LAB 2402 Sec 351 Graphical User Interfaces (GUI)

GUI Concepts

GUI in Python is typically implemented using the TKinter library, which provides a simple way to create windows, dialogs, buttons, and other graphical elements.

Tkinter follow an event-driven programming paradigm, where the GUI responds to user actions like button clicks or key presses, Developer can define functions, knowns as event handlers, to executes specific actions when these events occur.

Creating a simple Tkinter GUI involves creating an instance of the Tk class which represents the main window, and then adding various windows to it. Widgets can be configured with different properties such as text, color, and size, to customize their appearance.

As users interact with the GUI, events trigger the associated event handlers, allowing developers to implements the desired functionality.

Task 1 Write a program to create a window and add button(widget) for showing a message box.

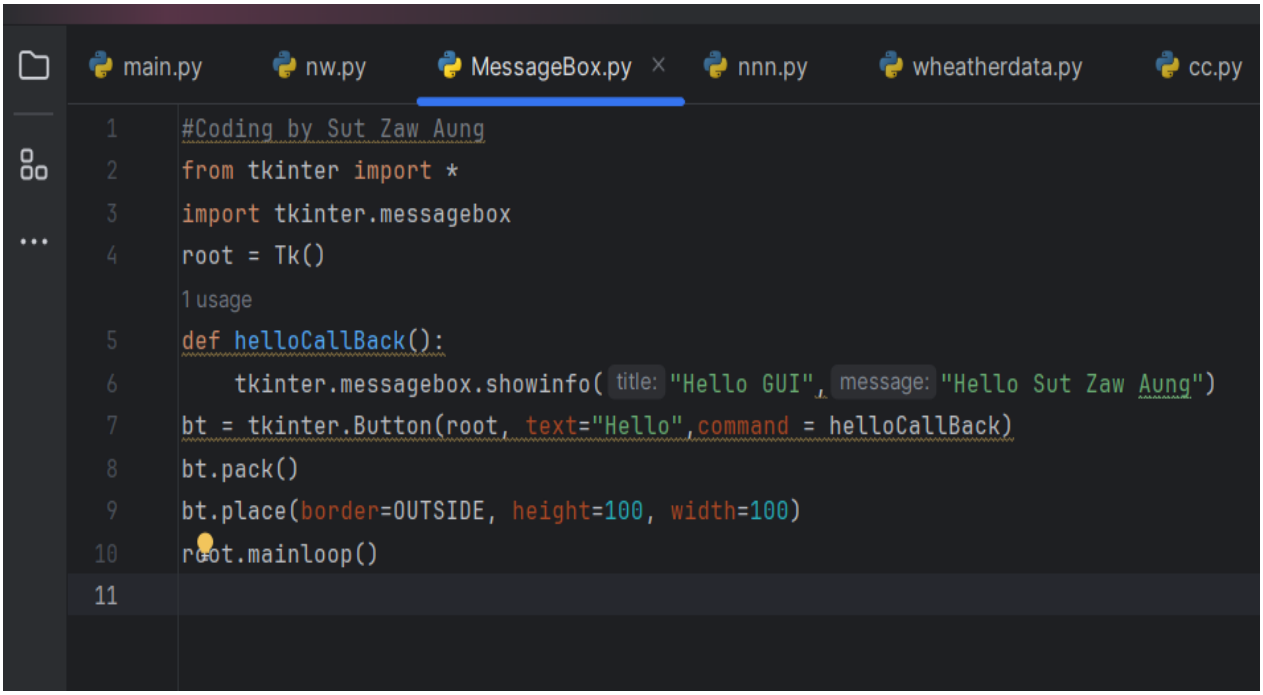

Figure 1.1 shown the source code that created the main window, then added the button into it (helloCallback is a function that will be called when the button is clicked)

