Department of Electrical and Computer Engineering
University of Massachusetts Dartmouth

ECE160: Foundations of Computer Engineering I (Spring 2023)
Instructor: Dr. Liudong Xing

LAB #2

January 30, Monday (L1) and February 1, Wednesday (L2)

OBJECTIVES

1) To practice how to enter, compile and run the C programs using Microsoft's Visual Studio.
2) To practice the use of constants
3) To practice defining and declaring variables.

SUBMISSION REQUIREMENT

1. Please follow "Submission Guidelines" in the lab section of the course website to submit your solution (cpp files) to the class M: drive by **5pm, February 1**.
2. Suggested format for naming your solution files: lab#-your last name-p#.cpp
   For example: lab2-xing-p1.cpp for problem 1; lab2-xing-p2.cpp for problem 2; …

EXERCISES

1. Type, compile, and run this program, and correct any errors you may find:

```
#include "stdio.h"
 void main(void)
 {
        printf('Today is Monday.')
 }
```

2. C code consists of a number of tokens. A C token is the smallest element that C compiler does not break down into smaller parts. A token can be a function name (e.g., main, printf) or a C keyword (e.g., int, char). All tokens should be written continuously. Between tokens, white space characters (e.g., blank, tab, carriage return) can be inserted, but this is optional. In summary, it is acceptable to add blanks between tokens but not acceptable to add blanks within tokens.

   Type, compile, and run this program, correct any errors you may find.

```
#include "stdio.h"
 void ma  in(void)
 {
        Printf   ("Tomorrow is Saturday."      )   ;     }
```

3. Type, compile, and run this program, correct any errors you may find.

```
#include "stdio.h"
int main(void)
{
	float celsius;
	float fahrenheit;
	float temp;
	float constant;
	printf("This program converts Celsius  to Fahrenheit.\n");
	printf("Please enter a Celsius temperature.\n");
	scanf_s("%f", &celsius);
	constant = 9.0/5.0;
	temp = constant*Celsius;
	fahrenheit = Temp+32;
	printf("The temperature in Fahrenheit is: %f\n", fahrenheit);
	return 0;
}
```

4. Modify the program in problem 3 (after correcting the errors) by changing the Literal Constants 9.0, 5.0, and 32 to **Defined Constants** using names c1, c2, and c3, respectively. Then compile and run the modified program.

5. Modify the program in problem 3 (after correcting the errors) by changing the Literal Constants 9.0, 5.0, and 32 to **Memory Constants** using the **float** type and names c1, c2, and c3, respectively. Then compile and run the modified program.