# ICS3U GUI Assignment #1

This assignment will focus on Tkinter/GUI basics.

*- Main window*

*- Widgets*

*- Geometry Management Methods*

* *Pack()*
* *Grid*
* *Place*

*- IPO model*

## Curriculum Expectations:

**A2.1** write programs that incorporate user input, processing, and screen output.

**A3.2** write subprograms (e.g., functions, procedures) that use parameter passing and appropriate variable scope (e.g., local, global), to perform tasks within programs.

**B1.2** demonstrate the ability to solve problems independently and as part of a team.

**B1.3** use the input-process-output model to solve problems.

**B2.5** design user-friendly software interfaces (e.g., prompts, messages, screens, forms).

**C3.2** work independently, using support documentation (e.g., IDE Help, tutorials, websites, user manuals), to design and write functioning computer programs.

## Create a Python GUI for the following application:

1. The formulas for converting temperature from degrees Fahrenheit to degrees Celsius and vice versa is given below:

**C = (F - 32) / 1.8**

**F =  C × 1.8 + 32**

1. The user will indicate that the **input** temperature is Fahrenheit or indicate that the input temperature is Centigrade.
2. If the temperature inputted is Fahrenheit **convert** it to Celsius and if it is Celsius **convert** it to Fahrenheit.
3. **Output** the results with a message that states:

“ \_\_\_ degrees Celsius is equal to \_\_\_ degrees Fahrenheit”

1. Your GUI **must** also use the following widgets:
   1. Radio button **or** Tabs
   2. Label
   3. Entry
   4. Button
   5. A widget that can display multiple lines of text
2. **BONUS**: Depending on your definition of what is cold, cool, warm, and hot, change the background to blue and red respectively.

**Sample output:**

15 degrees Celsius is equal to 59 degrees Fahrenheit.

Save as: **tempConvGUI.py**

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| **GUI Programming Rubric** | | | | |
| **Categories** | **Level 1 (50 - 59%)** | **Level 2 (60 - 69%)** | **Level 3 (70 - 79%)** | **Level 4 (80 - 100%)** |
| **A3.2 write subprograms (e.g., functions, procedures) that use parameter passing and appropriate variable scope (e.g., local, global), to perform tasks within programs** | -demonstrates limited knowledge of content | -demonstrates some knowledge of content | -demonstrates considerable knowledge of content | -demonstrates thorough knowledge of content |
| **A2.1 write programs that incorporate user input, processing, and screen output** | applies knowledge and skills with limited effectiveness | - applies knowledge and skills with some effectiveness | - applies knowledge and skills with considerable effectiveness | - applies knowledge and skills with a high degree of effectiveness |
| **B2.5 design user-friendly software interfaces (e.g., prompts, messages, screens, forms).** | - applies knowledge and skills with limited effectiveness | - applies knowledge and skills with some effectiveness | - applies knowledge and skills with considerable effectiveness | - applies knowledge and skills with a high degree of effectiveness |