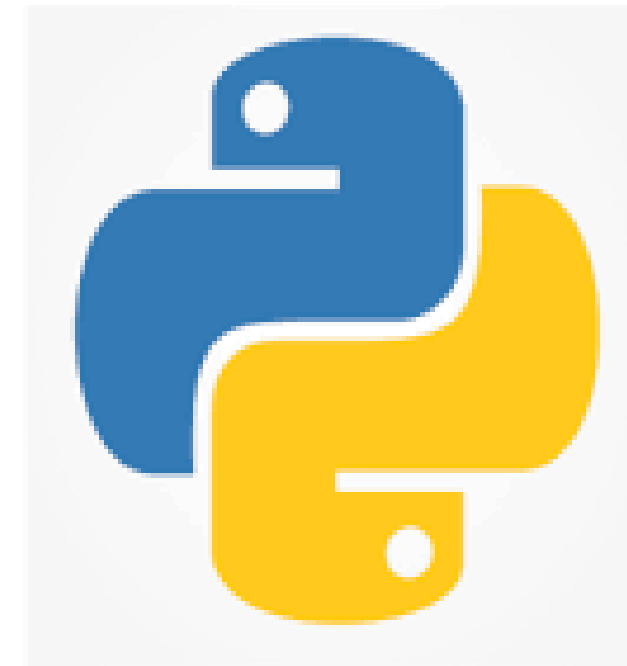


BUSINESS APPLICATION USING TKINTER LIBRARY

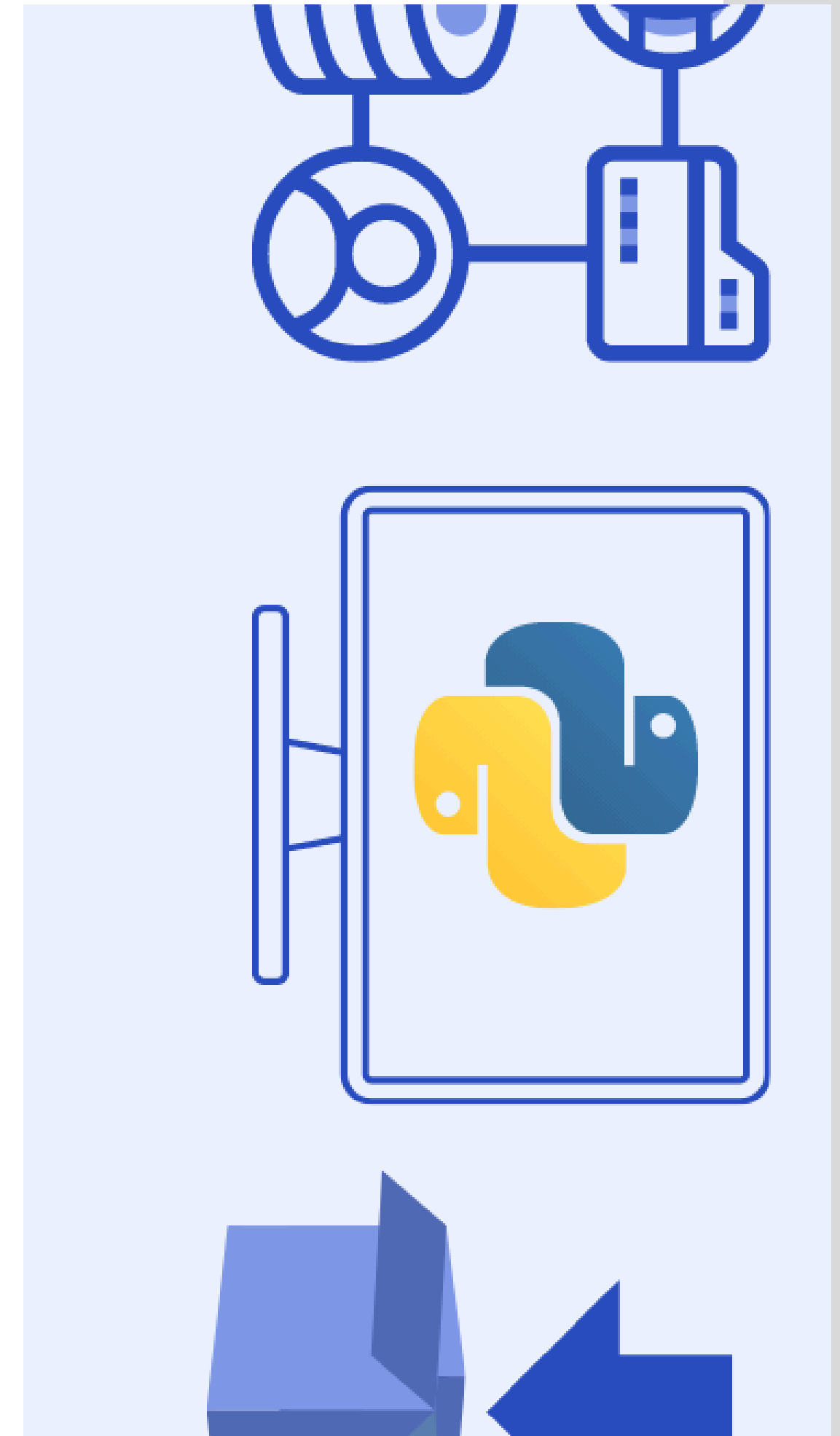


& tkinter

Muhammad Hamid Khan

Introduction of Topic

This Tkinter-based application is designed to collect and store student information in a CSV file. It allows users to enter details such as reference number, student name, father's name, department, blood group, city, and country. The data is saved to a CSV file, which can be downloaded at any time. The user-friendly interface ensures smooth data entry and validation, providing an efficient way to manage student records digitally.



Deliverables



- Creating the Tkinter Window
- Defining CSV File Handling
- Designing the User Interface
- Setting Up Grid Layout
- Validating User Input
- Saving Data to CSV
- Clearing Input Fields
- Providing Download Link

Code

```
import tkinter as tk
from tkinter import messagebox
import csv
import os

root = tk.Tk()
root.title("Departmental Data Collectio App")
root.geometry("1700x1600+0+0")

csv_file = "student_data.csv"

def write_to_csv(data):
    file_exists = os.path.isfile(csv_file)
    with open(csv_file, mode='a', newline='') as file:
        writer = csv.writer(file)
        if not file_exists:
            writer.writerow(["Reference No", "Student Name", "Father Name", "Department", "Blood Group", "City", "Country"])
        writer.writerow(data)

# Main Title Label
lbl = tk.Label(root, bd=20, relief=tk.RIDGE, text="Student Data Tracker", fg="red", bg="white", font=("Times New Roman", 50, "bold"))
lbl.pack(side=tk.TOP, fill=tk.X)

data_frame = tk.Frame(root, bd=20, relief=tk.RIDGE)
data_frame.place(x=0, y=130, width=1280, height=400)
```

```
DataFrameLeft = tk.LabelFrame(data_frame, bd=10, relief=tk.RIDGE, font=("times new roman", 12, "bold"),
```

```
                                text="Student Information", fg="green", bg="lightcyan")
```

```
DataFrameLeft.place(x=0, y=5, width=1240, height=350)
```

```
Buttonframe = tk.Frame(root, bd=20, relief=tk.RIDGE)
```

```
Buttonframe.place(x=0, y=530, width=1280, height=90)
```

```
