

EX.NO:	HOSPITAL DISCHARGE APPLICATION USING STACK
DATE: / /2025	

AIM

To Develop hospital discharge application using stack in python.

SOURCE CODE:

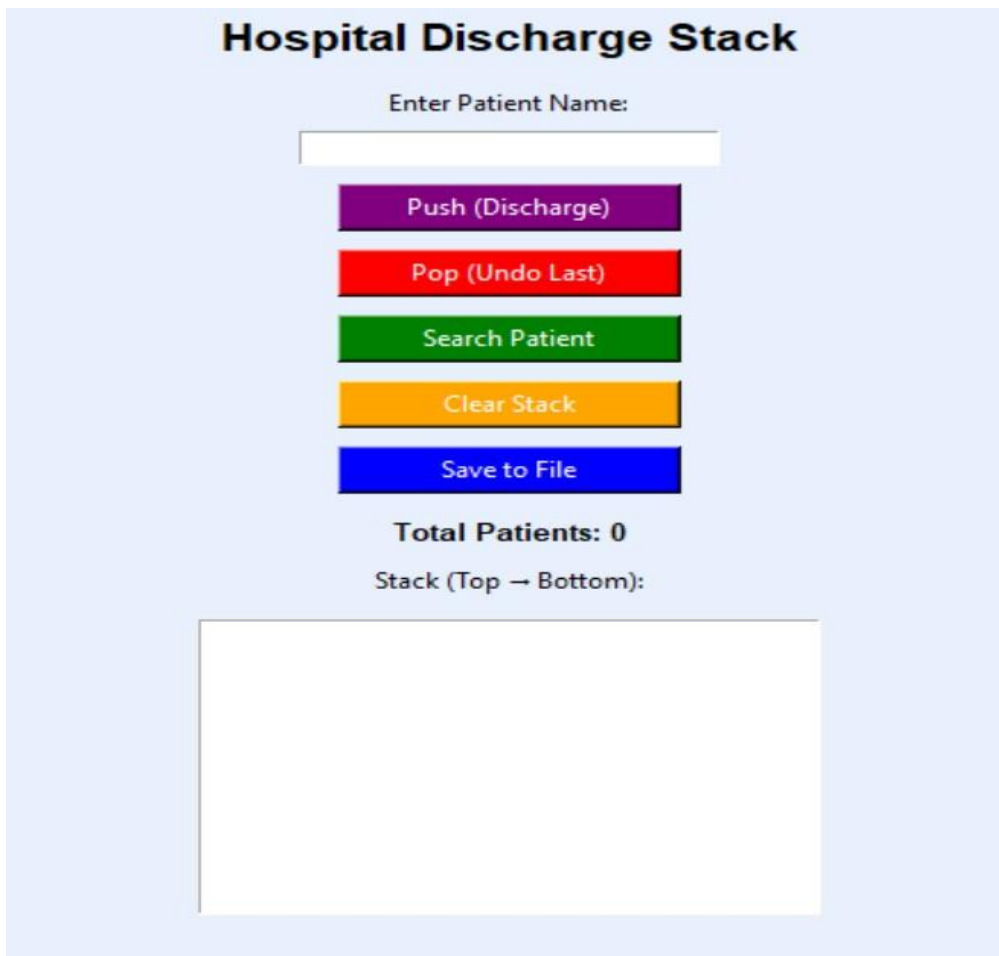
```
import tkinter as tk
from tkinter import messagebox, simpledialog
from datetime import datetime
discharge_stack = []
def push_patient(event=None): # Added event for Enter key
    name = entry_name.get().strip()
    if name == "":
        messagebox.showwarning("Warning", "Enter patient name")
        return
    timestamp = datetime.now().strftime("%Y-%m-%d %H:%M:%S")
    discharge_stack.append(f'{name} (at {timestamp})')
    messagebox.showinfo("Discharged", f'Patient discharged:\n{name}')
    entry_name.delete(0, tk.END)
    show_stack()
def pop_patient():
    if not discharge_stack:
        messagebox.showwarning("Empty Stack", "No patients discharged")
        return
    patient = discharge_stack.pop()
    messagebox.showinfo("Undo", f'Removed from stack:\n{patient}')
    show_stack()
def show_stack():
    listbox.delete(0, tk.END)
    for p in reversed(discharge_stack):
        listbox.insert(tk.END, p)
    lbl_count.config(text=f'Total Patients: {len(discharge_stack)}')
def clear_stack():
    if not discharge_stack:
        messagebox.showwarning("Warning", "Stack already empty")
        return
    if messagebox.askyesno("Confirm", "Clear entire stack?"):
        discharge_stack.clear()
```

```

        show_stack()
def search_patient():
    query = simpledialog.askstring("Search", "Enter patient name to search:")
    if not query:
        return
    matches = [p for p in discharge_stack if query.lower() in p.lower()]
    if matches:
        messagebox.showinfo("Found", "\n".join(matches))
    else:
        messagebox.showinfo("Not Found", "No patient found")
def save_to_file():
    if not discharge_stack:
        messagebox.showwarning("Warning", "No data to save")
        return
    with open("discharge_history.txt", "w") as file:
        for p in discharge_stack:
            file.write(p + "\n")
    messagebox.showinfo("Saved", "History saved as discharge_history.txt")
root.title("Hospital Patient Stack System")
root.geometry("450x450")
root.config(bg="#E8F0FE")
tk.Label(root, text="Hospital Discharge Stack",
        font=("Arial", 16, "bold"), bg="#E8F0FE").pack(pady=10)
tk.Label(root, text="Enter Patient Name:", bg="#E8F0FE").pack()
entry_name = tk.Entry(root, width=30)
entry_name.pack(pady=5)
entry_name.bind("<Return>", push_patient) # Press Enter to push
tk.Button(root, text="Push (Discharge)", width=20, bg="purple", fg="white",
        command=push_patient).pack(pady=5)
tk.Button(root, text="Pop (Undo Last)", width=20, bg="red", fg="white",
        command=pop_patient).pack(pady=5)
tk.Button(root, text="Search Patient", width=20, bg="green", fg="white",
        command=search_patient).pack(pady=5)
tk.Button(root, text="Clear Stack", width=20, bg="orange", fg="white",
        command=clear_stack).pack(pady=5)
tk.Button(root, text="Save to File", width=20, bg="blue", fg="white",
        command=save_to_file).pack(pady=5)
lbl_count = tk.Label(root, text="Total Patients: 0", bg="#E8F0FE", font=("Arial"))
lbl_count.pack(pady=5)
tk.Label(root, text="Stack (Top → Bottom):", bg="#E8F0FE").pack()
listbox.pack(pady=10)
root.mainloop()

```

OUTPUT:



The screenshot displays a web application titled "Hospital Discharge Stack". It features a light blue background. At the top, the title is centered in a bold, black font. Below the title, there is a text input field labeled "Enter Patient Name:". Underneath the input field, there are five buttons stacked vertically: a purple button labeled "Push (Discharge)", a red button labeled "Pop (Undo Last)", a green button labeled "Search Patient", an orange button labeled "Clear Stack", and a blue button labeled "Save to File". Below these buttons, the text "Total Patients: 0" is displayed. At the bottom, there is a label "Stack (Top → Bottom):" followed by a large, empty white rectangular box, presumably for displaying the stack's contents.

RESULT:

The program has been Successfully Executed.