Activity Name # 8

Laboratory Activity 8 - The Selection Widget

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1. Objectives

In this section, the goals in this laboratory are:

- To create a Python program that use selection widget like Combobox
- To use ttk function as part of Tk ( ) in the Tkinter module

2. Intended Learning Outcomes (ILO)

After this activity, the student should be able to:

- Be able to understand the concept of GUI using Python Tkinter library
- Be able to implement the use of Python Tkinter library applying combobox
- Be able to implement immediate feedback in GUI using Python Tkinter

3. Discussion:

The program is a GUI (Graphical user Interface) with the use of the Tkinter module in Python. When you run the program it lets you select your month of birth, the general purpose of this program is to have you select your birth month with the use of Tkinter's functions like combo boxes and selection widgets. The program notifies you by making a smaller window appear in front of you and what month you selected in the program.

4. Materials and Equipment

- PyCharm
- Spyder(Anaconda)

5. Procedure

Step by step in constructing the combobox:

1. **In Order to developed the combobox we must first the the packages and import to the py project such as: Tkinter, messagebox, showinfo. The expected output is shown in figure 2.**

```
import tkinter as tk
from tkinter import ttk
from tkinter import messagebox
from tkinter.messagebox import showinfo
```

Figure 1. Imported libraries

2. Next is the creation of the development of the dimension and the assignment of the tk.Tk() function into a variable inorder to prevent redundant calling it into a functions and enclosing it with a loop function so that the UI doesn't stop showing until the user press the x button.

```
window = tk.Tk()
window.title('Combobox')
window.geometry('500x250')

window.mainloop()
```

Figure 2. Main Window

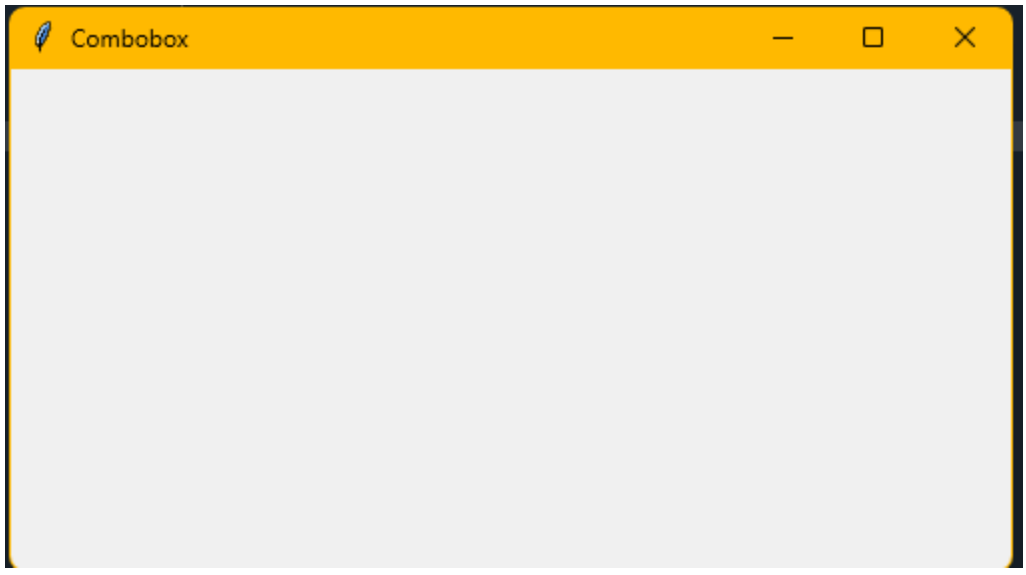

Figure 3. Output Window

3. Next is the creation of the Labels that will be inserted into the UI

```
# Label text for title
ttk.Label(window, text="Choose your birth month",
          background='light yellow', foreground="black",
          font=("Times New Roman", 15)).grid(row=0, column=1)

# Set label
ttk.Label(window, text="Select the month of your birth :",
          font=("Times New Roman", 12)).grid(column=0, row=5, padx=5,
pady=25)
```

