GUI in Python

Tkinter

WHAT'S GUI?

Graphical User Interface(GUI) is a form of user interface which allows users to interact with computers through visual indicators using items such as icons, menus, windows, etc.
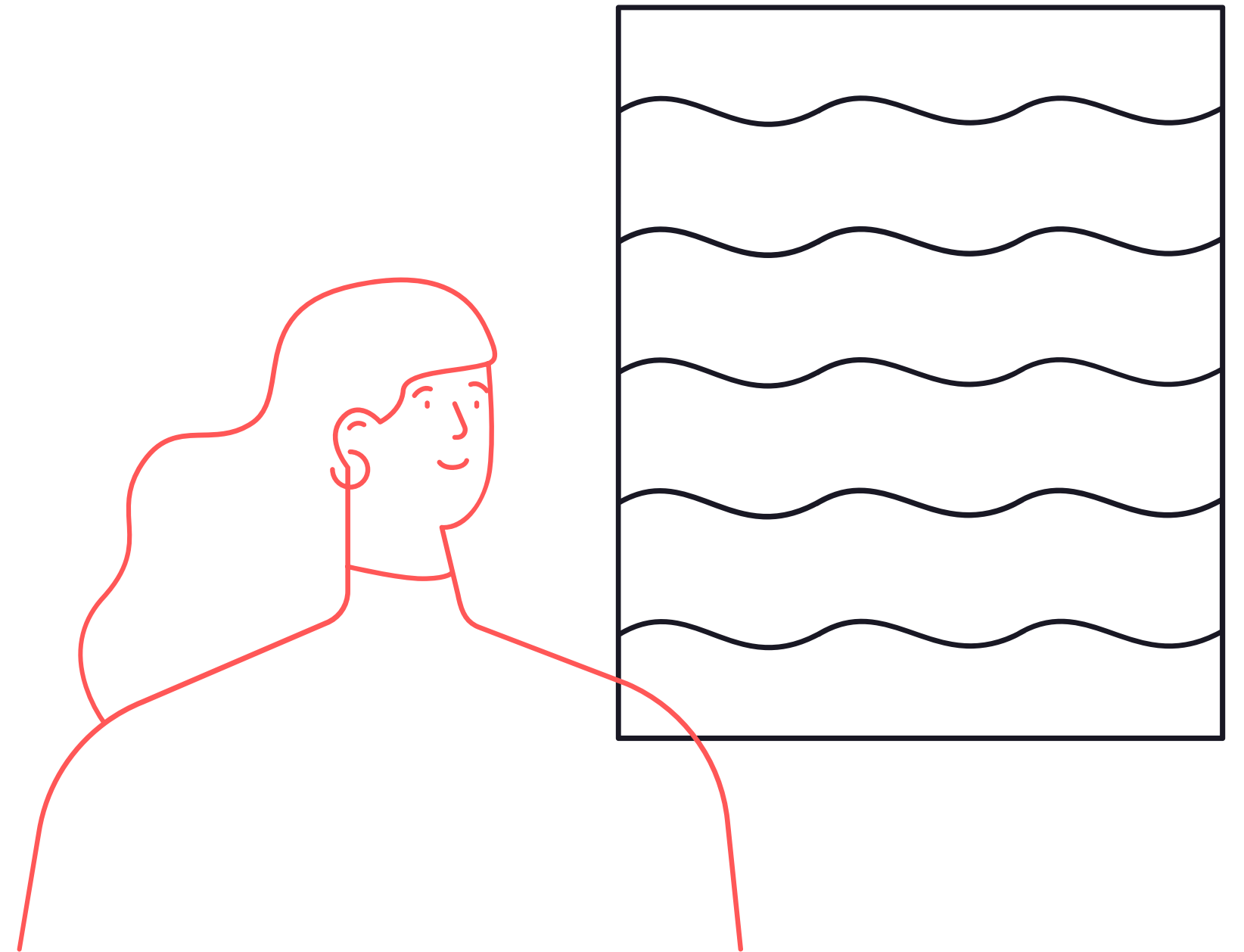
Python Libraries for GUI

