The Final Project

FitStatpro – A BMI Calculator

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Objective

The objective is to create a BMI (Body Mass Index) calculator application. The program takes input from the user for weight (in kilograms) and height (in meters), calculates the BMI based on these inputs, and displays the result.

Description

Enter the realm of health tracking with Fit Stat Pro, a minimalist yet effective BMI (Body Mass Index) calculator designed for seamless usability.

Built entirely in Python, Fit Stat Pro features a clean and intuitive interface using the tinker library. Users simply input their height and weight, and the program instantly computes their BMI using basic Python logic.

With Fit Stat Pro, monitoring your health has never been easier. Experience clarity and simplicity as you input your data and receive your BMI result effortlessly.

Stay on top of your health journey with Fit Stat Pro - where simplicity meets functionality.

Explanation of code logic and design

Imports:

The code begins by importing necessary modules such as tkinter for GUI, custom tkinter for customizing tkinter widgets, PIL for image handling, and Image from PIL for image opening.

Appearance Configuration:

For Ensuring a consistent theme throughout the application.

Main Window Setup:

app_ main_ win Creates the main window using custom tkinter.CTk with specific configurations such as title, size, and background color.

```
# appearance mode
customtkinter.set_appearance_mode('light')

#For main window

app_main_win = customtkinter.CTk(fg_color="violet")
app_main_win.title("Fitstatpro")
app_main_win.geometry("600x400")
app_main_win.maxsize(650,500)
app_main_win.configure(bg_color="dark-blue")
```

Fonts Setup:

Defines different font styles (font_1, font_2, font_3, font_4) for various text elements in the GUI.

```
#Fonts
font_1=('times new roman',28, 'bold')
font_2=('times new roman',18, 'bold')
font_3=('times new roman',25, 'bold')
font_4=('times new roman', 18)
```

BMI Calculation Function “Calculate_BMI()”:

Defines a function to calculate BMI based on user input for weight and height, handling potential errors like Value Error and Zero Division Error.

```
def calculate_bmi():
    try:
        weight=float(weight_entry.get())
        height=float(height_entry.get())
        bmi=weight/(height*height)
        result_label.configure(text="Your BMI is: {:.2f} kg/m²".format(bmi))
    except ValueError:
        messagebox.showerror("Error", "Enter a Valid Number")
    except ZeroDivisionError:
        messagebox.showerror("Error", 'Height cannot be at Zero')
```

Logo and Title Setup:

Inserts logo images (fitpro.jpg and download_1.jpeg) and displays a title label (title label) for the application.

Labels and Entry Boxes:

Creates labels (weight_ label, height_ label) and entry boxes (weight_ entry, height_ entry) for users to input weight and height data.

```
# app logo

logo_image=customtkinter.CTkImage(light_image=Image.open("fitpro.jpg"), dark_image=Image.open("fitpro.jpg"), size=(50,25))
image_label=customtkinter.CTkLabel(app_main_win, text="", image=logo_image)
image_label.place(x=5, y=10)

logo_image2=customtkinter.CTkImage(light_image=Image.open("download_1.jpeg"), dark_image=Image.open("download_1.jpeg"), size=(50,50))
image_label2=customtkinter.CTkLabel(app_main_win, text="", image=logo_image2)
image_label2.place(x=5, y=30)
```

```
#creating title, weight and height label

title_label= customtkinter.CTkLabel(app_main_win,font=font_1, text='A BMI Calculator', text_color='white',bg_color='midnightblue')
title_label.place(x=170, y=20)

weight_label=customtkinter.CTkLabel(app_main_win,font=font_2, text='weight (kg)', text_color='white', bg_color='midnightblue')
weight_label.place(x=170, y=80)

height_label=customtkinter.CTkLabel(app_main_win, font=font_2,text='height (m)', text_color='white', bg_color='midnightblue')
height_label.place(x=170, y=150)
```

```
#Create weight and height entry box

weight_entry= customtkinter.CTkEntry(app_main_win,font=font_4, text_color='midnightblue',
placeholder_text="Enter the number here", placeholder_text_color="violet", fg_color='pink', border_color='pink', width=250)
weight_entry.place(x=170,y=110)

height_entry= customtkinter.CTkEntry(app_main_win, font=font_4, text_color='midnightblue',
 placeholder_text= "Enter the number here",placeholder_text_color="violet", fg_color='pink', border_color='pink', width=250)
height_entry.place(x=170,y=180)
```

Calculate Button:

Calculate_ btn generates a button for users to trigger BMI calculation, linked to the calculate_ bi () function.