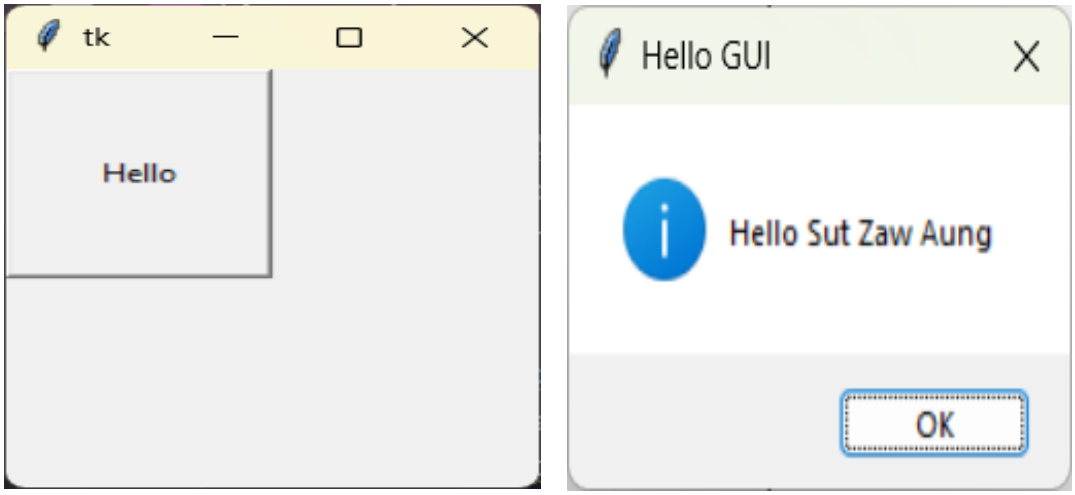

Figure 1.2 Shown the output of the main window and button that users can interact with this GUI, events trigger the associated event handlers.

Task 2 Write a program to create a window and add radio button (widget) into it.

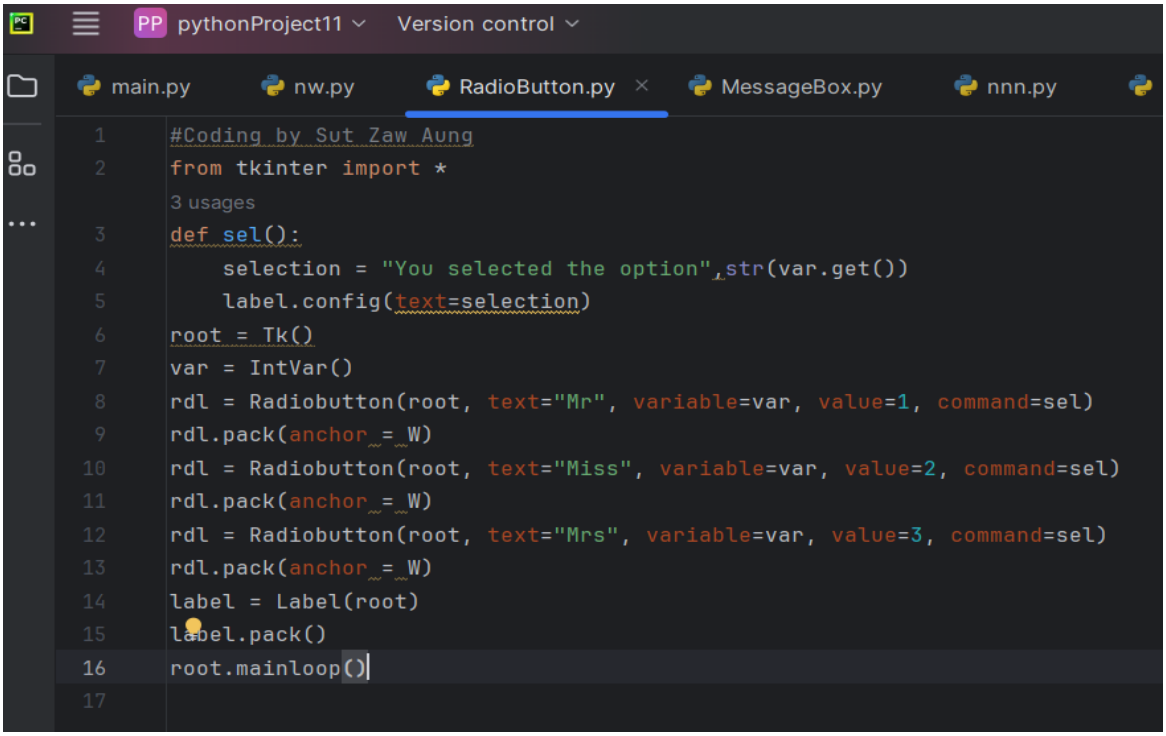

Figure 2.1 Shown the source code that created the main window and added the radio button into it.