Tkinter

Kivy

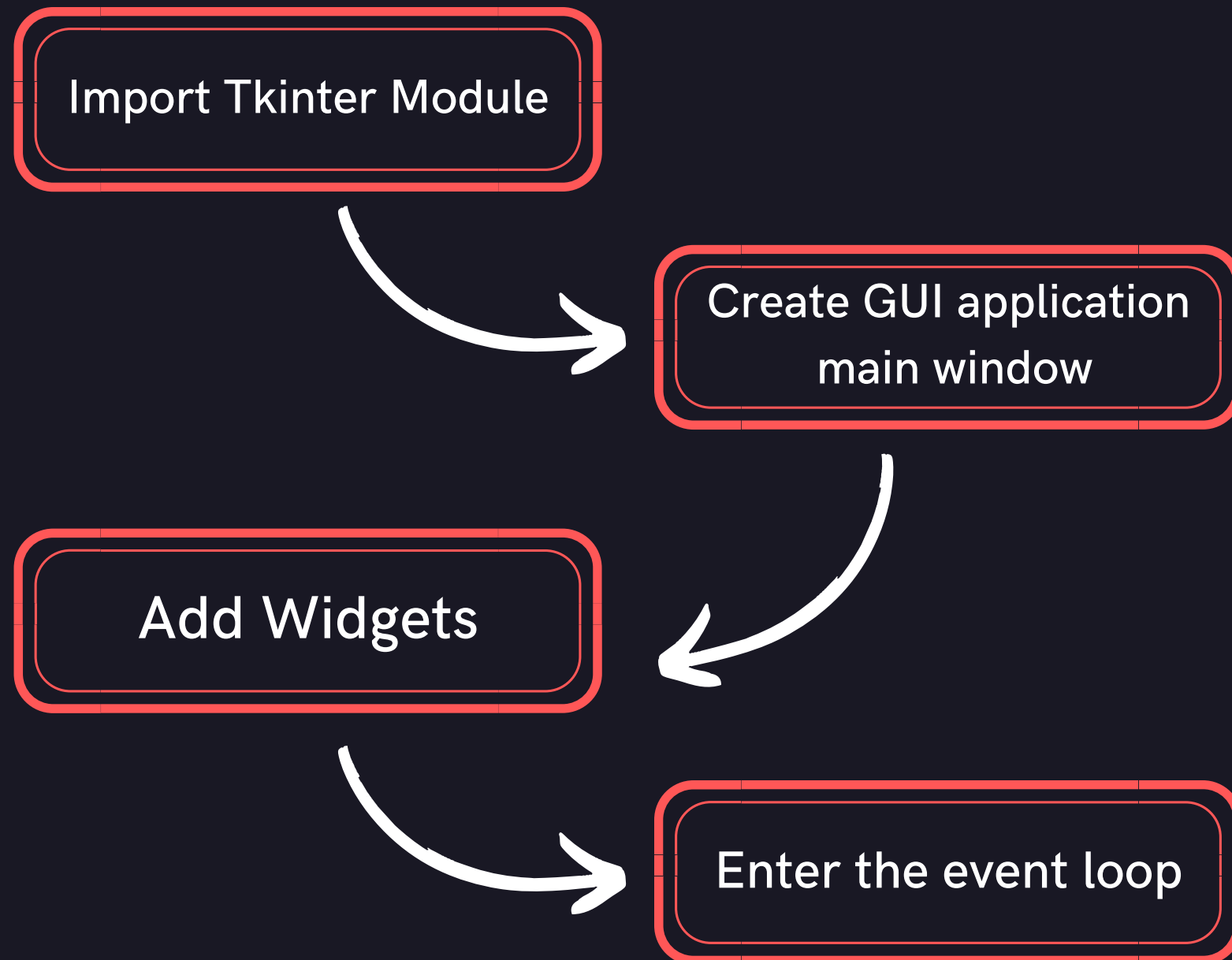