

**Name: Bibek Dhungana****Lab 2 - In Lab Assignment**

Due end of the lab session

Acknowledge your collaborators or source of solutions, if any. **Submission by the end of the LAB is required.** Please type your answers, handwritten submission will not be accepted. Do all of the following. A subset of your solutions will be graded.

- 1) What will the following program print?

```
#include <stdio.h>

int main(void) {
    int x=5;
    int y=7;
    int z=50;

    if (!(x < y && z > (z/x - y))){
        printf("Case 1\n");
    } else {
        printf("Case 2\n");
    }

    return 0;
}
```

**OUTPUT: Case 2**

It is simply if else condition.  $x < y$  is true.

$z > z/(x-y)$  is true.

So, overall condition is true. But there is negation(!). So, the if condition becomes false.

Hence, else part is executed. Case 2 is printed.

- 2) Write a program that asks the user to enter a temperature in Fahrenheit and convert the temperature to Kelvin. You need to use functions for the calculation using the formula given below. Print the results using a meaningful statement (see example).

Formula:

$$K = (F - 32) \times 5/9 + 273.5$$

K represents the output in kelvin

F represents input in Fahrenheit

Sample input and output:

Input: Please enter the temperature in Fahrenheit: 100

Output: The temperature in Kelvin is 311.28.

```
/*
//AUTHOR: Bibek Dhungana
//FILENAME: Lab2.c
//SPECIFICATION: program that asks the user to enter a temperature in Fahrenheit
and convert the temperature to Kelvin
//FOR: CS 1412 Programming Principles 2 Section 504
*/

//importing all the required libraries
#include <stdio.h>

/*function prototype for fahrenheitToKelvin function*/
double fahrenheitToKelvin(double fahrenheitTemp);

int main(void) {
    /*initializing the variables to store kelvin temperature and fahrenheit temperature*/
    double kelvinTemp;
    double fahrenheitTemp;

    /*taking fahrenheit temperature from user as input*/
    printf("Please enter the temperature in Fahrenheit:");
    scanf("%lf",&fahrenheitTemp);

    /*calling the fahrenheitToKelvin function*/
    kelvinTemp = fahrenheitToKelvin(fahrenheitTemp);

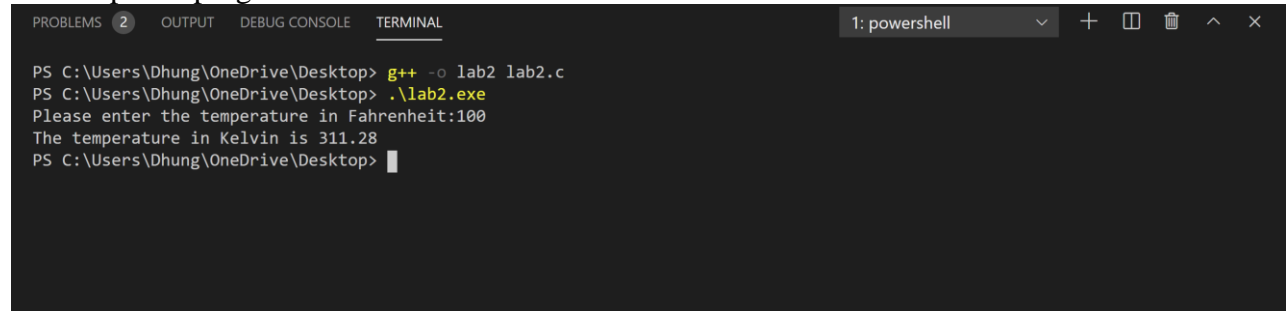
    /*Printing the output to the user*/
    printf("The temperature in Kelvin is %.2f\n",kelvinTemp);

    return 0;
}

/*
//function declaration of fahrenheitToKelvin
//NAME: fahrenheitToKelvin
//INPUT: Double (temperature in fahrenheit)
//OUTPUT: Double (temperature in Kelvin)
//SPECIFICATION: function to convert fahrenheit to Kelvin
*/
double fahrenheitToKelvin(double fahrenheitTemp){
    double kelvin;
    kelvin = (fahrenheitTemp - 32.0) * (5.0/9.0) + 273.5;
```

```
    return kelvin;  
}
```

The output of program is:



The screenshot shows a Visual Studio Code terminal window with the following content:

```
PROBLEMS 2 OUTPUT DEBUG CONSOLE TERMINAL  
1: powershell  
PS C:\Users\Dhung\OneDrive\Desktop> g++ -o lab2 lab2.c  
PS C:\Users\Dhung\OneDrive\Desktop> .\lab2.exe  
Please enter the temperature in Fahrenheit:100  
The temperature in Kelvin is 311.28  
PS C:\Users\Dhung\OneDrive\Desktop> |
```