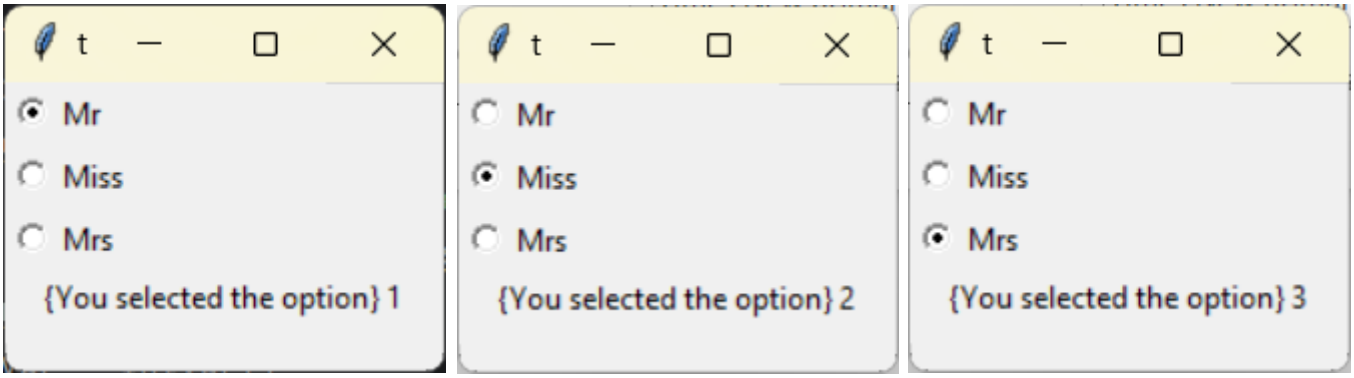

Figure 2.2 when the radio button is selected, the option (label) will be shown.

Task 3 Write a program to create a window and add entry, label, and buttons (widgets) into it.