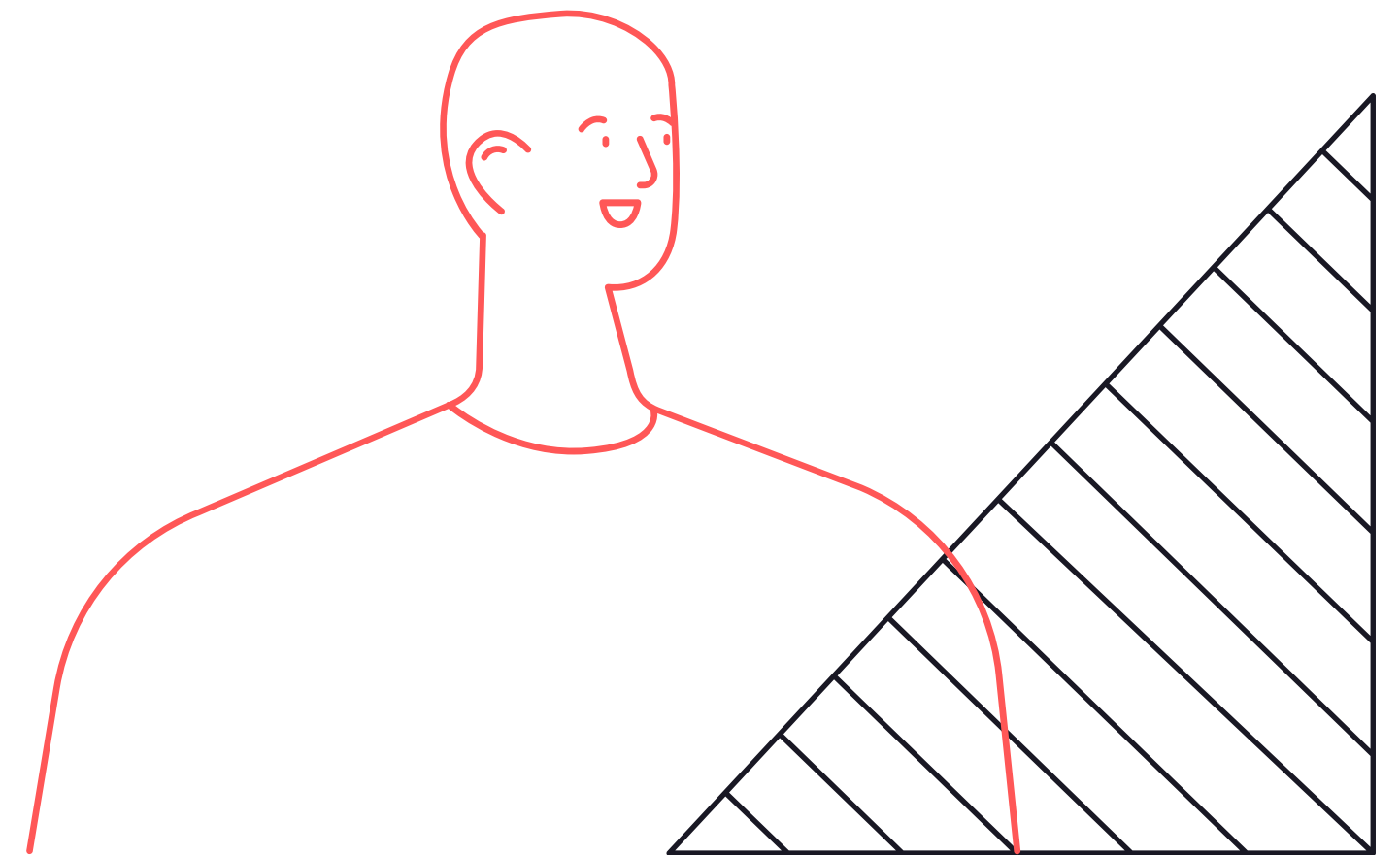WxPython

