bmi

November 21, 2024

[1]:
```
pip install pillow
```

```
Requirement already satisfied: pillow in c:\users\sarvesh\anaconda3\lib\site-
packages (10.3.0)
Note: you may need to restart the kernel to use updated packages.
```

1 IMPORTING ALL MODULES

[1]:
```
from tkinter import *
import tkinter as tk
from tkinter import ttk
from PIL import Image,ImageTk
```

2 Tkinter window titled “BMI Calculator”

[ ]:
```
root=Tk()
root.title("BMI Calculator")
root.geometry('470x580+300+200')
root.resizable(False,False)
root.configure(bg='#f0f1f5')
root.mainloop()
```

3 This BMI function calculates the Body Mass Index (BMI)

[ ]:
```
def BMI():
    h=float(Height.get())
    w=float(Weight.get())
    # It converts height into meter
    m=h/100
    bmi=round(float(w/m**2),1)
    label1.config(text=bmi)



    if bmi < 18.5:
```

```
        label2.config(text='Underweight!')
        label3.config(text='You have lower weight than a normal body')
    elif bmi > 18.5 and bmi <= 25:
        label2.config(text='Normal!')
        label3.config(text='You are healthy!')
    elif bmi > 25 and bmi <= 30:
        label2.config(text='Overweight!')
        label3.config(text='You are slightly overweight!')
    else:
        label2.config(text='Obese!')
        label3.config(text='Your health is at risk')
```

4 This code places a top image, a light blue bottom box, and two upper boxes (box.png) in the root window for a structured interface layout.

[ ]:
```
#TOP

top=PhotoImage(file='top.png')
top_image=Label(root,image=top,bg='#f0f1f5')
top_image.place(x=-10,y=-10)

#BOTTOM BOX

Label(root,width=72,height=18,bg='lightblue').pack(side=BOTTOM)

# UPPER  TWO BOXES

box=PhotoImage(file='box.png')
Label(root,image=box).place(x=20,y=100)
Label(root,image=box).place(x=240,y=100)
```

5 Displays the “scale.png” image at (20, 310) in a tkinter window.

[ ]:
```
#SCALE

scale=PhotoImage(file='scale.png')
Label(root,image=scale,bg='lightblue').place(x=20,y=310)
```

6 Creates a horizontal slider that adjusts the size of an image ("man.png") based on the slider's value, resizing the image and updating its position in a tkinter window.

[ ]:
```
#SLIDER 1
current_value= tk.DoubleVar()

def get_current_value():
    return '{: .2f}'.format(current_value.get())

def slider_changed(event):
    Height.set(get_current_value())

    size=int(float(get_current_value()))
    img=(Image.open('man.png'))
    resized_image=img.resize((50,10+size))
    photo2=ImageTk.PhotoImage(resized_image)
    man_image.config(image=photo2)
    man_image.place(x=70,y=550-size)
    man_image.image=photo2


style=ttk.Style()
style.configure('TScale',background='white')
slider=ttk.Scale(root,from_=0,to=220,orient='horizontal',style='TScale',
                 command=slider_changed,variable=current_value)
slider.place(x=80,y=250)
```

7 Creates a horizontal slider that adjusts a value (weight) between 0 and 150, updating a variable based on the slider's position in a tkinter window.

[ ]:
```
#SLIDER 2
current_value2= tk.DoubleVar()

def get_current_value2():
    return '{: .2f}'.format(current_value2.get())

def slider_changed2(event):
    Weight.set(get_current_value2())

style2=ttk.Style()
style2.configure('TScale',background='white')
slider2=ttk.Scale(root,from_=0,to=150,orient='horizontal',style='TScale',
                 command=slider_changed2,variable=current_value2)
```

```
slider2.place(x=300,y=250)
```

8 Creates two entry boxes for height and weight, displaying the current values from the sliders, with custom styling and centered text in a tkinter window.

```
[ ]: #ENTRY BOX

Height=StringVar()
Weight=StringVar()
height=Entry(root,textvariable=Height,width=5,font='arial␣
 ↪50',bg='#fff',fg='#000',bd=0,justify=CENTER)
height.place(x=35,y=160)
Height.set(get_current_value())

weight=Entry(root,textvariable=Weight,width=5,font='arial␣
 ↪50',bg='#fff',fg='#000',bd=0,justify=CENTER)
weight.place(x=255,y=160)
Weight.set(get_current_value2())
```

