Adamson University
College of Engineering
Computer Engineering Department

OBJECT-ORIENTED PROGRAMMING

Laboratory Activity No. 3

GUI in Python

(Common Widgets)

Submitted by:
Acuesta, Alemari – Leader
Francisco, Rj
Hirata, Christian
Jamandre, Jan Nathan
Valdez, Reynard James M.
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Submitted to:

Engr. Maria Rizette H. Sayo

I. Objectives

· The aim of this code is to receive three numerical inputs from the user, add them to a list, and then determine the largest number among them using the pre-built max() function in Python. Finally, the code will display the result of the largest number to the user.

The first code is a basic Python program that lets users input three numbers, and it then stores these numbers in a list. The code then determines the largest of the three numbers using the max() function and displays the outcome in the console.

The second code is a more user-friendly version of the first code that provides a graphical user interface using the Tkinter library. The program allows users to input their three numbers into input fields, and by clicking the "Find the largest no." button, the code calculates and displays the largest of the three numbers in a read-only field.

In summary, both codes have the same function, which is to find the largest of three numbers, but the second code offers a more straightforward user interface.

II. Methods

In general, programs consist of three components—input, processing, and output. In TUI programs, input is usually obtained from an input statement or by importing data from a file. Output is usually given by a print statement or stored in a file. When we convert a TUI program to a GUI program, we replace input and print statements with Label/Entry pairs. Processing data and inputting and outputting data to files works much the same in both types of programs. The primary difference is that the processing in GUI programs is usually triggered by an event.

Method 1

1. Type these codes in Pycharm,

```
#TUI Form

def main():

    # Find the largest number among three numbers

    L = []

    num1 = eval(input("Enter the first number:"))

    L.append(num1)

    num2 = eval(input("Enter the second number:"))

    L.append(num2)

    num3 = eval(input("Enter the third number:"))
```

```
        L.append(num3)
        print("The largest number among the three is:",str(max(L)))

main()
```

Method 2

```
from tkinter import *

window = Tk()
window.title("Find the largest number")
window.geometry("400x300+20+10")

def findLargest():
        L = []
    L.append(eval(conOfent2.get()))
    L.append(eval(conOfent3.get()))
    L.append(eval(conOfent4.get()))
    conOfLargest.set(max(L))

lbl1 = Label(window, text = "The Program that Finds the Largest Number")
lbl1.grid(row=0, column=1, columnspan=2,sticky=EW)
lbl2 = Label(window,text = "Enter the first number:")
```

```
lbl2.grid(row=1, column = 0,sticky=W)
conOfent2 = StringVar()
ent2 = Entry(window,bd=3,textvariable=conOfent2)
ent2.grid(row=1, column = 1)
lbl3 = Label(window,text = "Enter the second number:")
lbl3.grid(row=2, column=0)
conOfent3=StringVar()
ent3 = Entry(window,bd=3,textvariable=conOfent3)
ent3.grid(row=2,column=1)
lbl4 = Label(window,text="Enter the third number:")
lbl4.grid(row=3,column =0, sticky=W)
conOfent4 = StringVar()
ent4 = Entry(window,bd=3,textvariable=conOfent4)
ent4.grid(row=3, column=1)

btn1 = Button(window,text = "Find the largest no.",command=findLargest)
btn1.grid(row=4, column = 1)
lbl5 = Label(window,text="The largest number:")
lbl5.grid(row=5,column=0,sticky=W)
conOfLargest = StringVar()
ent5 = Entry(window,bd=3,state="readonly",textvariable=conOfLargest)
ent5.grid(row=5,column=1)


mainloop()
```

