

Assignment Title: Color Changer GUI Application using Tkinter

Objective:

- Build proficiency in creating graphical user interfaces (GUIs) with Tkinter.
- Practice utilizing dropdown menus and event handling in Tkinter applications.

Instructions:

Research and provide definitions for the following tkinter widgets and concepts

- Entry
- Button
- Label
- OptionMenu
- Grid layout
- Command parameter in Button widget

Problem 1: Color Changer

Create a Tkinter GUI application that allows the user to change the background color of the window by selecting a color from a dropdown menu.

Step-by-Step Guide:

Step 1: Set Up the Tkinter Window

- Import the `tkinter` module.
- Create a main window using `Tk()` constructor.
- Set the title of the window using `title()` method.

Step 2: Create Dropdown Menu

- Define a list of color options (e.g., "Red", "Green", "Blue", etc.).
- Create a `StringVar()` object to store the selected color.
- Create an `OptionMenu` widget using the color options and the `StringVar()` object.

Step 3: Define a Function to Change Color

- Create a function (`change_color`) that updates the background color of the window based on the selected color from the dropdown menu.
- Inside the function, use the `.config()` method to update the `bg` (background) property of the main window.

Step 4: Bind Function to Dropdown Menu

- Use the `.trace()` method to bind the `change_color` function to the `StringVar()` object associated with the dropdown menu.
- This ensures that whenever the selected color changes, the `change_color` function is automatically called.

Step 5: Run the Application

- Call the `mainloop()` method to run the Tkinter event loop and display the GUI.