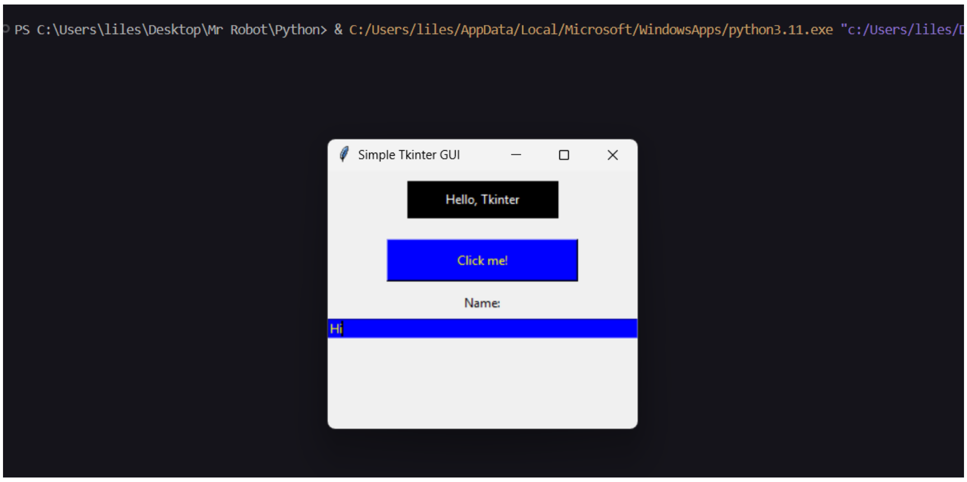
Practical No 3

Code:

```
import tkinter as tk

# Step 1: Create a window instance
window = tk.Tk()
window.title("Simple Tkinter GUI")
window.geometry("300x250")  # Optional: set window size

# Step 3 & 4: Add a Label widget with customized properties
label = tk.Label(
    text="Hello, Tkinter",
    fg="white",      # Text color
    bg="black",      # Background color
    width=20,
    height=2
)
label.pack(pady=10)  # Add some vertical padding

# Step 5: Add a Button widget with customized properties
button = tk.Button(
    text="Click me!",
    width=25,
    height=2,
    bg="blue",
    fg="yellow"
)
button.pack(pady=10)

# Step 6: Add an Entry widget with a label
entry_label = tk.Label(text="Name:")
entry_label.pack()
entry = tk.Entry(fg="yellow", bg="blue", width=50)
entry.pack(pady=5)

# Run the Tkinter event loop to display the window
window.mainloop()
```

Output:



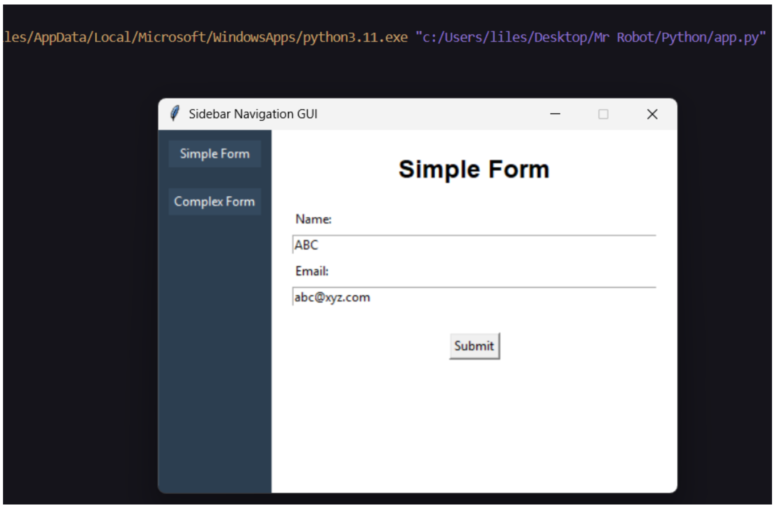
```
PS C:\Users\liles\Desktop\Mr Robot\Python> & C:/Users/liles/AppData/Local/Microsoft/WindowsApps/python3.11.exe "c:/Users/liles/D
```

