Laboratory Activity No. 8	
The Selection Widget	
Course Code: CPE009B	**Program:** Computer Engineering
Course Title: Object-Oriented Programming	**Date Performed:** 11/28/2024
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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. Methods

General Instructions:

• Copy these Python codes into your PyCharm and save it as test.py

```python
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')


def choice(event):
    month = event.widget.get()
    print("Your birth month", month)
```

```python
# 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()

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

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

The code utilizes multiple different modules imported from the tkinter library, more specifically ttk and messagebox. The first 4 lines are just import lines, and the next 3 are the creation of the window itself and its properties like the title and dimensions. Next, a function is created which will print the month which you choose in the selection widget called 'choice', though this is unused in the actual program, as there is another instance of it which is used instead later in the code. After that, the 2 label widgets are created, with one being "Choose your birth month" which is in the center and top of the window and the other being "Select the month of your birth" which is next to the selection widget. Next is the creation of the main part of this lab, the selection widget, and adding month values to the selection widget, which is called a combobox in tkinter. Lastly, the redefinition of the 'choice' function is initialized, using showinfo from messagebox to make a pop-up that says you selected a specific month. All of these widgets are placed according to a grid. The mainloop is initialized at the end, making the program run without problems.
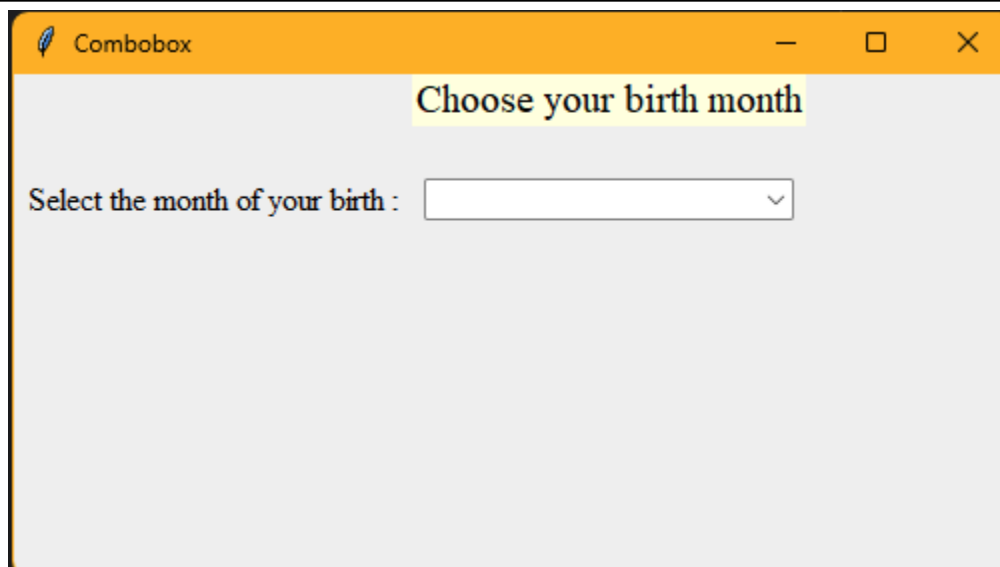
3. Results

Figure 1.1. Code Output

Figure 1.2. Code Output
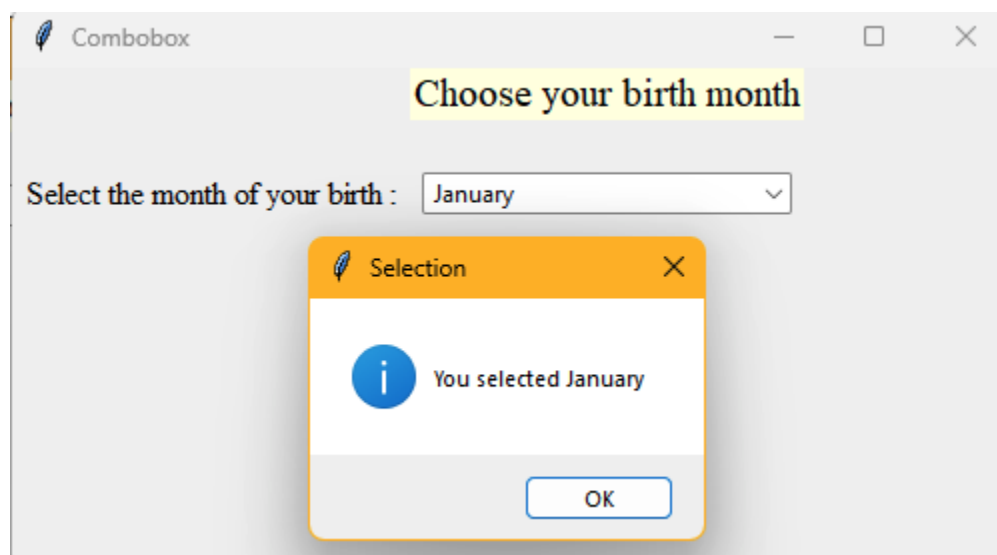

Figure 1.3. Code Output

Insight

The ttk.Combobox in the tkinter library is a useful widget that combines an entry field with a dropdown list, allowing users to either type a value or select it from a predefined list. This enhances user experience by providing a structured input method and reducing the risk of erroneous entries.