Figure 4. Code for Labels

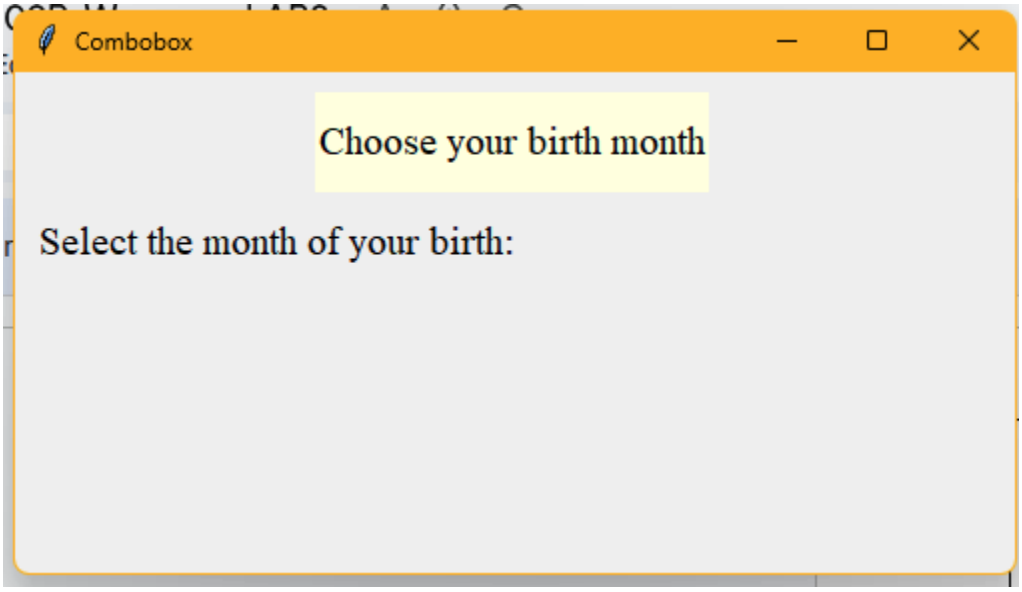

Figure 5. Output of step 3

4. Next is the development of the combo box, in order to develop the combo box, first we created a list of months in a year which will serve as a list for the selection of the user once the combobox is clicked. For the development of the combobox we created an “n” variable with stringVar in it so it can be access in the showinfo under the function "choice". Then create the combobox command.

```
n = tk.StringVar()
month = ttk.Combobox(window,width = 27, textvariable= n)

month ['values']=('January','February','March','April', 'June',' July','August','September','October','November','December')
month.place(x = 250, y= 68, height = 30)
month.current()
```

Figure 6. Creating Combobox

Figure 7. Output Combobox

5. **Lastly, is the development of the showinfo command. The purpose of this is it will show a notification to the user once he/she chose between the selection in the combobox.**

```
1 usage
def choice(event):
    showinfo(title="Selection",message= f'You selected {n.get()}')


month.bind("<<ComboboxSelected>>",choice)
```

Figure 8. Code for Choice Event

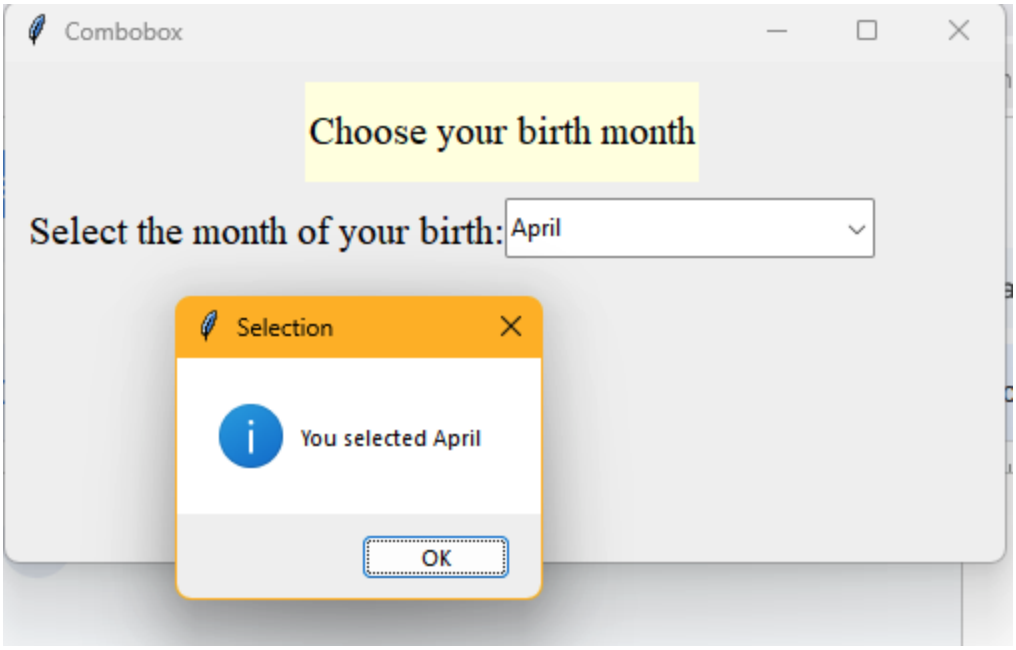

Figure 9. Output of the Program

After following the instructions in the procedure we were able to develop and implement the correct execution of the program: The combobox in the program shows the information that is provided and the selection widgets lets the user select their month of birth. We explained each block of the codes and their function in the provided program of the laboratory.

