Jun 11, 2025, 4:45 PM

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import tkinter as tk
from tkinter import messagebox
import sqlite3

# Connect to database
conn = sqlite3.connect("students.db")
cursor = conn.cursor()

# Create students table if not exists
cursor.execute("""
CREATE TABLE IF NOT EXISTS students (
    id INTEGER PRIMARY KEY AUTOINCREMENT,
    name TEXT NOT NULL,
    roll TEXT UNIQUE NOT NULL,
    grade TEXT,
    attendance TEXT
)
""")
conn.commit()

# Functions
def add_student():
    name = entry_name.get()
    roll = entry_roll.get()
    grade = entry_grade.get()
    attendance = entry_attendance.get()

    if not (name and roll):
        messagebox.showwarning("Input Error", "Name and Roll No. are required")
        return

    try:
        cursor.execute("INSERT INTO students (name, roll, grade, attendance) VALUES
(?, ?, ?, ?)",
                       (name, roll, grade, attendance))
        conn.commit()
        messagebox.showinfo("Success", "Student added successfully!")
```

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        clear_entries()
        view_students()
    except sqlite3.IntegrityError:
        messagebox.showerror("Error", "Roll number must be unique!")

def view_students():
    listbox.delete(0, tk.END)
    cursor.execute("SELECT * FROM students")
    for row in cursor.fetchall():
        listbox.insert(tk.END, row)

def delete_student():
    selected = listbox.curselection()
    if not selected:
        messagebox.showwarning("Select Student", "Please select a student to
delete")
        return
    student = listbox.get(selected[0])
    cursor.execute("DELETE FROM students WHERE id=?", (student[0],))
    conn.commit()
    messagebox.showinfo("Deleted", "Student deleted successfully")
    view_students()

def clear_entries():
    entry_name.delete(0, tk.END)
    entry_roll.delete(0, tk.END)
    entry_grade.delete(0, tk.END)
    entry_attendance.delete(0, tk.END)

# GUI Setup
root = tk.Tk()
root.title("Student Management System")
root.geometry("600x450")

# Labels and Entry Fields
tk.Label(root, text="Name").grid(row=0, column=0, padx=10, pady=5, sticky="w")
entry_name = tk.Entry(root)
entry_name.grid(row=0, column=1, pady=5)
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tk.Label(root, text="Roll No").grid(row=1, column=0, padx=10, pady=5, sticky="w")
entry_roll = tk.Entry(root)
entry_roll.grid(row=1, column=1, pady=5)

tk.Label(root, text="Grade").grid(row=2, column=0, padx=10, pady=5, sticky="w")
entry_grade = tk.Entry(root)
entry_grade.grid(row=2, column=1, pady=5)

tk.Label(root, text="Attendance (%)").grid(row=3, column=0, padx=10, pady=5,
sticky="w")
entry_attendance = tk.Entry(root)
entry_attendance.grid(row=3, column=1, pady=5)

# Buttons
tk.Button(root, text="Add Student", width=15, command=add_student).grid(row=4,
column=0, pady=10)
tk.Button(root, text="View All", width=15, command=view_students).grid(row=4,
column=1)
tk.Button(root, text="Delete Selected", width=15,
command=delete_student).grid(row=5, column=0)
tk.Button(root, text="Clear Fields", width=15, command=clear_entries).grid(row=5,
column=1)

# Listbox to Display Students
listbox = tk.Listbox(root, width=70, height=10)
listbox.grid(row=6, column=0, columnspan=2, padx=10, pady=10)

# Initial load
view_students()

# Run app
root.mainloop()
```