2^2+3^2+\dots+n^2 = n(n+1)(2n+1)/6$ , write a C program to calculate:  $10^2+11^2+\dots+20^2$ .

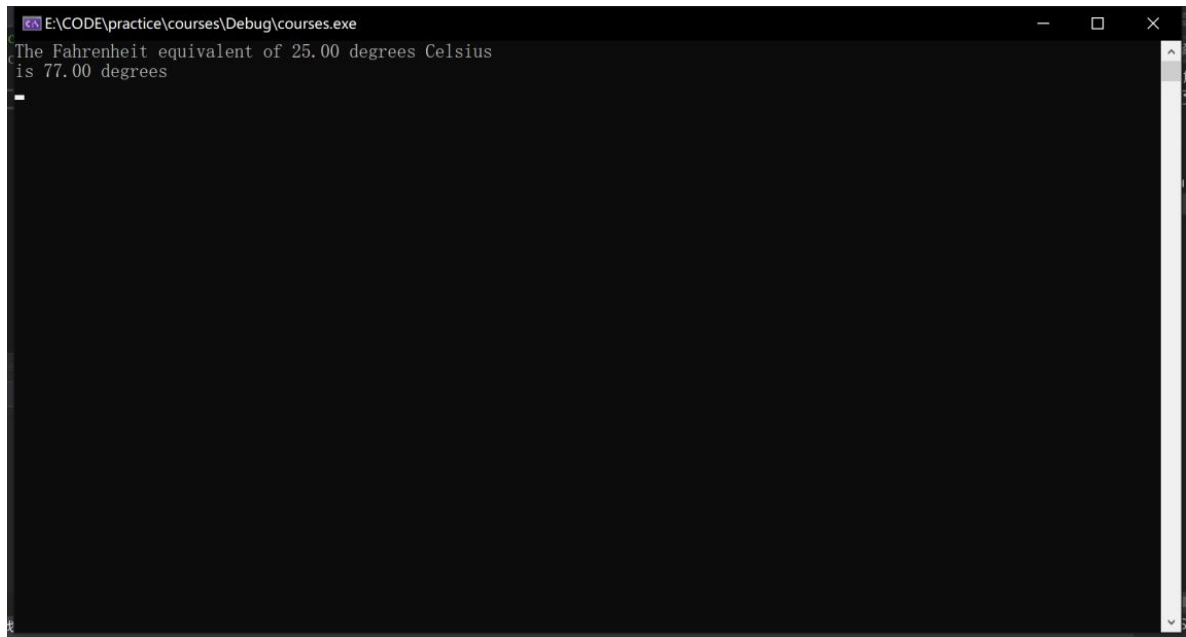
**Source code:****1.**

```
/* convert a Celsius temperature to Fahrenheit */
#include <stdio.h>
int main() {
    double celsius = 25; /* declaration and initialization */
    double fahrenheit;
    fahrenheit = 9.0 / 5.0 * celsius + 32.0;
    printf("The Fahrenheit equivalent of %5.2f degrees Celsius\n", celsius);
    printf("is %5.2f degrees\n", fahrenheit);
    return 0;
}
```

**2.**

```
#include <stdio.h>
int main() {
    int out = 0;
    int n1 = 20;
    int n2 = 9;
    out = n1 * (n1 + 1) * (2 * n1 + 1) / 6 - n2 * (n2 + 1) * (2 * n2 + 1) / 6;
    printf("%d", out);
    return 0;
}
```

**Program outputs:**



A screenshot of a Windows command prompt window. The title bar reads "E:\CODE\practice\courses\Debug\courses.exe". The window contains the following text: "The Fahrenheit equivalent of 25.00 degrees Celsius is 77.00 degrees". A small cursor is visible on the line below the output.

```
E:\CODE\practice\courses\Debug\courses.exe
The Fahrenheit equivalent of 25.00 degrees Celsius
is 77.00 degrees
```



A screenshot of the Microsoft Visual Studio Debug Console. The title bar reads "Microsoft Visual Studio 调试控制台". The window contains the following text: "2585 E:\CODE\practice\courses\Debug\courses.exe (进程 25716) 已退出，代码为 0。要在调试停止时自动关闭控制台，请启用“工具”->“选项”->“调试”->“调试停止时自动关闭控制台”。按任意键关闭此窗口。...".

```
Microsoft Visual Studio 调试控制台
2585
E:\CODE\practice\courses\Debug\courses.exe (进程 25716) 已退出，代码为 0。
要在调试停止时自动关闭控制台，请启用“工具”->“选项”->“调试”->“调试停止时自动关闭控制台”。
按任意键关闭此窗口。...
```

**Discussion:**

1. **Most difficult parts**

Clearly realize the relationship between 2 degrees, use correct expression to calculate.

2. **Bugs and/or Errors**

Forgot to use float number in the expression, finally caused the program had a wrong output.