Practical No 4

Code:

```
import tkinter as tk
from tkinter import ttk

class SidebarApp(tk.Tk):
    def __init__(self):
        super().__init__()
        self.title("Sidebar Navigation GUI")
        self.geometry("500x350")
        self.resizable(False, False)

        # Configure grid layout: 1 row, 2 columns
        self.grid_columnconfigure(1, weight=1)
        self.grid_rowconfigure(0, weight=1)

        # Sidebar Frame
        sidebar = tk.Frame(self, bg="#2c3e50", width=120)
        sidebar.grid(row=0, column=0, sticky="ns")
        sidebar.grid_propagate(False)

        # Main content container frame
        self.container = tk.Frame(self, bg="#ecf0f1")
        self.container.grid(row=0, column=1, sticky="nsew")
        self.container.grid_rowconfigure(0, weight=1)
        self.container.grid_columnconfigure(0, weight=1)

        # Sidebar buttons
        btn_simple = tk.Button(sidebar, text="Simple Form", fg="white", bg="#34495e",
                       relief="flat", command=lambda: self.show_frame(SimpleForm))
        btn_simple.pack(fill='x', pady=10, padx=10)

        btn_complex = tk.Button(sidebar, text="Complex Form", fg="white", bg="#34495e",
                        relief="flat", command=lambda: self.show_frame(ComplexForm))
        btn_complex.pack(fill='x', pady=10, padx=10)

        # Dictionary to keep references to frames
        self.frames = {}

        # Initialize frames
        for F in (SimpleForm, ComplexForm):
            frame = F(parent=self.container, controller=self)
            self.frames[F] = frame
            frame.grid(row=0, column=0, sticky="nsew")
        # Show the SimpleForm by default
        self.show_frame(SimpleForm)

    def show_frame(self, frame_class):
        frame = self.frames[frame_class]
        frame.tkraise()

# Simple Form Screen
class SimpleForm(tk.Frame):
    def __init__(self, parent, controller):
        super().__init__(parent, bg="white")
        self.controller = controller

        tk.Label(self, text="Simple Form", font=("Helvetica", 18, "bold"), bg="white").pack(pady=20)

        tk.Label(self, text="Name:", bg="white").pack(anchor='w', padx=20)
        self.name_entry = tk.Entry(self)
        self.name_entry.pack(fill='x', padx=20, pady=5)

        tk.Label(self, text="Email:", bg="white").pack(anchor='w', padx=20)
        self.email_entry = tk.Entry(self)
        self.email_entry.pack(fill='x', padx=20, pady=5)

        tk.Button(self, text="Submit", command=self.submit).pack(pady=20)

    def submit(self):
        name = self.name_entry.get()
        email = self.email_entry.get()
        print(f"[SimpleForm] Name: {name}, Email: {email}")

# Complex Form Screen
class ComplexForm(tk.Frame):
    def __init__(self, parent, controller):
        super().__init__(parent, bg="white")
        self.controller = controller

        tk.Label(self, text="Complex Form", font=("Helvetica", 18, "bold"),
bg="white").pack(pady=20)

        # Use grid layout here
        form_frame = tk.Frame(self, bg="white")
        form_frame.pack(padx=20, pady=10, fill='x')

        tk.Label(form_frame, text="Name:", bg="white").grid(row=0, column=0, sticky="e", pady=5)
        self.name_entry = tk.Entry(form_frame)
        self.name_entry.grid(row=0, column=1, pady=5, sticky="ew")

        tk.Label(form_frame, text="Email:", bg="white").grid(row=1, column=0, sticky="e", pady=5)
        self.email_entry = tk.Entry(form_frame)
        self.email_entry.grid(row=1, column=1, pady=5, sticky="ew")

        tk.Label(form_frame, text="Age:", bg="white").grid(row=2, column=0, sticky="e", pady=5)
        self.age_entry = tk.Entry(form_frame)
        self.age_entry.grid(row=2, column=1, pady=5, sticky="ew")

        tk.Label(form_frame, text="Subscribe to Newsletter:", bg="white").grid(row=3, column=0, sticky="e", pady=5)
        self.subscribe_var = tk.BooleanVar()
        tk.Checkbutton(form_frame, variable=self.subscribe_var, bg="white").grid(row=3, column=1, sticky="w", pady=5)

        form_frame.grid_columnconfigure(1, weight=1)

        tk.Button(self, text="Submit", command=self.submit).pack(pady=20)

    def submit(self):
        name = self.name_entry.get()
        email = self.email_entry.get()
        age = self.age_entry.get()
        subscribed = self.subscribe_var.get()
        print(f"[ComplexForm] Name: {name}, Email: {email}, Age: {age}, Subscribed: {subscribed}")

if __name__ == "__main__":
    app = SidebarApp()
    app.mainloop()
```

