Source code:

import tkinter as tk

from tkinter import messagebox

import sqlite3

# --- Database Setup ---

def init\_db():

conn = sqlite3.connect('contacts.db')

c = conn.cursor()

c.execute('''

CREATE TABLE IF NOT EXISTS contacts (

id INTEGER PRIMARY KEY,

name TEXT NOT NULL,

phone TEXT NOT NULL,

email TEXT,

address TEXT

)

''')

conn.commit()

conn.close()

# --- CRUD Operations ---

def add\_contact():

name = name\_entry.get()

phone = phone\_entry.get()

email = email\_entry.get()

address = address\_entry.get()

if not name or not phone:

messagebox.showwarning("Input Error", "Name and Phone are required!")

return

conn = sqlite3.connect('contacts.db')

c = conn.cursor()

c.execute("INSERT INTO contacts (name, phone, email, address) VALUES (?, ?, ?, ?)",

(name, phone, email, address))

conn.commit()

conn.close()

clear\_fields()

show\_contacts()

def show\_contacts():

contact\_list.delete(0, tk.END)

conn = sqlite3.connect('contacts.db')

c = conn.cursor()

c.execute("SELECT \* FROM contacts")

rows = c.fetchall()

for row in rows:

contact\_list.insert(tk.END, f"{row[1]} | {row[2]}")

conn.close()

def search\_contact():

keyword = search\_entry.get()

contact\_list.delete(0, tk.END)

conn = sqlite3.connect('contacts.db')

c = conn.cursor()

c.execute("SELECT \* FROM contacts WHERE name LIKE ?", ('%' + keyword + '%',))

rows = c.fetchall()

for row in rows:

contact\_list.insert(tk.END, f"{row[1]} | {row[2]}")

conn.close()

def select\_contact(event):

try:

index = contact\_list.curselection()[0]

selected = contact\_list.get(index)

name = selected.split("| ")[0]

conn = sqlite3.connect('contacts.db')

c = conn.cursor()

c.execute("SELECT \* FROM contacts WHERE name=?", (name,))

row = c.fetchone()

conn.close()

if row:

name\_entry.delete(0, tk.END)

name\_entry.insert(tk.END, row[1])

phone\_entry.delete(0, tk.END)

phone\_entry.insert(tk.END, row[2])

email\_entry.delete(0, tk.END)

email\_entry.insert(tk.END, row[3])

address\_entry.delete(0, tk.END)

address\_entry.insert(tk.END, row[4])

except IndexError:

pass

def update\_contact():

name = name\_entry.get()

phone = phone\_entry.get()

email = email\_entry.get()

address = address\_entry.get()

conn = sqlite3.connect('contacts.db')

c = conn.cursor()

c.execute("UPDATE contacts SET phone=?, email=?, address=? WHERE name=?",

(phone, email, address, name))

conn.commit()

conn.close()

clear\_fields()

show\_contacts()

def delete\_contact():

name = name\_entry.get()

conn = sqlite3.connect('contacts.db')

c = conn.cursor()

c.execute("DELETE FROM contacts WHERE name=?", (name,))

conn.commit()

conn.close()

clear\_fields()

show\_contacts()

def clear\_fields():

name\_entry.delete(0, tk.END)

phone\_entry.delete(0, tk.END)

email\_entry.delete(0, tk.END)

address\_entry.delete(0, tk.END)

# --- GUI Setup ---

app = tk.Tk()

app.title("Digital Contact Book")

app.geometry("500x500")

tk.Label(app, text="Name").pack()

name\_entry = tk.Entry(app)

name\_entry.pack()

tk.Label(app, text="Phone").pack()

phone\_entry = tk.Entry(app)

phone\_entry.pack()

tk.Label(app, text="Email").pack()

email\_entry = tk.Entry(app)

email\_entry.pack()

tk.Label(app, text="Address").pack()

address\_entry = tk.Entry(app)

address\_entry.pack()

tk.Button(app, text="Add Contact", command=add\_contact).pack(pady=5)

tk.Button(app, text="Update Contact", command=update\_contact).pack(pady=5)

tk.Button(app, text="Delete Contact", command=delete\_contact).pack(pady=5)

tk.Label(app, text="Search by Name").pack()

search\_entry = tk.Entry(app)

search\_entry.pack()

tk.Button(app, text="Search", command=search\_contact).pack(pady=5)

tk.Label(app, text="Contacts List").pack()

contact\_list = tk.Listbox(app, height=10)

contact\_list.pack(fill=tk.BOTH, expand=True)

contact\_list.bind('<<ListboxSelect>>', select\_contact)

# --- Init ---

init\_db()

show\_contacts()

app.mainloop()