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Python GUI

Chapter 10

Teknik Pemprograman

Syaeful Anas Aklani, M.Kom

Tkinter

- Tkinter is the Python interface to the Tk GUI toolkit shipped with Python. We would look at this option in this chapter.
- Tkinter is the standard GUI library for Python. Python when combined with Tkinter provides a fast and easy way to create GUI applications. Tkinter provides a powerful object-oriented interface to the Tk GUI toolkit.

```
$ sudo apt-get install python3-tk
```

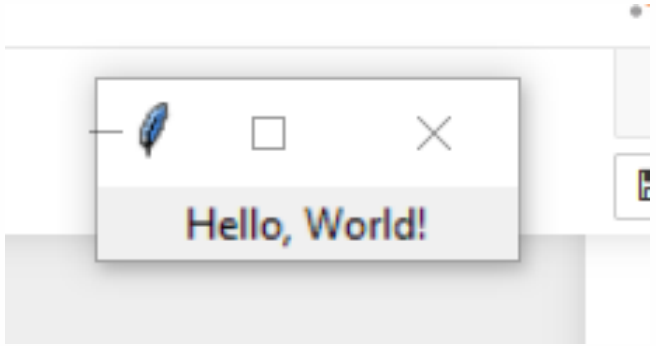
Hello world

```
In [*]: import tkinter as tk


        root = tk.Tk()

        # place a label on the root window
        message = tk.Label(root, text="Hello, World!")
        message.pack()

        # keep the window displaying
        root.mainloop()
```



Working With Widgets

Widgets are the bread and butter of the Python GUI framework Tkinter. They're the elements through which users interact with your program. Each **widget** in Tkinter is defined by a class. Here are some of the widgets available:

Widget Class	Description
`Label`	A widget used to display text on the screen
`Button`	A button that can contain text and can perform an action when clicked
`Entry`	A text entry widget that allows only a single line of text
`Text`	A text entry widget that allows multiline text entry
`Frame`	A rectangular region used to group related widgets or provide padding between widgets

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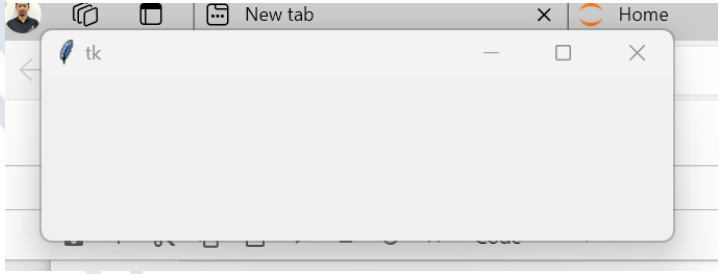
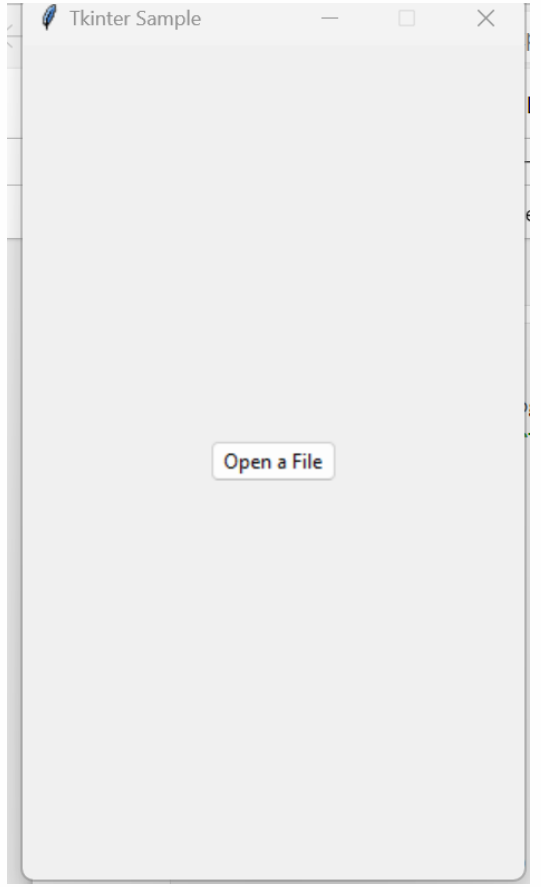
Working With Widgets

```
from tkinter import Tk, Canvas

window = Tk()

canvas = Canvas(window, width=400, height=100)
canvas.pack()



window.mainloop()
```