Output:



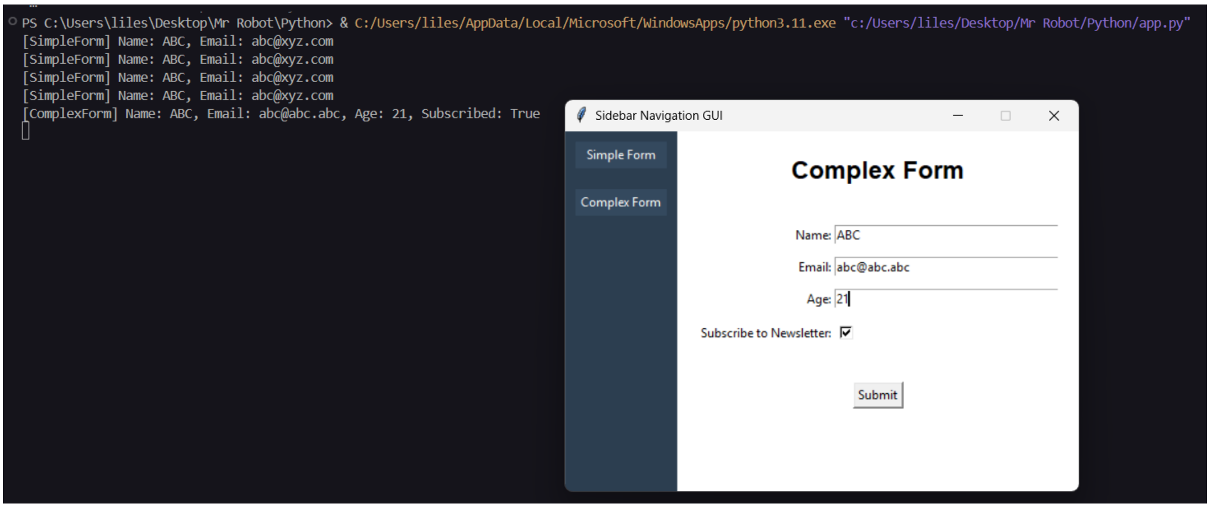
```
les/AppData/Local/Microsoft/WindowsApps/python3.11.exe "c:/Users/liles/Desktop/Mr Robot/Python/app.py"
```

Sidebar Navigation GUI

Simple Form

Name: ABC

Email: abc@xyz.com



```
PS C:\Users\liles\Desktop\Mr Robot\Python> & C:/Users/liles/AppData/Local/Microsoft/WindowsApps/python3.11.exe "c:/Users/liles/Desktop/Mr Robot/Python/app.py"
[SimpleForm] Name: ABC, Email: abc@xyz.com
[SimpleForm] Name: ABC, Email: abc@xyz.com
[SimpleForm] Name: ABC, Email: abc@xyz.com
[SimpleForm] Name: ABC, Email: abc@xyz.com
[ComplexForm] Name: ABC, Email: abc@abc.abc, Age: 21, Subscribed: True
```

Sidebar Navigation GUI

Complex Form

Name: ABC

Email: abc@abc.abc

Age: 21

Subscribe to Newsletter: ☑