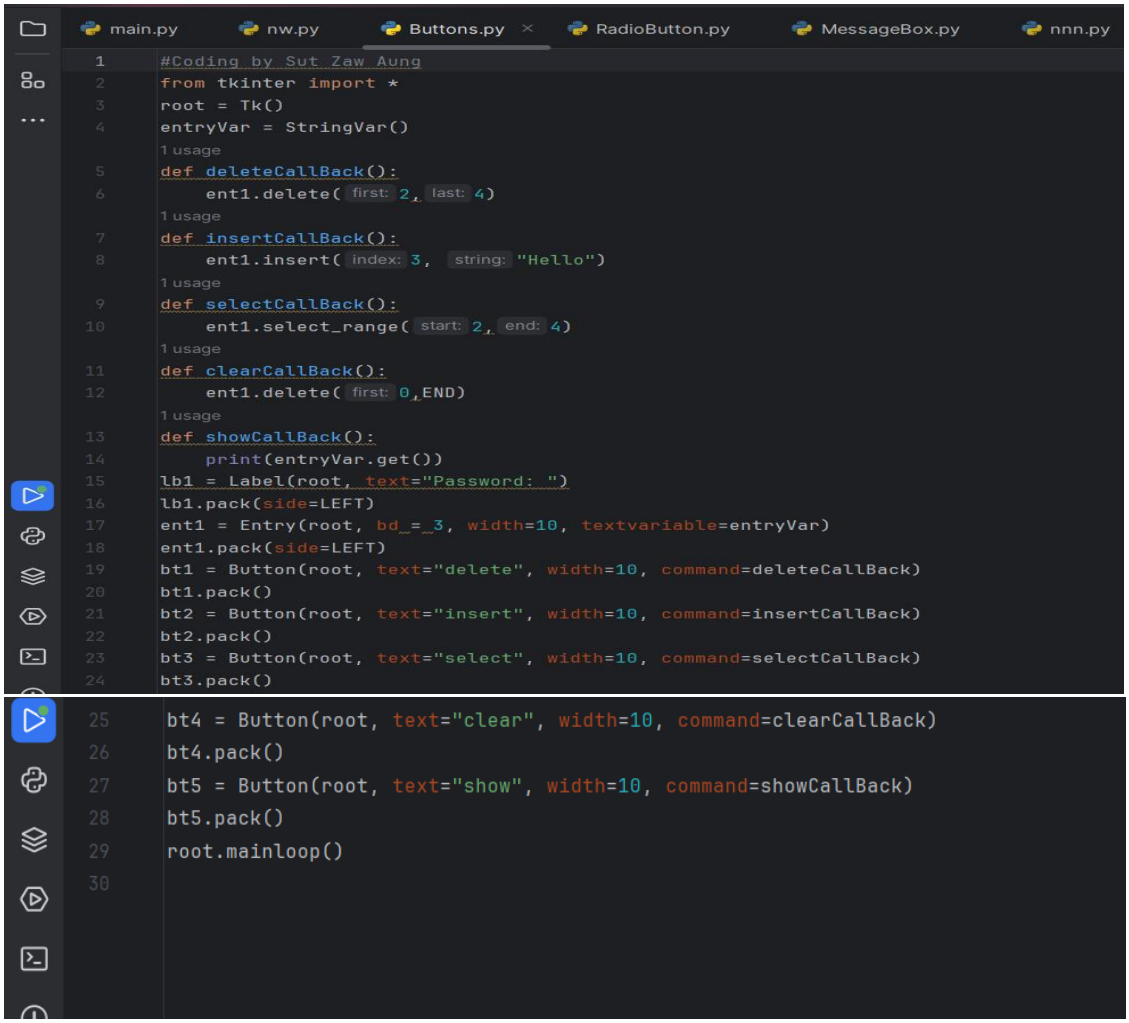

Figure 3.1 shown the source code that called the five functions by the five button such as, delete, insert, clear, and show buttons.

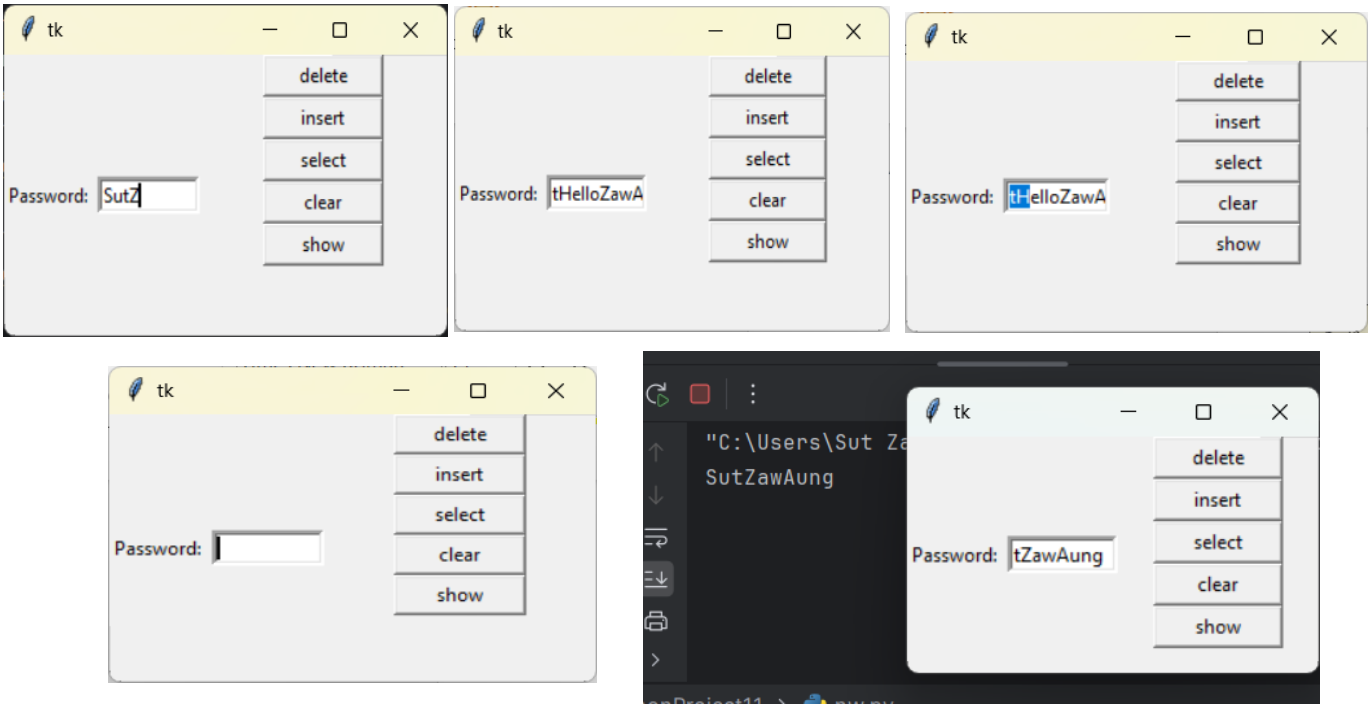

Figure 3.2 shown the output that test the five buttons such as delete, insert, select, clear, and show respectively (all characters will be shown at the termina/console when the “show” button is clicked)

Task 4 Write a program to draw color system.