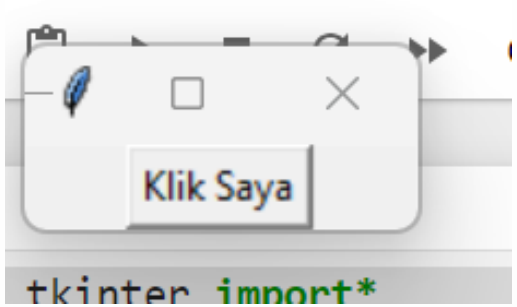



```
import tkinter as tk
from tkinter import ttk
from tkinter import filedialog as fd
from tkinter.messagebox import showinfo

# create the root window
root = tk.Tk()
root.title('Tkinter Sample')
root.resizable(False, False)
root.geometry('300x500')

# open button
open_button = ttk.Button(
    root,
    text='Open a File'
)

open_button.pack(expand=True)


# run the application
root.mainloop()
```

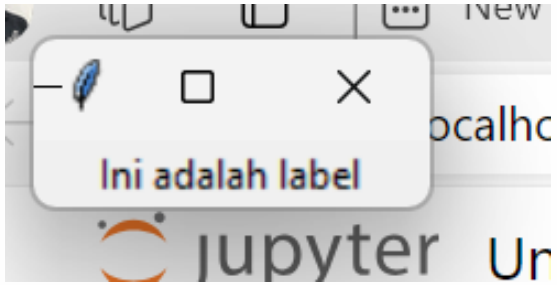


Working With Widgets

```
]: from tkinter import*
   window = Tk()
   button = Button (window, text="Klik Saya")
   button.pack()
   window.mainloop()
```




```
]: from tkinter import*
   window = Tk()
   label = Label (window, text="Ini adalah label")
   label.pack()
   window.mainloop()
```



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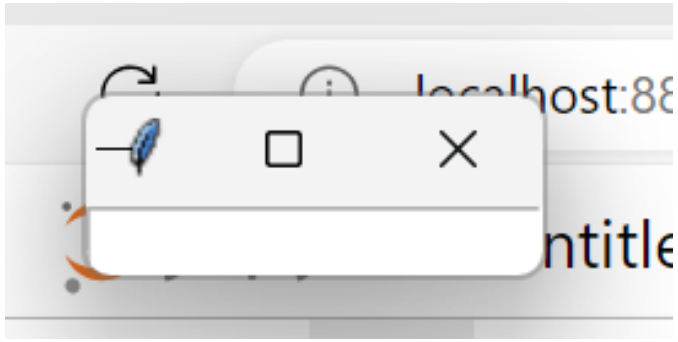
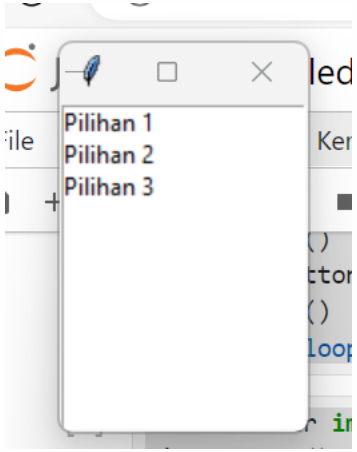
Working With Widgets

```
[ ]:
```

```
[*]: from tkinter import*
     window = Tk()
     entry = Entry (window)
     entry.pack()
     window.mainloop()
```




```
[*]: from tkinter import*
     window = Tk()
     listbox = Listbox(window)
     listbox.insert(1, "Pilihan 1")
     listbox.insert(2, "Pilihan 2")
     listbox.insert(3, "Pilihan 3")
     listbox.pack()
     window.mainloop()
```



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Working With Widgets

```
from tkinter import *


def get_variable_value():
    valueresult.set( strlname.get() + ' ' + strfname.get() ) #assign val variable to other
    print(valueresult.get()) #if you want see the result in the console


root = Tk()

strfname = StringVar()
strlname = StringVar()
valueresult = StringVar()

labelf = Label(root, text = 'First Name').pack()
fname = Entry(root, justify='left', textvariable = strfname).pack() #strlname get input

labell = Label(root, text = 'Last Name').pack()
lname = Entry(root, justify='left', textvariable = strlname).pack() #strfname get input

button = Button(root, text='Show', command=get_variable_value).pack()
res = Entry(root, justify='left', textvariable = valueresult).pack() #only to show result


root.mainloop()
```