Exit Button:

Exit_the_program provides a button to exit the BMI calculator application.

Result Label:

result_label displays the calculated BMI result.

```
#Creating Calculate Button

Calculate_btn= customtkinter.CTkButton(app_main_win, command=calculate_bmi,font=font_2, text_color='midnight blue',
 text='Calculate',fg_color='pink', hover_color='lightblue',bg_color='pink',cursor='fleur', corner_radius=5, width=200)
Calculate_btn.place(x=170, y=230)

# for closing main window
def close ():
        app_main_win.forget(app_main_win)
        app_main_win.update()

# Exit Button

exit_the_program = customtkinter.CTkButton(app_main_win, command=close,font=font_2, text="Exit the Calculator", text_color="midnightblue",
 fg_color="pink", bg_color="pink", hover_color="lightblue", cursor="fleur", corner_radius=5, width=200)
exit_the_program.place(x=170, y=360)


#Result-label

result_label= customtkinter.CTkLabel(app_main_win,text="",font=font_4, text_color='midnightblue',bg_color='violet')
result_label.place(x=170, y=280)

clickhere= customtkinter.CTkLabel(app_main_win, text="Click to know your class \u2192",font=font_2, text_color='midnightblue',
fg_color="violet")
clickhere.place(x=40, y=320)
```

Activate Wind

https://github.com/Saudha255/BanoQabil-2.0-Python-Course

BMI Chart Window Function:

bmi_ chart_ screen () defines a function to create a new window displaying a BMI classification chart with different classes, ranges, and risks of comorbidities.

```
def bmi_chart_screen():
    new_chart_window= customtkinter.CTkToplevel(app_main_win,fg_color="violet")
    new_chart_window.title("Classification of BMI")
    new_chart_window.geometry("700x400")
    new_chart_window.maxsize(900,600)

    # title label
    title_label_2=customtkinter.CTkLabel(new_chart_window, font=font_1, text= "Classification of BMI", text_color="white",bg_color="midnightblue"
    title_label_2.place(x=150,y=20)
```

```
creating a BMI chart
heading labels for chart

  headinglabel1=customtkinter.CTkLabel(new_chart_window, text="Classes", font=font_3, text_color="midnightblue", bg_color="violet")
  headinglabel1.place(x=50, y=90)

  headinglabel2=customtkinter.CTkLabel(new_chart_window, text="Ranges", font=font_3,text_color="midnightblue", bg_color="violet")
  headinglabel2.place(x=200, y=90)

  headinglabel3=customtkinter.CTkLabel(new_chart_window, text="Risk of Comorbidities", font=font_3,text_color="midnightblue", bg_color="violet")
  headinglabel3.place(x=350, y=90)
```

```
# Classes for chart

    class1=customtkinter.CTkLabel(new_chart_window, text="underweight", text_color="midnightblue",font=font_4,bg_color="violet")
    class1.place(x=50, y=130)

    class2=customtkinter.CTkLabel(new_chart_window, text='Normal weight', text_color='midnightblue',font=font_4,bg_color='violet')
    class2.place(x=50, y=160)

    class3=customtkinter.CTkLabel(new_chart_window, text="Overweight", text_color="midnightblue",font=font_4, bg_color="violet")
    class3.place(x=50, y=190)

    class4=customtkinter.CTkLabel(new_chart_window, text="Obese Class I", font=font_4, text_color="midnightblue", bg_color="violet")
    class4.place(x=50, y=220)

    class5=customtkinter.CTkLabel(new_chart_window,text="Obese Class II", font=font_4, text_color="midnightblue", bg_color="violet")
    class5.place(x=50, y=250)

    class6=customtkinter.CTkLabel(new_chart_window, text="Obese Class III", text_color="midnightblue", font=font_4, bg_color="violet")
    class6.place(x=50, y=280)

    # ranges for the chart
```

```
# ranges for the chart

range1=customtkinter.CTkLabel(new_chart_window, text="<18.5", font=font_4, text_color="midnightblue", bg_color="violet")
range1.place(x=200, y=130)

range2=customtkinter.CTkLabel(new_chart_window, text="18.5-24.9", font=font_4, text_color="midnightblue", bg_color="violet")
range2.place(x=200, y=160)

range3=customtkinter.CTkLabel(new_chart_window, text="25.0-29.9", font=font_4, text_color="midnightblue", bg_color="violet")
range3.place(x=200, y=190)

range4=customtkinter.CTkLabel(new_chart_window, text="30.0-34.9", font=font_4, text_color="midnightblue", bg_color="violet")
range4.place(x=200, y=220)

range5=customtkinter.CTkLabel(new_chart_window, text="35.0-39.9", font=font_4, text_color="midnightblue", bg_color="violet")
range5.place(x=200, y=250)

range6=customtkinter.CTkLabel(new_chart_window, text="\u2265 40", font=font_4, text_color="midnightblue", bg_color="violet")
range6.place(x=200, y=280)

# risk of commorbities
```

```
    # risk of commorbities

    risk_for_class1=customtkinter.CTkLabel(new_chart_window, text="Low", font=font_4, text_color="midnightblue", bg_color="violet")
    risk_for_class1.place(x=350, y=130)

    risk_for_class2=customtkinter.CTkLabel(new_chart_window, text="---", font=font_4, text_color="midnightblue", bg_color="violet")
    risk_for_class2.place(x=350, y=160)

    risk_for_class3=customtkinter.CTkLabel(new_chart_window, text="Increased", font=font_4, text_color="midnightblue", bg_color="violet")
    risk_for_class3.place(x=350, y=190)

    risk_for_class4=customtkinter.CTkLabel(new_chart_window, text="High", font=font_4, text_color="midnightblue", bg_color="violet")
    risk_for_class4.place(x=350, y=220)

    risk_for_class5=customtkinter.CTkLabel(new_chart_window, text="severe", font=font_4, text_color="midnightblue", bg_color="violet")
    risk_for_class5.place(x=350, y=250)

    risk_for_class6=customtkinter.CTkLabel(new_chart_window, text="very severe", font=font_4, text_color="midnightblue", bg_color="violet")
    risk_for_class6.place(x=350, y=280)
```

BMI Chart Button:

range_chart_button initiates a button to navigate to the BMI classification chart window.

```
#Weight-Range Chart button

range_chart_button=customtkinter.CTkButton(app_main_win,command=bmi_chart_screen,font=font_2, text_color='midnightblue',
text= 'Classification of BMI', fg_color='pink', hover_color='lightblue', bg_color='pink', cursor='fleur', corner_radius=5, width=200)
range_chart_button.place(x=270, y=320)
```

Main Loop:

app_main_win.mainloop() enters the tkinter event loop to run the GUI application.

