

```

1  #Hello GUI World
2  #Icon from http://www.iconsmind.com
3  import tkinter
4  from tkinter import BOTH, StringVar, END
5  from PIL import ImageTk, Image
6
7  #Define window
8  root = tkinter.Tk()
9  root.title("Hello GUI World")
10 root.iconbitmap('wave.ico')
11 root.geometry("400x400")
12 root.resizable(0,0)
13
14 #Define fonts and colors
15 root_color = "#224870"
16 input_color = "#2a4494"
17 output_color = "#4ea5d9"
18 root.config(bg=root_color)
19
20 #Define functions
21 def submit_name():
22     """Say hello to the user."""
23     #Create a label for the user name based of radio button values
24     if case_style.get() == 'normal':
25         name_label = tkinter.Label(output_frame, text="Hello " + name.get() + "! Keep
            learning Tkinter!", bg=output_color)
26     elif case_style.get() == 'upper':
27         name_label = tkinter.Label(output_frame, text=("Hello " + name.get() + "! Keep
            learning Tkinter!").upper(), bg=output_color)
28
29     #Pack label onto screen
30     name_label.pack()
31
32     #Clear the entry field for the next user
33     name.delete(0, END)
34
35
36 #Define Layout
37 #Define frames
38 input_frame = tkinter.LabelFrame(root, bg=input_color)
39 output_frame = tkinter.LabelFrame(root, bg=output_color)
40 input_frame.pack(pady=10)
41 output_frame.pack(padx=10, pady=(0,10), fill=BOTH, expand=True)
42
43 #Create widgets
44 name = tkinter.Entry(input_frame, text="Enter your name", width=20)
45 submit_button = tkinter.Button(input_frame, text="Submit", command=submit_name)
46 name.grid(row=0, column=0, padx=10, pady=10)
47 submit_button.grid(row=0, column=1, padx=10, pady=10, ipadx=20)
48
49 #Create radio buttons for text display
50 case_style = StringVar()
51 case_style.set('normal')
52 normal_button = tkinter.Radiobutton(input_frame, text="Normal Case",
    variable=case_style, value='normal', bg=input_color)
53 upper_button = tkinter.Radiobutton(input_frame, text="Upper Case", variable=case_style,
    value='upper', bg=input_color)
54 normal_button.grid(row=1, column=0, padx=2, pady=2)
55 upper_button.grid(row=1, column=1, padx=2, pady=2)
56
57 #Add an image
58 smile_img = ImageTk.PhotoImage(Image.open('smile.png'))
59 smile_label = tkinter.Label(output_frame, image=smile_img, bg=output_color)
60 smile_label.pack()
61
62 #Run root window's main loop
63 root.mainloop()

```