**Creating a student database system using pandas where I’m implenting 4 functions 1. Adding Student data 2. Removing student data 3. view the list of the students 4. searching any student.**

**CODE**

import pandas as pd

file\_path = "student\_data.xlsx"

def add\_student(file\_path):

# Function to add a new student to the Excel file

name = input("Enter student name: ")

phone\_number = int(input("Enter phone number: "))

email = input("Enter email address: ")

gender = input("Enter gender: ")

qualification = input("Enter latest qualification: ")

current\_course = input("Enter current course: ")

# Load existing data or create a new DataFrame

try:

df = pd.read\_excel(file\_path)

except FileNotFoundError:

df = pd.DataFrame(columns=["Name", "Phone Number", "Email", "Gender", "Qualification", "Current Course"])

# Add a new row for the student

new\_student = {"Name": name, "Phone Number": phone\_number, "Email": email,

"Gender": gender, "Qualification": qualification, "Current Course": current\_course}

df = df.append(new\_student, ignore\_index=True) #index=true mean adding a single row to an existing DataFrame, as it ensures that the new row gets the next available index label.

# Save the DataFrame to the Excel file

df.to\_excel(file\_path, index=True)

print(f"Student {name} added successfully.")

def view\_students(file\_path):

# Function to view all students in the Excel file

try:

df = pd.read\_excel(file\_path)

if not df.empty:

# Set the option to display all columns in a single line

pd.set\_option('display.max\_columns', None)

print("List of Students:")

print(df)

else:

print("No student data available.")

except FileNotFoundError:

print("No student data available.")

def remove\_student(file\_path):

# Function to remove a student from the Excel file

name\_to\_remove = input("Enter the name of the student to remove: ")

try:

df = pd.read\_excel(file\_path)

df = df[df['Name'] != name\_to\_remove]

df.to\_excel(file\_path, index=False) #ensures that the modified DataFrame is saved back to the Excel file without including the index column.

print(f"Student {name\_to\_remove} removed successfully.")

except FileNotFoundError:

print("No student data available.")

def search\_student(file\_path):

# Function to search for a student in the Excel file based on a keyword

keyword = input("Enter the keyword to search for a student: ")

try:

df = pd.read\_excel(file\_path)

result = df[df.apply(lambda row: keyword.lower() in str(row).lower(), axis=1)] #lambda function is a case-insensitive search across all columns for any row that contains the specified keyword.

if not result.empty:

print("Search Results:")

print(result)

else:

print(f"No student found with keyword '{keyword}'.")

except FileNotFoundError:

print("No student data available.")

while True:

# Display menu options

print("\nMenu:")

print("1. Add Student")

print("2. View Students")

print("3. Remove Student")

print("4. Search Student")

print("0. Exit")

# Get user choice

choice = input("Enter your choice (0-4): ")

# Perform action based on user choice

if choice == '0':

print("Exiting program. Goodbye!")

break

elif choice == '1':

add\_student(file\_path)

elif choice == '2':

view\_students(file\_path)

elif choice == '3':

remove\_student(file\_path)

elif choice == '4':

search\_student(file\_path)

else:

print("Invalid choice. Please enter a number between 0 and 4.")