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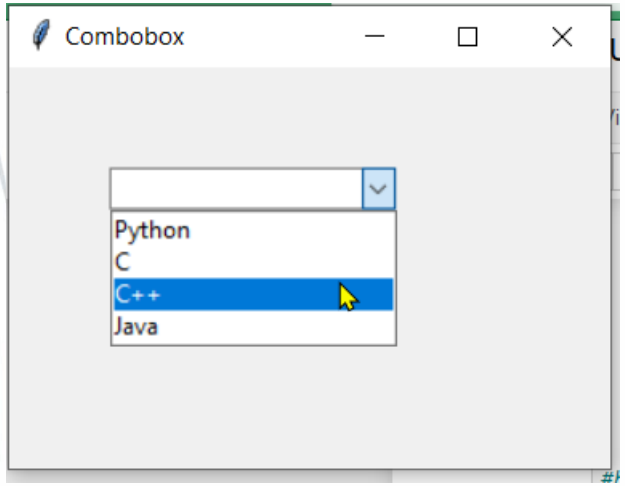
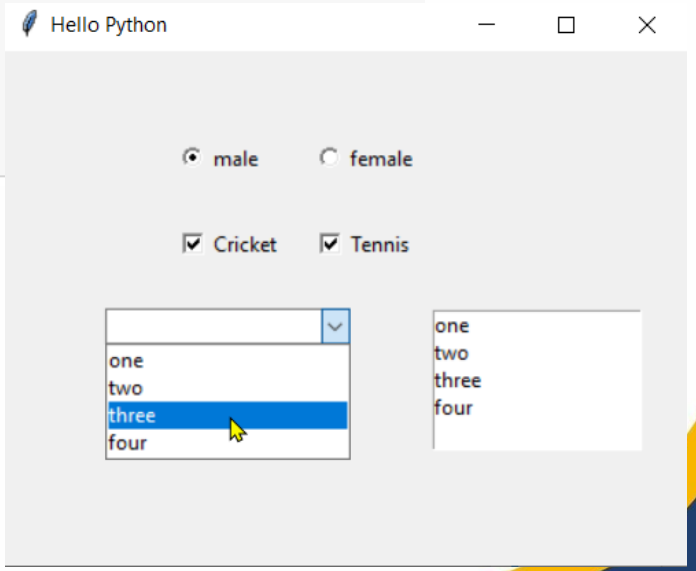
Working With Widgets

```
In [*]: from tkinter import ttk
        import tkinter as tk

        def dropdown_opened():
            print("The drop-down has been opened!")

        main_window = tk.Tk()
        main_window.config(width=300, height=200)
        main_window.title("Combobox")
        combo = ttk.Combobox(
            values=["Python", "C", "C++", "Java"],
            postcommand=dropdown_opened
        )
        combo.place(x=50, y=50)
        main_window.mainloop()
```

```
The drop-down has been opened!
```

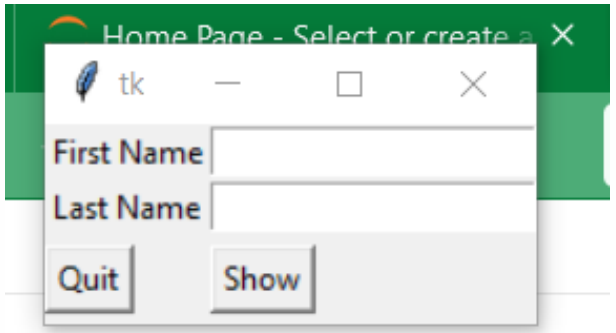



```
In [23]: from tkinter import *
         from tkinter.ttk import Combobox
         window=Tk()
         var = StringVar()
         var.set("one")
         data=("one", "two", "three", "four")
         cb=Combobox(window, values=data)
         cb.place(x=60, y=150)

         lb=Listbox(window, height=5, selectmode='multiple')
         for num in data:
             lb.insert(END,num)
         lb.place(x=250, y=150)

         v0=IntVar()
         v0.set(1)
         r1=Radiobutton(window, text="male", variable=v0,value=1)
         r2=Radiobutton(window, text="female", variable=v0,value=2)
         r1.place(x=100,y=50)
         r2.place(x=180, y=50)

         v1 = IntVar()
         v2 = IntVar()
         C1 = Checkbutton(window, text = "Cricket", variable = v1)
         C2 = Checkbutton(window, text = "Tennis", variable = v2)
         C1.place(x=100, y=100)
         C2.place(x=180, y=100)

         window.title('Hello Python')
         window.geometry("400x300+10+10")
         window.mainloop()
```



Design GUI

In [1]:
```
import tkinter as tk

def show_entry_fields():
    print("First Name: %s\nLast Name: %s" % (e1.get(), e2.get()))

master = tk.Tk()
tk.Label(master,
         text="First Name").grid(row=0)
tk.Label(master,
         text="Last Name").grid(row=1)

e1 = tk.Entry(master)
e2 = tk.Entry(master)

e1.grid(row=0, column=1)
e2.grid(row=1, column=1)

tk.Button(master,
          text='Quit',
          command=master.quit).grid(row=3,
                                    column=0,
                                    sticky=tk.W,
                                    pady=4)
tk.Button(master,
          text='Show', command=show_entry_fields).grid(row=3,
                                                       column=1,
                                                       sticky=tk.W,
                                                       pady=4)

tk.mainloop()
```



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Design GUI

Latihan buatlah desain seperti berikut :