세계 속의 빛
이공계 대학

Computer Programming

Lab3

Mar 28, 2025

Ex3

- Write a program that converts temperatures from 10°C to a user-specified temperature into Fahrenheit. The program should use the formula:
  - $\text{Fahrenheit}=(\text{Celsius}\times\frac{9}{5})+32$

Ex3

- **Program output**

```
[ohyong@cse Lab3]$ vi ex3_3.c
[ohyong@cse Lab3]$ gcc ex3_3.c -o ex3_3
[ohyong@cse Lab3]$ ./ex3_3
Enter the temperature in Celsius to stop at: 20
Celsius to Fahrenheit Conversion from 10C to 20.00C:
10.00C = 50.00F
11.00C = 51.80F
12.00C = 53.60F
13.00C = 55.40F
14.00C = 57.20F
15.00C = 59.00F
16.00C = 60.80F
17.00C = 62.60F
18.00C = 64.40F
19.00C = 66.20F
20.00C = 68.00F
```

```
[ohyong@cse Lab3]$ ./ex3_3
Enter the temperature in Celsius to stop at: 16
Celsius to Fahrenheit Conversion from 10C to 16.00C:
10.00C = 50.00F
11.00C = 51.80F
12.00C = 53.60F
13.00C = 55.40F
14.00C = 57.20F
15.00C = 59.00F
16.00C = 60.80F
```

Ex extra1

- Write a program that prompts the user to enter positive integers and calculates the sum of all the entered numbers. The program should stop when the user enters `0` and display the total sum of the entered numbers.

Ex extra1

- **Program output**

```
[ohyong@cse Lab3]$ vi ex3_extra1.c
[ohyong@cse Lab3]$ gcc ex3_extra1.c -o ex3_extra1
[ohyong@cse Lab3]$ ./ex3_extra1
Enter positive integers (enter 0 to stop): 5
10
15
0
Sum of entered numbers: 30
```

```
[ohyong@cse Lab3]$ ./ex3_extra1
Enter positive integers (enter 0 to stop): 3 8 2 4 0
Sum of entered numbers: 17
```

Ex extra2

- Write a program that takes a positive integer *n* from the user and calculates and prints *n*! (factorial). Use a *while* loop. Factorial is defined as follows:
  - $n! = n \times (n-1) \times (n-2) \times \ldots \times 1$

  (0! = 1)

Ex extra2

- **Program output**

```
[ohyong@cse Lab3]$ vi ex3_extra2.c
[ohyong@cse Lab3]$ gcc ex3_extra2.c -o ex3_extra2
[ohyong@cse Lab3]$ ./ex3_extra2
Enter a number: 5
5! = 120
```

```
[ohyong@cse Lab3]$ ./ex3_extra2
Enter a number: 0
0! = 1
```

```
[ohyong@cse Lab3]$ ./ex3_extra2
Enter a number: -3
Factorial is not defined for negative numbers.
```

Submission

- **Submit to server**

Lab #

Class #

At the end of the Lab3, submit your C sources file by typing

~gs1401/bin/submit Lab3_4 ex3_3.c ex3_extra1.c ex3_extra2.c // by Fri. 11:50

You may check that you have submitted your source code correctly by typing

~gs1401/bin/submit -check