labels = ["Reference No", "Student Name", "Father Name", "Department", "Blood Group", "City", "Country"]
```

```
entries = {}
```

```
for i, label in enumerate(labels):
```

```
    lbl = tk.Label(DataFrameLeft, font=("arial", 12, "bold"), text=label + ":", padx=2)
```

```
    lbl.grid(row=i, column=0, sticky="W", pady=6)
```

```
    entry = tk.Entry(DataFrameLeft, font=("arial", 13, "bold"), width=35)
```

```
    entry.grid(row=i, column=1, padx=10, pady=6)
```

```
    entries[label] = entry
```

```
def on_click_save():
```

```
    data = [entries[label].get() for label in labels]
```

```
    if all(data):
```

```
        if all(data):
            write_to_csv(data)
            for entry in entries.values():
                entry.delete(0, tk.END)
            messagebox.showinfo("Success", "Student Information saved to CSV!")
        else:
            messagebox.showwarning("Input Error", "Please fill in all fields.")
```

```
btnSave = tk.Button(Buttonframe, font=("arial", 12, "bold"), padx=2, text="Save", command=on_click_save, bg="green", fg="white")
```

```
btnSave.grid(row=0, column=1, padx=10, pady=10, sticky="e")
```

```
def generate_download_link():
```

```
    messagebox.showinfo("Download Link", f"Your CSV file is ready to download:\n{csv_file}")
```

```
btnDownload = tk.Button(Buttonframe, font=("arial", 12, "bold"), padx=2, text="Download CSV", command=generate_download_link, bg="blue", fg="white")
```

```
btnDownload.grid(row=0, column=9, padx=10, pady=10, sticky="e")
```

```
root.mainloop()
```

GUI

Departmental Data Collectio App

Student Data Tracker

Student Information

Reference No:	<input type="text"/>
Student Name:	<input type="text"/>
Father Name:	<input type="text"/>
Department:	<input type="text"/>
Blood Group:	<input type="text"/>
City:	<input type="text"/>
Country:	<input type="text"/>

Save **Download CSV**

Outcome

Delimiter: <div><div>,</div><div>▼</div></div>								
	Reference No	Student Name	Father Name	Department	Blood Group	City	Country	
1	00213	Muhammad Hamid Khan	Abdul Rauf Khan	FSM	+B	Mianwali	Pakistan	
2	00231	Ali Hassan	Aslam Khan	SEECS	+A	Islamabad	Pakistan	

Thank You!