PyQT

WHAT IS TKINTER?

Tkinter is the inbuilt python module that is used to create GUI applications. It is one of the most commonly used modules for creating GUI applications in Python as it is simple and easy to work with. It gives an object-oriented interface to the Tk GUI toolkit.
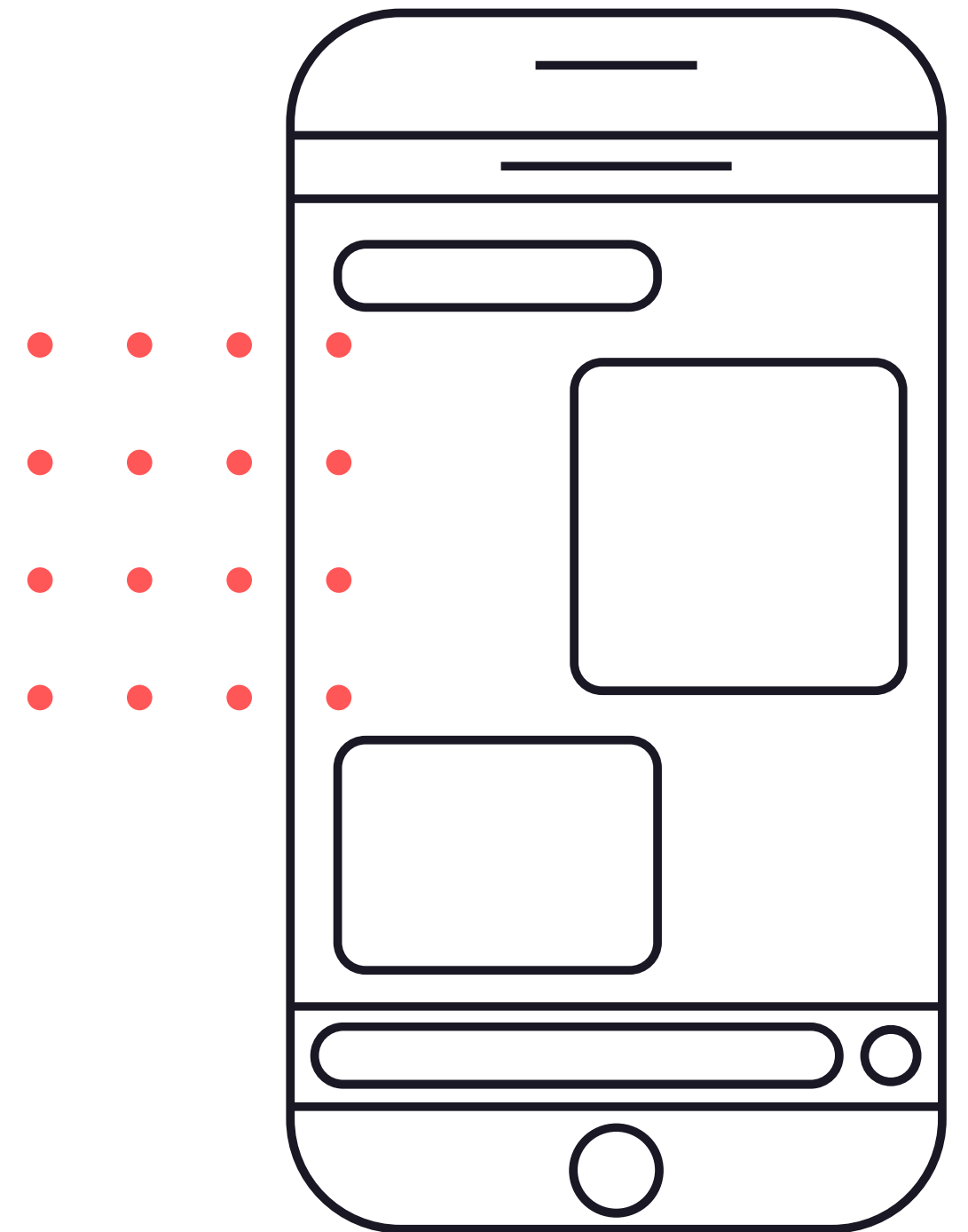
Import Tkinter Module

Create GUI application main window

Add Widgets

Enter the event loop

WIDGETS IN TKINTER

Widget is an element of Graphical User Interface (GUI) that displays/illustrates information or gives a way for the user to interact with the OS. In Tkinter , Widgets are objects ; instances of classes that represent buttons, frames, and so on.

Label, Button, Canvas, ComboBox, CheckButton, RadiButton, Entry, Frame, Message and many more!

