

## LAB REPORT 实验报告

Lab Title	while, switch, EOF			Lab No.	04
Stud. Name		Major	CST	Class	
Student ID			Date		

**Lab description/objectives:**

Write a program that converts an input temperature from degrees Celsius to degrees Fahrenheit and vice versa. The program will terminate when an EOF sentinel is entered.

1) Use "38C" for Celsius or "75F" for Fahrenheit

2) EOF: CTRL-D (unix-style systems, online compilers) or CTRL-Z (Windows)

**Source code:**

```
#include <stdio.h>

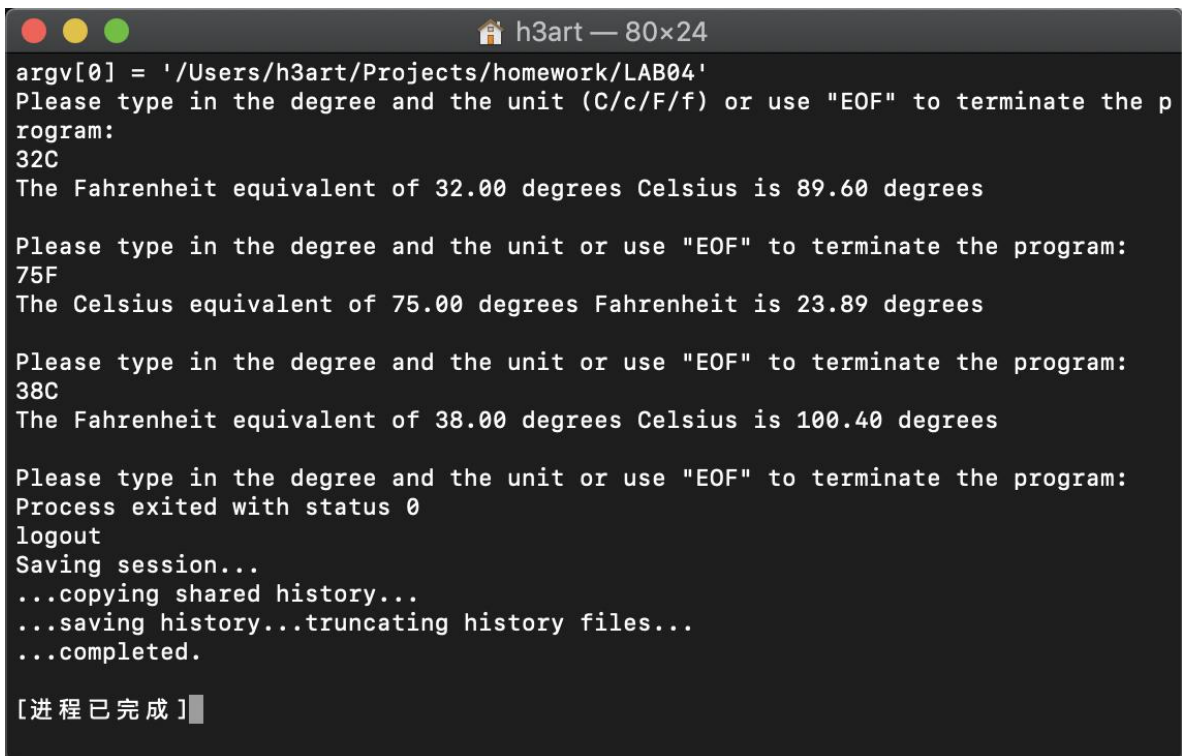
int main()
{
    double degree = 0, celsius = 0, fahrenheit = 0;
    char symbol;

    printf("Please type in the degree and the unit (C/c/F/f) or use \"EOF\" to terminate the program:\n");

    while (scanf("%lf%c", &degree, &symbol) != EOF) {
        if (symbol == 'c' || symbol == 'f') {
            symbol -= 32;
        }

        switch (symbol) {
            case 'C':
                fahrenheit = 9.0 / 5.0 * degree + 32.0;
                printf("The Fahrenheit equivalent of %5.2f degrees Celsius is %5.2f degrees\n\n", degree, fahrenheit);
                break;
            case 'F':
                celsius = 5.0 / 9.0 * (degree - 32.0);
                printf("The Celsius equivalent of %5.2f degrees Fahrenheit is %5.2f degrees\n\n",
```

```
, degree, celsius);  
  
    break;  
  
}  
  
printf("Please type in the degree and the unit or use \"EOF\" to terminate the program:\n");  
  
}  
  
return 0;  
  
}
```

**Program outputs:**

```
h3art — 80x24  
argv[0] = '/Users/h3art/Projects/homework/LAB04'  
Please type in the degree and the unit (C/c/F/f) or use "EOF" to terminate the program:  
32C  
The Fahrenheit equivalent of 32.00 degrees Celsius is 89.60 degrees  
  
Please type in the degree and the unit or use "EOF" to terminate the program:  
75F  
The Celsius equivalent of 75.00 degrees Fahrenheit is 23.89 degrees  
  
Please type in the degree and the unit or use "EOF" to terminate the program:  
38C  
The Fahrenheit equivalent of 38.00 degrees Celsius is 100.40 degrees  
  
Please type in the degree and the unit or use "EOF" to terminate the program:  
Process exited with status 0  
logout  
Saving session...  
...copying shared history...  
...saving history...truncating history files...  
...completed.  
  
[进程已完成]
```

**Discussion:**

1. Most difficult parts  
Use “EOF” Judgment in while loop.
2. Bugs and/or Errors