COS 135 Individual Assignment 4

Due: Monday 02/21/22 End of the day

What to submit:

- Please submit a .zip file with source codes.

[10 pts] **Comments** are required in the following locations (in each C source code):

- At the top of the source code comment your name and a short program description.
- Comment the purpose of each variable.
- Comment major sections of code such as input, processing, and output.

Program Design: Your program is a professional document and must be neat and easy to read. All programs should follow these specifications.

- Comments should be aligned and entered in a consistent fashion
- Blank lines should be added to aid readability
- Code within blocks should be indented
- Comments should not contain spelling mistakes
- Variables names should be meaningful

Write C programs for following tasks and submit your source codes (you must submit .c files without errors). Sample Program inputs are highlighted in yellow.

(a) **[20 pts]** Write a C program to input width and length of a rectangle. Then compute and output the area of the given rectangle.

Sample program output and input:

Enter width = **12**
Enter length = **6**

Output:

Area of the rectangle = 72

(b) **[20 pts]** Write a C program to input temperature in Fahrenheit and convert to Celsius. The output should **only show maximum three decimal points**.

Use following mathematical formula for temperature conversion:

F = (1.8 * C) + 32

where,

F = Temperature in Fahrenheit

C = Temperature in degree Celsius

Sample program output and input:

Enter temperature in Fahrenheit = **200**

Output:

Temperature in Celsius = 93.333 C

(c) **[50 pts]** Write a C program to input a student's name, and grades of four subjects (a single character subject code and final grade, a pair at a time). Then, the program outputs the total and average grade (**up to two decimal points**) for the student. Two example program inputs and outputs are shown below.

Sample program output and input:	*Sample program output and input:*
Enter the student's name: James Teh Enter subject code 1 and grade: S 90 Enter subject code 2 and grade: T 89 Enter subject code 3 and grade: E 79 Enter subject code 4 and grade: M 85	Enter the student's name: Tim Merrit Enter subject code 1 and grade: C 84 Enter subject code 2 and grade: A 99 Enter subject code 3 and grade: P 81 Enter subject code 4 and grade: B 93
Output: Final grades for James Teh Total for STEM: 343 Average: 85.75%	*Output:* Final grades for Tim Merrit Total for CAPB: 357 Average: 89.25%