6. Output

Code:

```
import tkinter as tk
from tkinter import ttk
from tkinter import messagebox
from tkinter.messagebox import showinfo

# Creating tkinter window and set dimensions
window = tk.Tk()
window.title('Combobox')
window.geometry('500x250')

# Label text for title
ttk.Label(window, text="Choose your birth month",
          background='light yellow', foreground="black",
          font=("Times New Roman", 15)).grid(row=0, column=1)

# Set label
ttk.Label(window, text="Select the month of your birth :",
          font=("Times New Roman", 12)).grid(column=0, row=5, padx=5, pady=25)

# Create Combobox
n = tk.StringVar()
month = ttk.Combobox(window, width=27, textvariable=n)

# Adding combobox drop down list
month['values'] = (' January',
                   ' February',
                   ' March',
                   ' April',
                   ' May',
                   ' June',
                   ' July',
                   ' August',
                   ' September',
                   ' October',
                   ' November',
                   ' December')
month.grid(column=1, row=5)
month.current(0)  # Set the default selection

# Function to handle selection
def choice(event):
    showinfo(
        title="Selection",
        message=f'You selected {n.get()}'
    )

# Bind the combobox selection event
month.bind("<<ComboboxSelected>>", choice)

# Run the application
window.mainloop()
```

Figure 10 . Complete Code of the Program

Output:

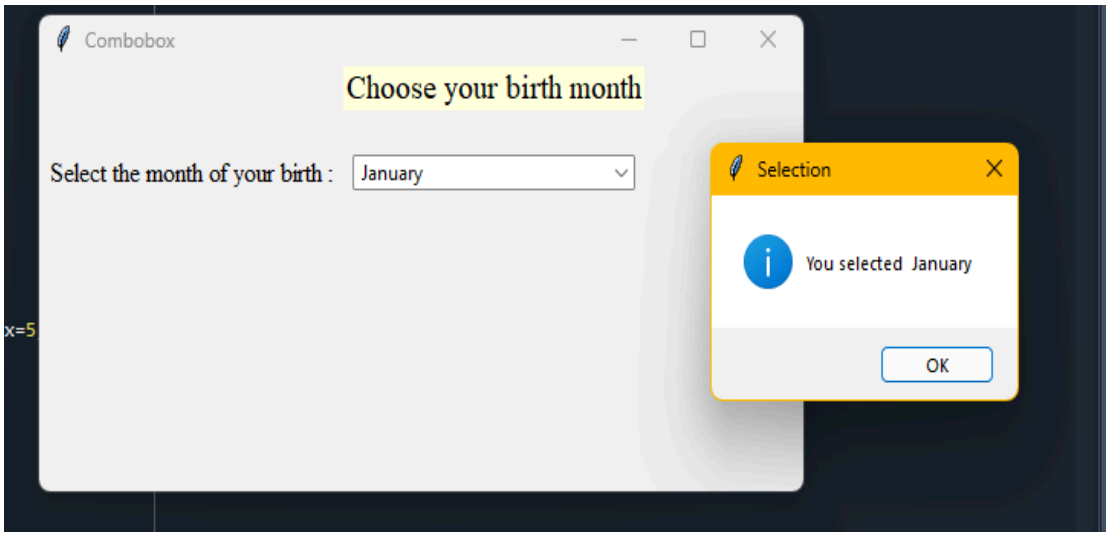

Figure 11. Output of Selecting January

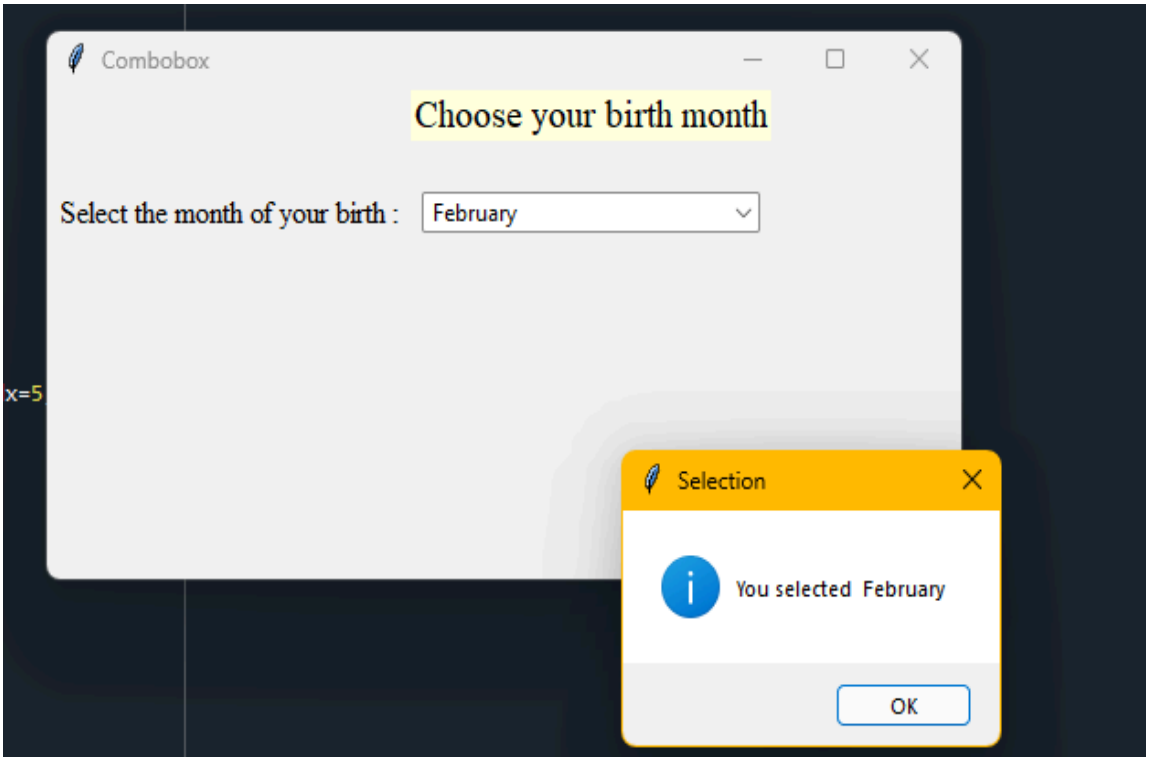

Figure 12. Output of Selecting February

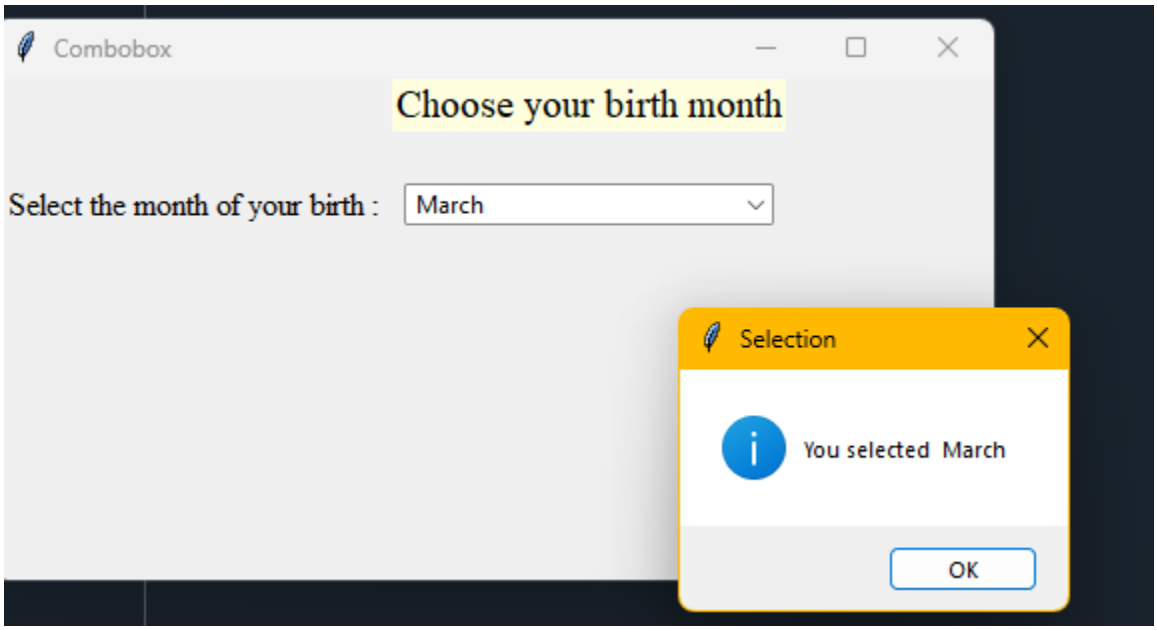

Figure 13. Output of Selecting March

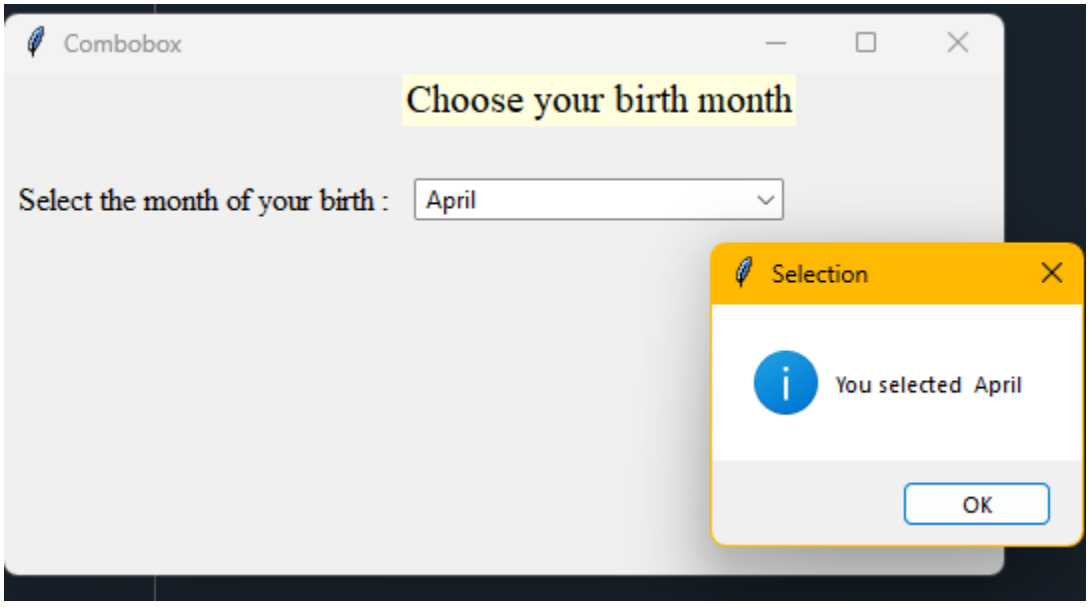

Figure 14. Output of Selecting April

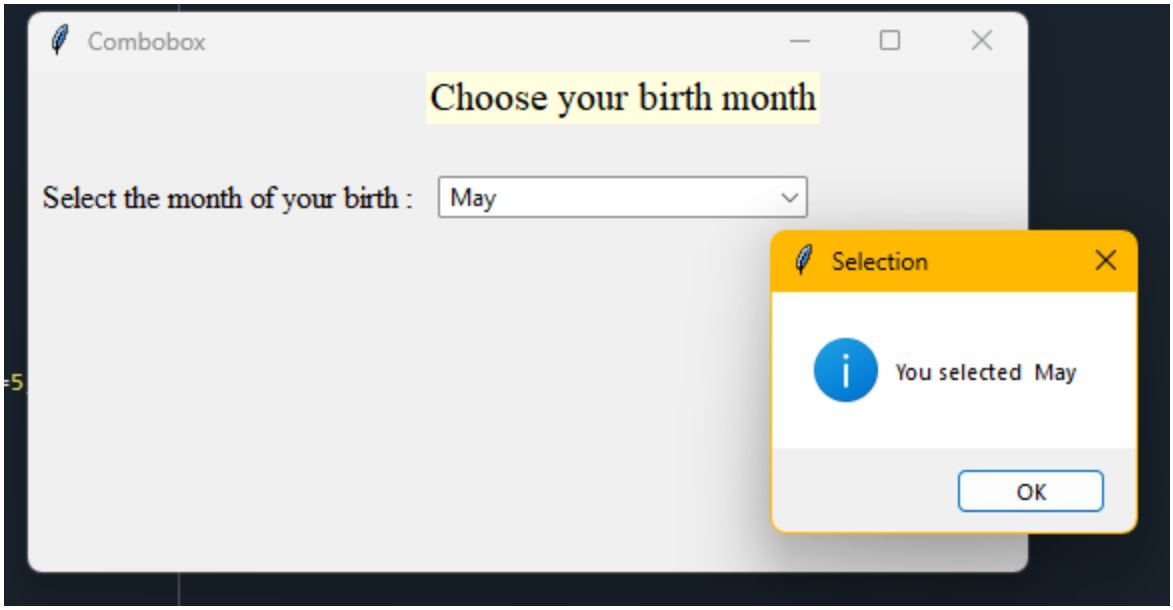

Figure 15. Output of Selecting May