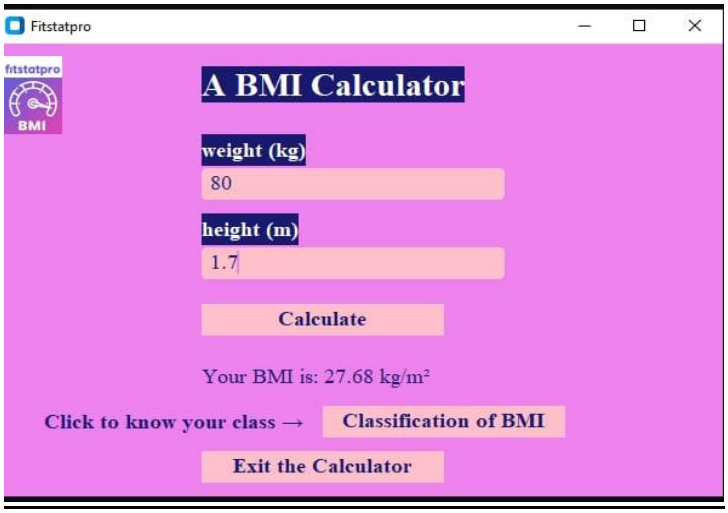
```
#for main loop

app_main_win.mainloop()
```

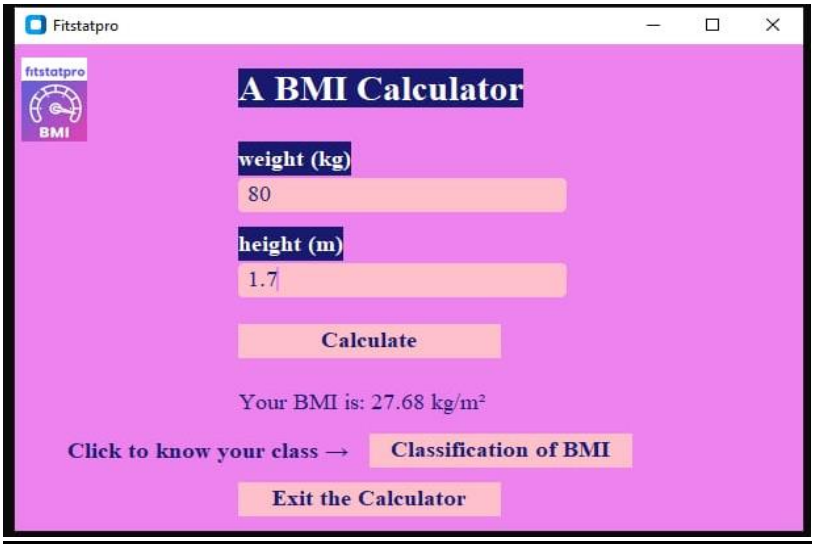
This code creates a GUI-based BMI calculator application with additional functionality to display a BMI classification chart, enhancing user experience and understanding of BMI categories.

Output of the code

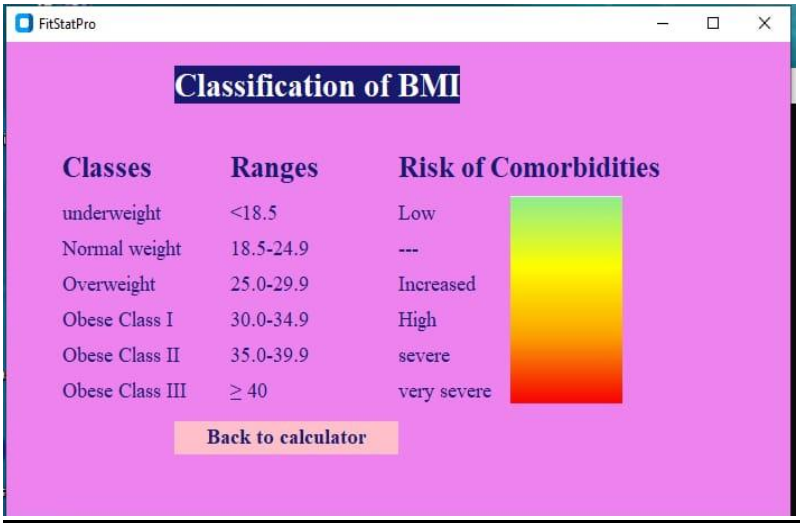
1. Main window of the program



2. Taking user input



3. Windows for BMI classification chart.



GitHub Link:

Click on BanoQabil2.0PythonCourse to access the repository containing the folder called “THE FINAL PROJECT”.