III. Results

Results 1

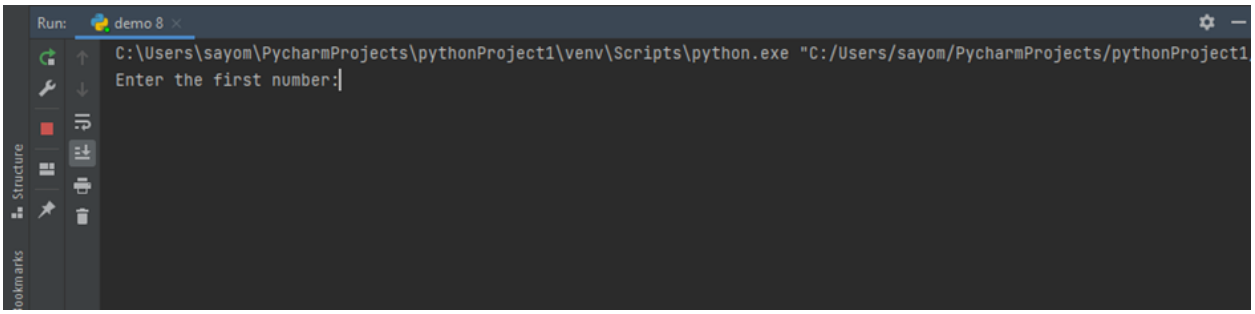

Figure 1. TUI form

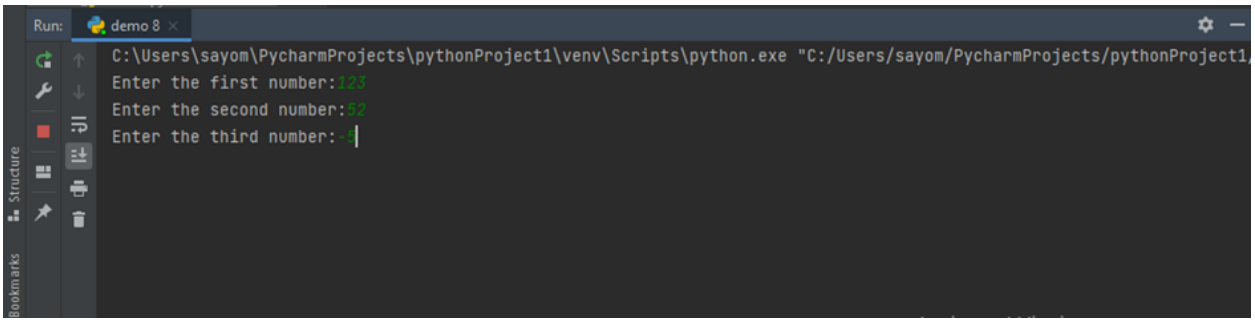

Figure 1(a) TUI form with three input numbers

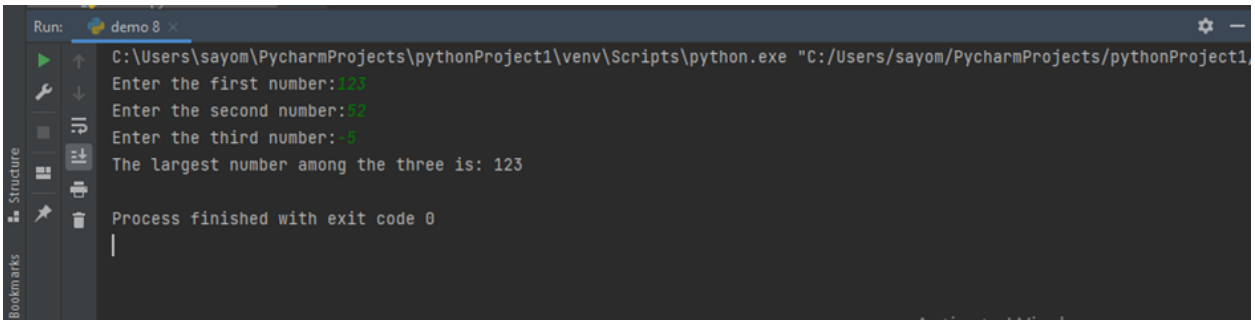

Figure 1(b) TUI form with output “The largest number among the three”

Method 1 above shows a TUI program and a possible output in Figures 1(a) and (b) while Figure 2 shows the output of the GUI program in Method 2.

Results 2

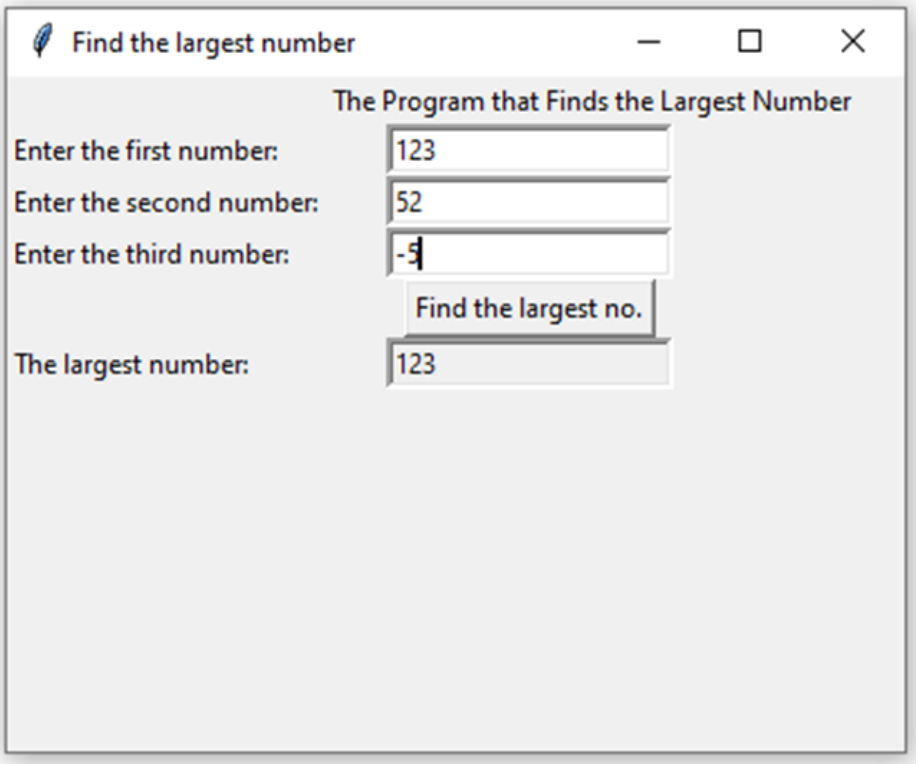

Figure 2. GUI program to find the largest number

IV. Conclusion

By offering a more user-friendly and aesthetically pleasing interface, TUI programs that are converted to GUI programs can enhance the user experience. The choice should be made based on the program's functioning and the demands of the users.