LABEL WIDGET

```
import tkinter
from tkinter import *
from tkinter.ttk import *
window= tkinter.Tk()
window.title("CodeOS")

i1= Label(window,text="CodeOS", font=
('Helvetica', 18, 'bold'))

i1.grid(column=0, row=0)
window.mainloop()
```

Defining font

LABEL WIDGET

Making Geometric changes

```python
import tkinter
from tkinter import *
from tkinter.ttk import *
window= tkinter.Tk()
window.title("CodeOS")
i1= Label(window,text="CodeOS", font=
('Helvetica', 18, 'bold'))
i1.grid(column=0, row=0)


window.geometry('350x200')
i1.grid(column=0, row=0)


window.mainloop()
```

GEOMETRY MANAGEMENT

Pack()

Organises the widgets in a box t hat occupies the entire width

Grid()

Organises widgets in table like format

Place()

Plce the widgets at specific position
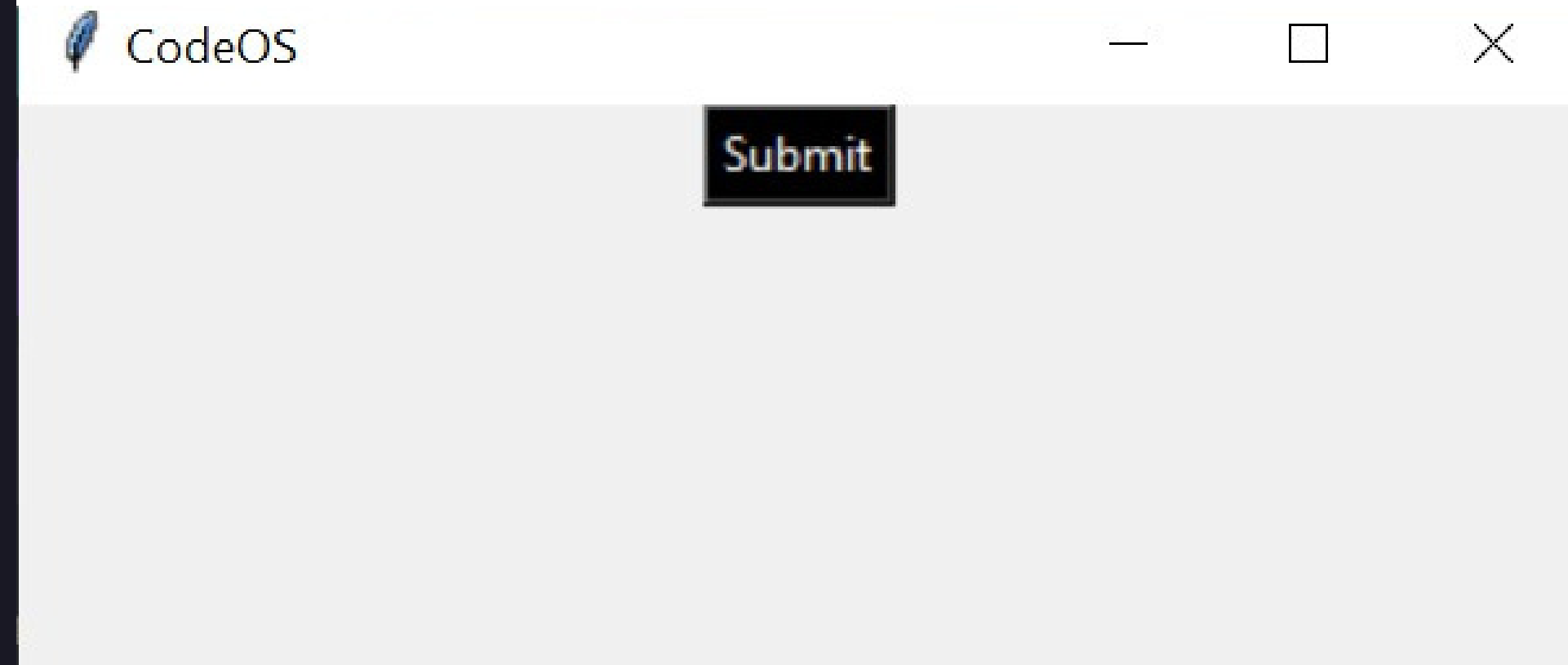
BUTTON WIDGET

```python
from tkinter import *

Window = Tk()
Window.geometry('400x150')
Window.title('CodeOS')

button = Button(Window, text='Submit',
bg='black', fg='white')
button.pack()

Window.mainloop()
```
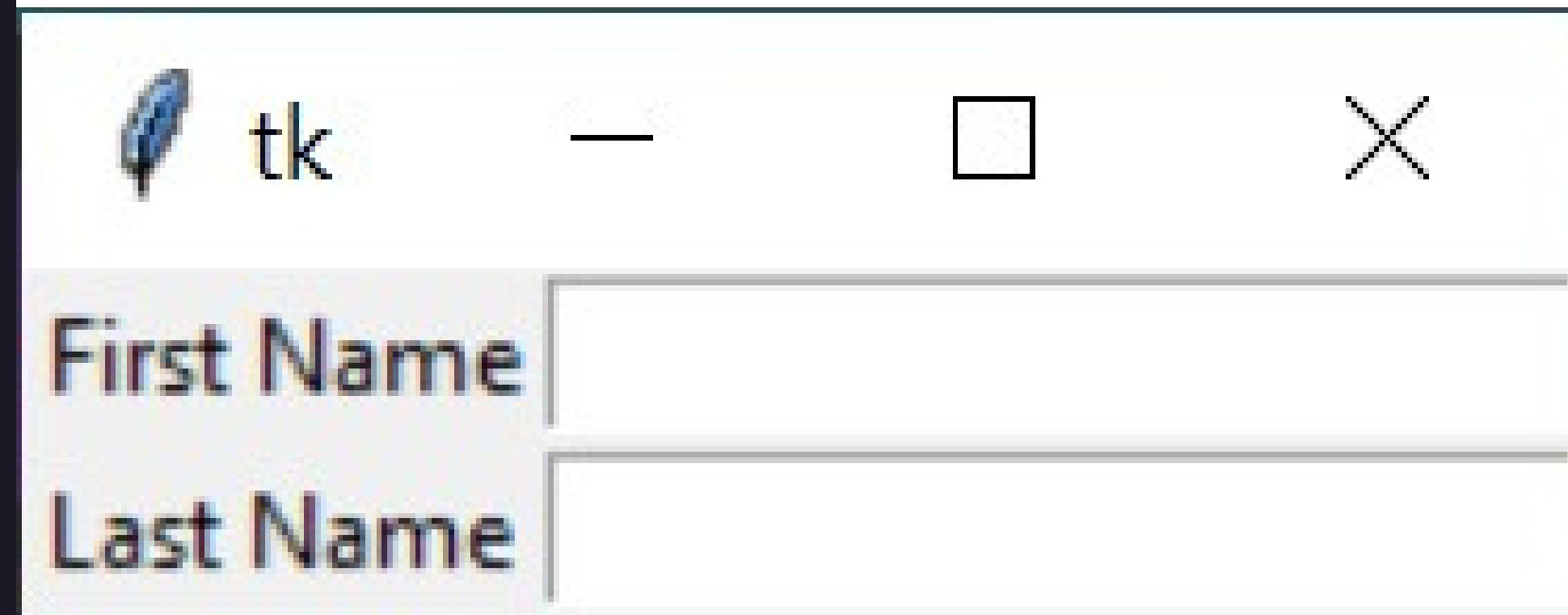
ENTRY WIDGET

```python
import tkinter as tk

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

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

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

window.mainloop()
```
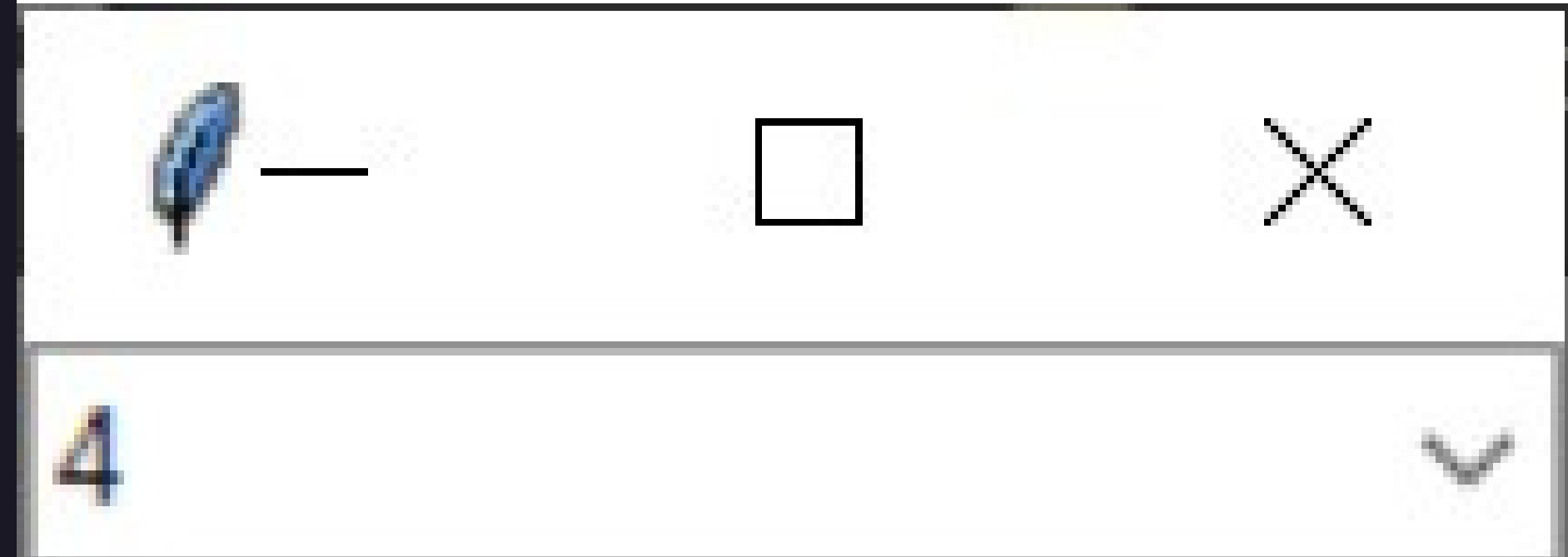
COMBOBOX WIDGET

```python
import tkinter as tk
from tkinter.ttk import *

window = tk.Tk()
combo = Combobox(window)

combo['value']=(1,2,3,4,5, "Text")
combo.current(3)
combo.grid(column=0, row=0)

window.mainloop()
```