Comments

The selection widget allows programmers to organize choices. These widgets are effective with a large number of choices. Managing these choices create a better or well-organized, and aesthetic look. Overall, it allows handling input information in a dynamic behaviour, which creates a more comfortable interface.

Explanation

The data output will be displayed by a messagebox. These messagebox will gather all the data that is selected and store them to be output according to the position in the defined function. In our code, the Combobox for selecting a birth month is created and populated with month names. The selected month will be displayed by the messagebox as can be seen in Figure 1.3. The messagebox text will depend on what you want to display for confirming the month the user chooses.

4. Conclusion

We hereby conclude that there are more ways and possibilities that these tools can bring to widgets and programs allowing them to be much more interactive and visually appealing to many. The use of these selection widgets further exemplifies the use of the GUI's allowing users to have more ways to interact with the system where they can choose from a select number of options instead of manually typing them. Overall the addition of these selection widgets makes the use of these GUI's much more diverse to make our programs or applications much more interactive and allow them to have more possibilities to input and take in data.

5. References

6. Assessment Rubric

Rubric for SO 7 (8)

Criteria	Ratings						Pts
SO 7 PI 1 IILO4 Utilize lifelong learning skills in pursuit of personal development and excellence in professional practice. threshold: 4.8 pts	**6 pts** Excellent | Educational interests and pursuits exist and flourish outside classroom requirements,knowledge and/or experiences are pursued independently and applies knowledge learned into practice	**5 pts** Good | Educational interests and pursuits exist and flourish outside classroom requirements,knowledge and/or experiences are pursued independently	**4 pts** Satisfactory | Look beyond classroom requirements, showing interest in pursuing knowledge independently	**3 pts** Unsatisfactory | Begins to look beyond classroom requirements, showing interest in pursuing knowledge independently	**2 pts** Poor | Relies on classroom instruction only	**1 pts** Very Poor | No initiative or interest in acquiring new knowledge	6 pts
SO 7 PI 2 IILO4 Utilize lifelong learning skills in pursuit of personal development and excellence in professional practice. threshold: 4.8 pts	**6 pts** Excellent | Completes an assigned task independently and practices continuous improvement	**5 pts** Good | Completes an assigned task without supervision or guidance	**4 pts** Satisfactory | Requires minimal guidance to complete an assigned task	**3 pts** Unsatisfactory | Requires detailed or step-by-step instructions to complete a task	**2 pts** Poor | Shows little interest to complete a task independently	**1 pts** Very Poor | No interest to complete a task independently	6 pts
SO 7 PI 3 IILO4 Utilize lifelong learning skills in pursuit of personal development and excellence in professional practice. threshold: 4.8 pts	**6 pts** Excellent | Synthesizes and integrates information from a variety of sources; formulates a clear and precise perspective; draws appropriate conclusions	**5 pts** Good | Evaluate information from a variety of sources; formulates a clear and precise perspective.	**4 pts** Satisfactory | Analyze information from a variety of sources; formulates a clear and precise perspective.	**3 pts** Unsatisfactory | Apply the gathered information to formulate the problem	**2 pts** Poor | Gather and summarized the information from a variety of sources but failed to formulate the problem	**1 pts** Very Poor | Gather information from a variety of sources	6 pts
SO 7 PI 4 IILO4 Utilize lifelong learning skills in pursuit of personal development and excellence in professional practice. threshold: 4.8 pts	**6 pts** Excellent | Ideas are combined in original and creative ways in line with the new and emerging technology trends to solve a problem or address an issue.	**5 pts** Good | Ideas are creative and adapt the new knowledge to solve a problem or address an issue	**4 pts** Satisfactory | Ideas are creative in solving a problem, or address an issue	**3 pts** Unsatisfactory | Shows some creative ways to solve the problem	**2 pts** Poor | Shows initiative and attempt to develop creative ideas to solve the problem	**1 pts** Very Poor | Ideas are copied or restated from the sources consulted	6 pts
						Total Points: 24	