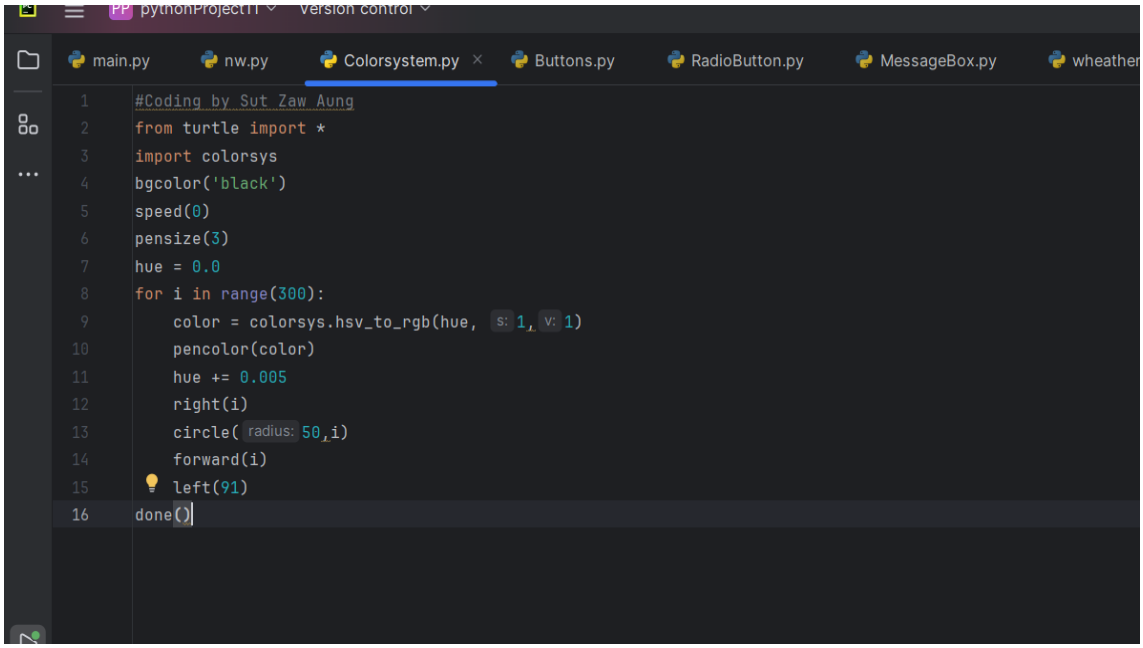

Figure 4.1 shown the source code that imported the colorsys module, which provides functions for converting colors between different color systems, set the width of the pen to 3 pixels, and the started a for loop that will iterate 300 times.

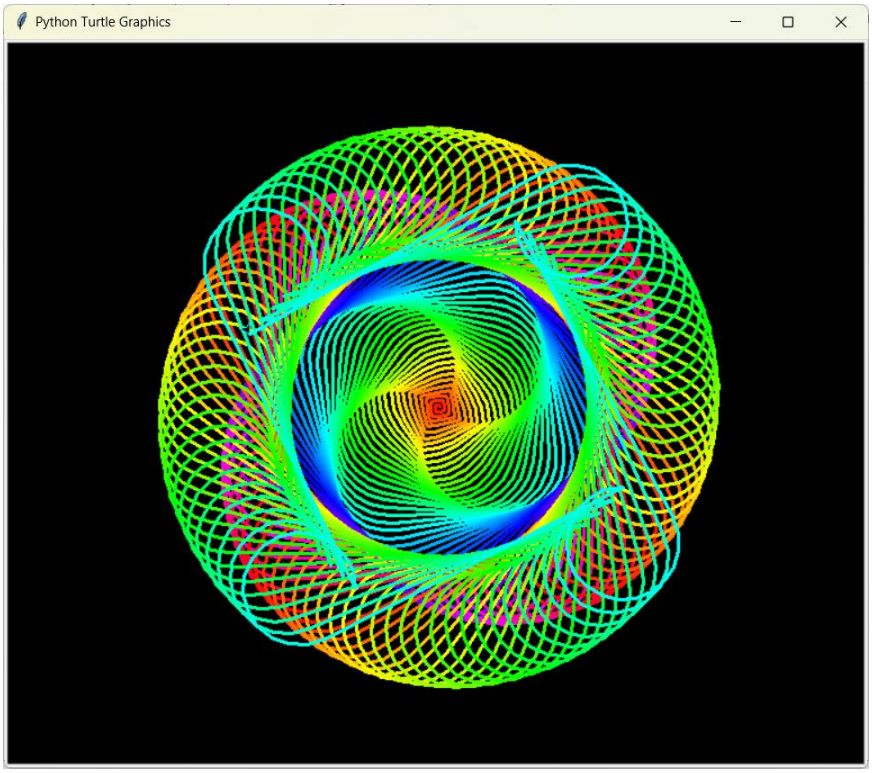

Figure 4.2 shown the output that generated by the functions for converting colors between different color system.