CHECKBOX WIDGET

```python
from tkinter import *
import tkinter

window = Tk()
CheckVar1 = IntVar()
CheckVar2 = IntVar()
C1 = Checkbutton(window, text = "Music",
variable = CheckVar1)
C2 = Checkbutton(window, text = "Video",
variable = CheckVar2)
C1.pack()
C2.pack()
window.mainloop()
```

RADIOBUTTON WIDGET

```python
import tkinter
from tkinter import *
from tkinter.ttk import *
import tkinter.messagebox
window= tkinter.Tk()
window.title("CodeOS")

rad1= Radiobutton(window, text='Python',
value=1)
rad2= Radiobutton(window, text='Java',
value=2)
rad3= Radiobutton(window, text='C++',
value=3)

rad1.grid(column=0, row=0)
rad2.grid(column=1, row=0)
rad3.grid(column=2, row=0)

window.mainloop()
```

SPINBOX WIDGET

```python
import tkinter
from tkinter import *
from tkinter.ttk import *
window= tkinter.Tk()
window.title("CodeOS")

window.geometry('350x200')

spin= Spinbox(window, from_=0, to=100,
width=5)
spin.pack()

window.mainloop()
```

MESSAGEBOX WIDGET

```python
import tkinter
from tkinter import *
from tkinter.ttk import *
from tkinter import messagebox
import tkinter.messagebox
window= tkinter.Tk()
window.title("CodeOS")

def clicked():
    messagebox.showinfo('Message', 'You look
great today')

btn= Button(window, text='Enter',
command=clicked)
btn.pack()

window.mainloop()
```

```python
import tkinter
from tkinter import *
from tkinter.ttk import *
import tkinter.messagebox
window= tkinter.Tk()
window.title("CodeOS")

tkinter.Label(window, text= "Username").grid(row=0, column=0)
tkinter.Entry(window).grid(row=0, column=1)

tkinter.Label(window, text= "Password").grid(row=1, column=0)
tkinter.Entry(window).grid(row=1, column=1)

tkinter.Checkbutton(window, text="Keep me Logged in").grid(column=1, row=2)

def CallBack():
    tkinter.messagebox.showinfo( "Welcome" , "Helloooooooooooo")
tkinter.Button(window, text='Login', command=CallBack ).grid(column=1, row=3)

window.mainloop()
```

TRY THIS!!!