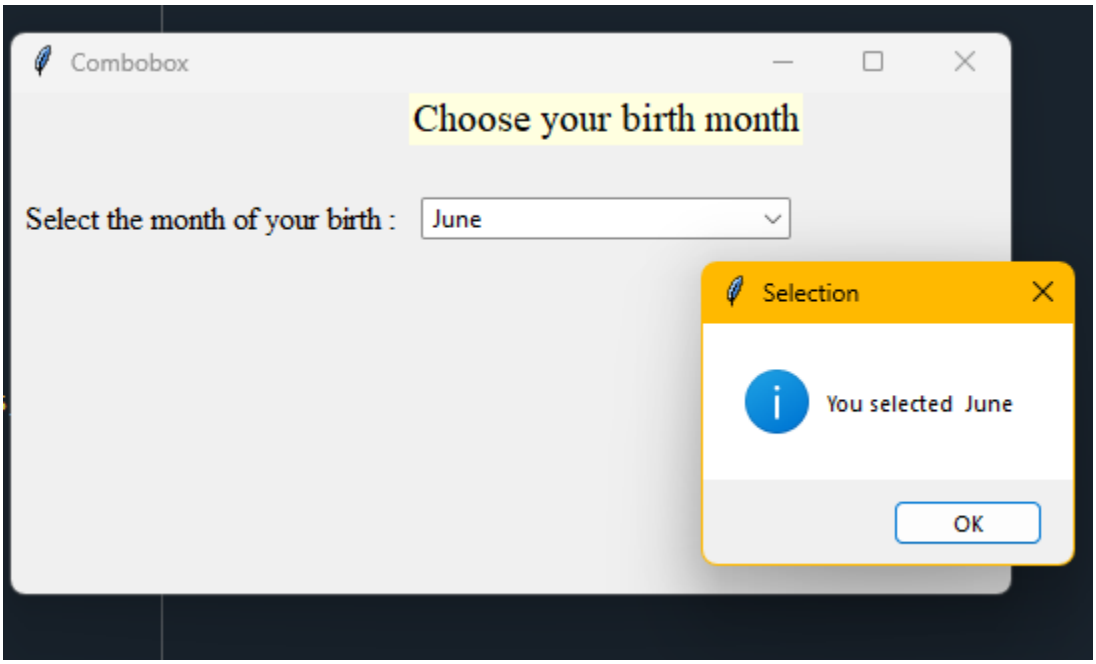

Figure 16. Output of Selecting June

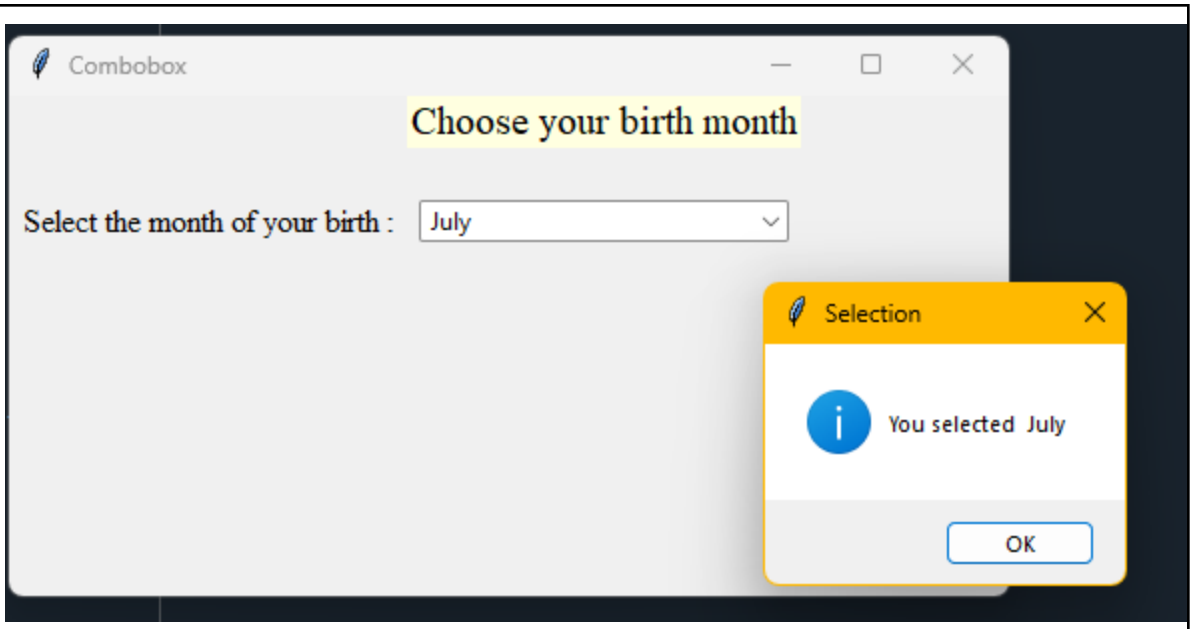

Figure 17. Output of Selecting July

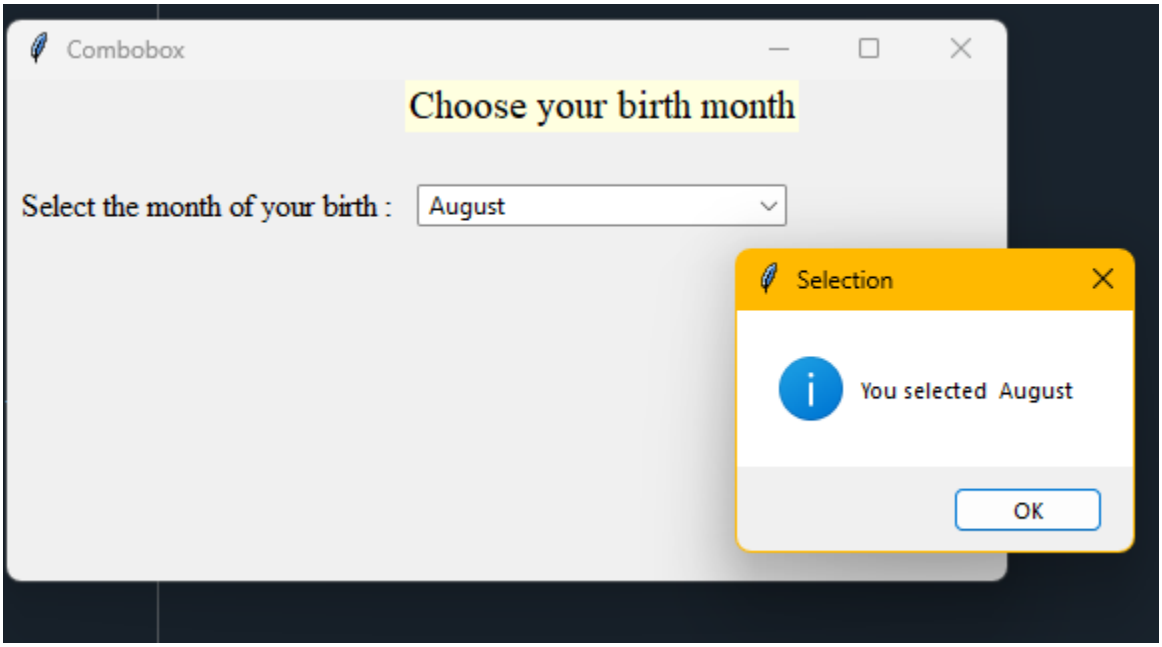

Figure 18. Output Selecting August

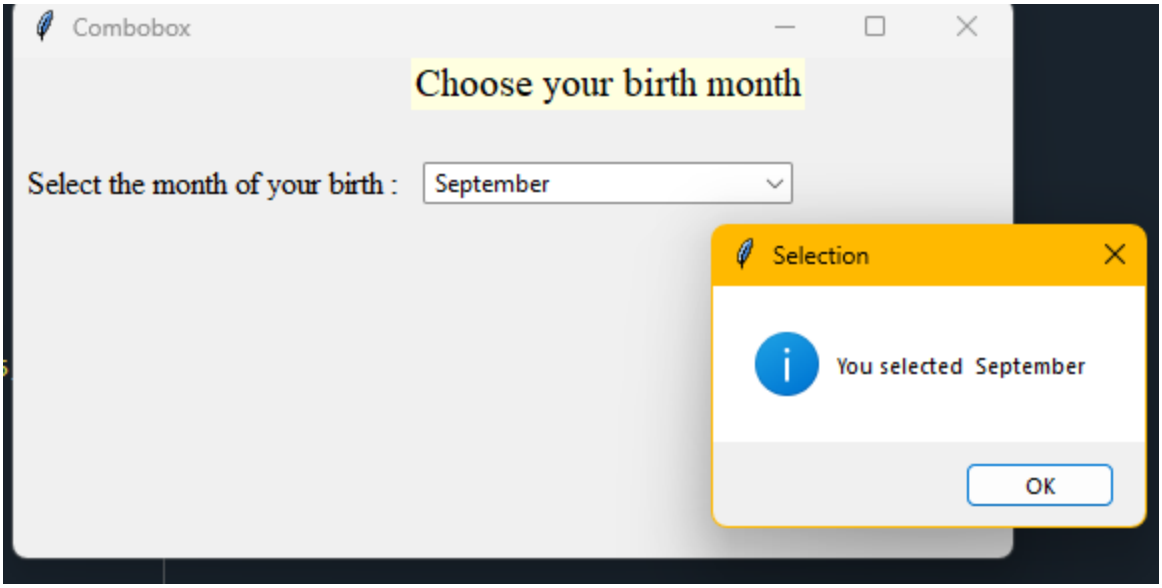

Figure 19. Output of Selecting September

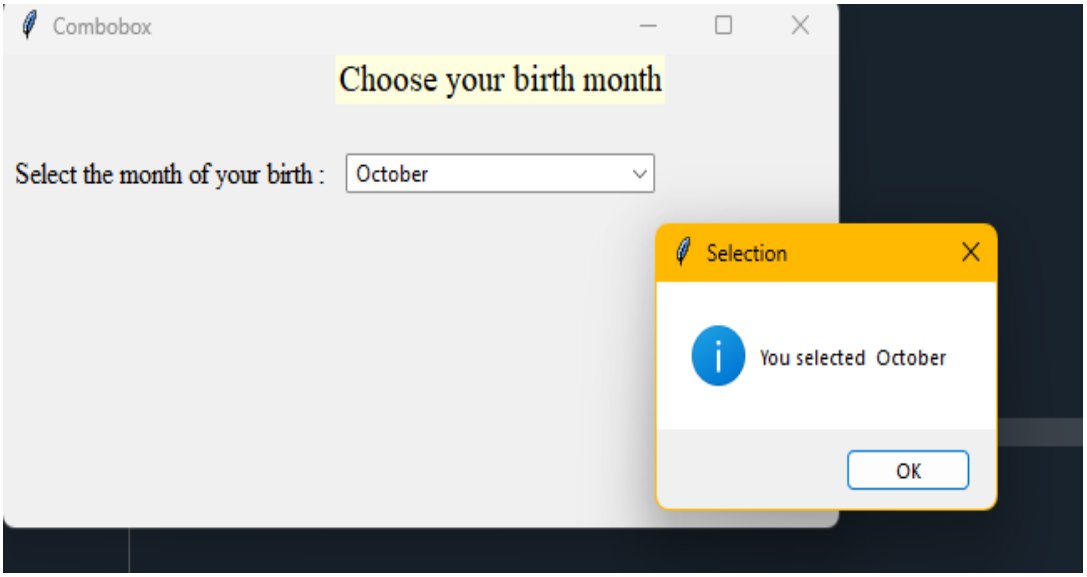

Figure 20. Output of Selecting October