9 Creates a label for displaying the "man" image and a button labeled "View Report" that triggers the BMI function when clicked in a tkinter window.

```
[ ]: #MAN IMAGE
man_image=Label(root,bg='lightblue')
man_image.place(x=70,y=530)

Button(root,text='View Report',width=15,height=2,font='arial 10␣
 ↪bold',bg='#1f6e68',fg='white',command=BMI).place(x=280,y=340)
```

10 Creates three labels with different fonts and styles, placed at specified positions on a tkinter window, used for displaying dynamic text or information.

```
[ ]: label1=Label(root,font='arial 60 bold',bg='lightblue',fg='#fff')
label1.place(x=125,y=305)

label2=Label(root,font='arial 20 bold',bg='lightblue',fg='#3b3a3a')
label2.place(x=280,y=430)

label3=Label(root,font='arial 10 bold',bg='lightblue')
```

```
label3.place(x=200,y=500)
```

11 FULL WORKING CODE

[3]:
```
root=Tk()
root.title("BMI Calculator")
root.geometry('470x580+300+200')
root.resizable(False,False)
root.configure(bg='#f0f1f5')

def BMI():
    h = float(Height.get())
    w = float(Weight.get())
    # Convert height into meters
    m = h / 100
    bmi = round(float(w / m**2), 1)
    label1.config(text=bmi)

    if bmi < 18.5:
        label2.config(text='Underweight!')
        label3.config(text='You have lower weight than a normal body')
    elif 18.5 <= bmi <= 22.9:
        label2.config(text='Normal!')
        label3.config(text='You are healthy!')
    elif 23 <= bmi <= 24.9:
        label2.config(text='Overweight!')
        label3.config(text='You are slightly overweight!')
    else:
        label2.config(text='Obese!')
        label3.config(text='Your health is at risk')


#TOP

top=PhotoImage(file='top.png')
top_image=Label(root,image=top,bg='#f0f1f5')
top_image.place(x=-10,y=-10)

#BOTTOM BOX

Label(root,width=72,height=18,bg='lightblue').pack(side=BOTTOM)

# UPPER  TWO BOXES

box=PhotoImage(file='box.png')
Label(root,image=box).place(x=20,y=100)
```

```
Label(root,image=box).place(x=240,y=100)


#SCALE

scale=PhotoImage(file='scale.png')
Label(root,image=scale,bg='lightblue').place(x=20,y=310)


#SLIDER 1

current_value= tk.DoubleVar()


def get_current_value():
    return '{: .2f}'.format(current_value.get())

def slider_changed(event):
    Height.set(get_current_value())

    size=int(float(get_current_value()))
    img=(Image.open('man.png'))
    resized_image=img.resize((50,10+size))
    photo2=ImageTk.PhotoImage(resized_image)
    man_image.config(image=photo2)
    man_image.place(x=70,y=550-size)
    man_image.image=photo2


style=ttk.Style()
style.configure('TScale',background='white')
slider=ttk.Scale(root,from_=0,to=220,orient='horizontal',style='TScale',
                 command=slider_changed,variable=current_value)
slider.place(x=80,y=250)



#SLIDER 2


current_value2= tk.DoubleVar()


def get_current_value2():
    return '{: .2f}'.format(current_value2.get())

def slider_changed2(event):
```

```
    Weight.set(get_current_value2())

style2=ttk.Style()
style2.configure('TScale',background='white')
slider2=ttk.Scale(root,from_=0,to=150,orient='horizontal',style='TScale',
                  command=slider_changed2,variable=current_value2)
slider2.place(x=300,y=250)



#ENTRY BOX

Height=StringVar()
Weight=StringVar()
height=Entry(root,textvariable=Height,width=5,font='arial␣
 ↪50',bg='#fff',fg='#000',bd=0,justify=CENTER)
height.place(x=35,y=160)
Height.set(get_current_value())

weight=Entry(root,textvariable=Weight,width=5,font='arial␣
 ↪50',bg='#fff',fg='#000',bd=0,justify=CENTER)
weight.place(x=255,y=160)
Weight.set(get_current_value2())


#MAN IMAGE
man_image=Label(root,bg='lightblue')
man_image.place(x=70,y=530)

Button(root,text='View Report',width=15,height=2,font='arial 10␣
 ↪bold',bg='#1f6e68',fg='white',command=BMI).place(x=280,y=340)

label1=Label(root,font='arial 60 bold',bg='lightblue',fg='#fff')
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label2=Label(root,font='arial 20 bold',bg='lightblue',fg='#3b3a3a')
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label3.place(x=200,y=500)



root.mainloop()
```