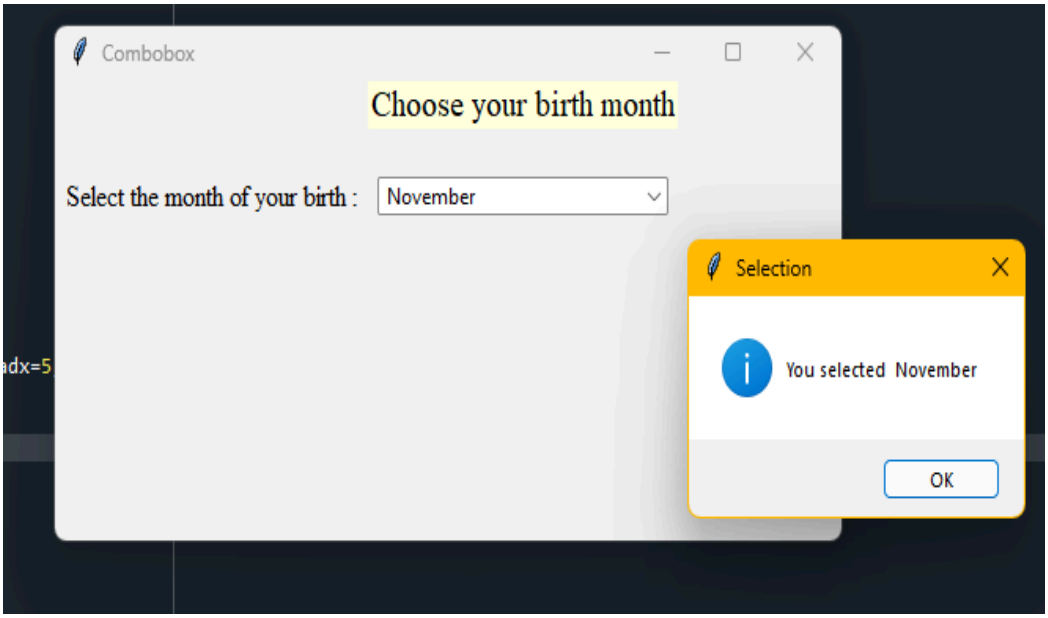

Figure 21. Output of Selecting November

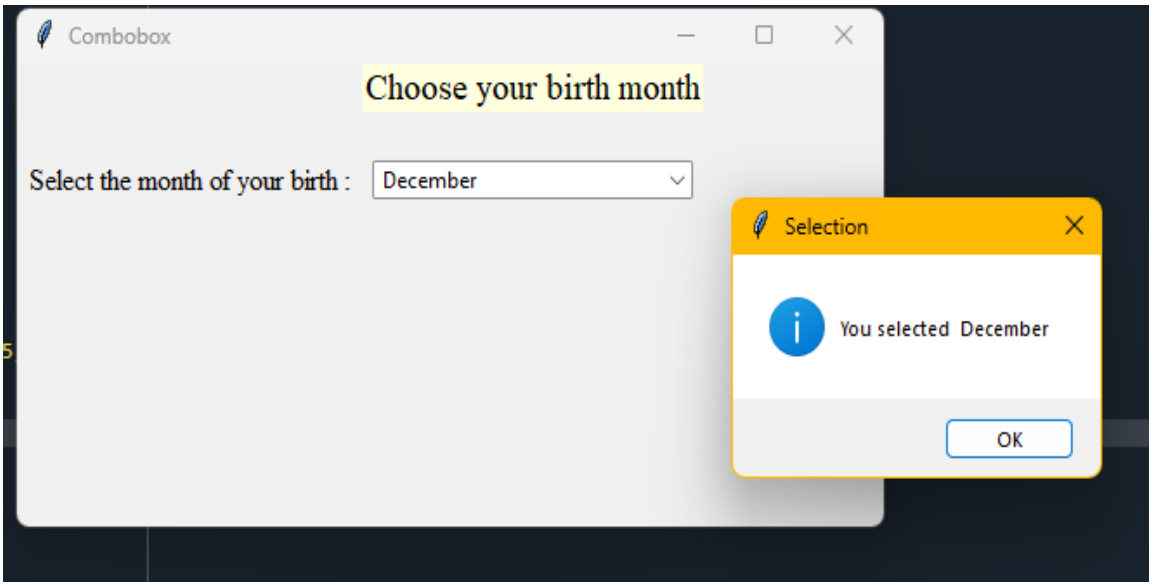

Figure 22. Output of Selecting December

7. Conclusion

After completing the assigned laboratory, we learned a GUI module, which is selection widgets and combo boxes under the Tkinter module in Python. First we complied with the given procedure and we followed the proper instruction for it, which is copy pasting the code that is given from the laboratory file. We needed to see the output of the code in order to see the appearance of the GUI from the laboratory procedure. After running the code, we saw a simple output that lets you select your birth month using a selection widget function with combo boxes. We concluded that we have learned how to code and interpret the purpose of selection widgets and combo boxes in GUI under the Tkinter module in Python.

8. References

What are Widgets in Tkinter? (2020, May 15). GeeksforGeeks. https://www.geeksforgeeks.org/what-are-widgets-in-tkinter/

Combobox Widget in tkinter | Python. (2020, January 9). GeeksforGeeks. https://www.geeksforgeeks.org/combobox-widget-in-tkinter-python/