import csv

import os

student\_fields = ['roll', 'name', 'age', 'email', 'phone']

student\_database = 'students.csv'

# Create the file if it doesn't exist

if not os.path.isfile(student\_database):

with open(student\_database, 'w', newline='', encoding="utf-8") as f:

writer = csv.writer(f)

writer.writerow(student\_fields) # write the header row

def display\_menu():

print("--------------------------------------")

print(" Welcome to Student Management System")

print("--------------------------------------")

print("1. Add New Student")

print("2. View Students")

print("3. Search Student")

print("4. Update Student")

print("5. Delete Student")

print("6. Quit")

def add\_student():

print("-------------------------")

print("Add Student Information")

print("-------------------------")

global student\_fields

global student\_database

student\_data = []

for field in student\_fields:

value = input("Enter " + field + ": ")

student\_data.append(value)

with open(student\_database, "a", newline='', encoding="utf-8") as f:

writer = csv.writer(f)

writer.writerows([student\_data])

print("Data saved successfully")

input("Press any key to continue")

return

def view\_students():

global student\_fields

global student\_database

print("--- Student Records ---")

with open(student\_database, "r", encoding="utf-8") as f:

reader = csv.reader(f)

for x in student\_fields:

print(x, end='\t |')

print("\n-----------------------------------------------------------------")

for row in reader:

for item in row:

print(item, end="\t |")

print("\n")

input("Press any key to continue")

def search\_student():

global student\_fields

global student\_database

print("--- Search Student ---")

roll = input("Enter roll no. to search: ")

with open(student\_database, "r", encoding="utf-8") as f:

reader = csv.reader(f)

for row in reader:

if len(row) > 0:

if roll == row[0]:

print("----- Student Found -----")

print("Roll: ", row[0])

print("Name: ", row[1])

print("Age: ", row[2])

print("Email: ", row[3])

print("Phone: ", row[4])

break

else:

print("Roll No. not found in our database")

input("Press any key to continue")

def update\_student():

global student\_fields

global student\_database

print("--- Update Student ---")

roll = input("Enter roll no. to update: ")

index\_student = None

updated\_data = []

with open(student\_database, "r", encoding="utf-8") as f:

reader = csv.reader(f)

counter = 0

for row in reader:

if len(row) > 0:

if roll == row[0]:

index\_student = counter

print("Student Found: at index ", index\_student)

student\_data = []

for field in student\_fields:

value = input("Enter " + field + ": ")

student\_data.append(value)

updated\_data.append(student\_data)

else:

updated\_data.append(row)

counter += 1

if index\_student is not None:

with open(student\_database, "w", newline='', encoding="utf-8") as f:

writer = csv.writer(f)

writer.writerows(updated\_data)

print("Student record updated successfully.")

else:

print("Roll No. not found in our database")

input("Press any key to continue")

def delete\_student():

global student\_fields

global student\_database

print("--- Delete Student ---")

roll = input("Enter roll no. to delete: ")

student\_found = False

updated\_data = []

with open(student\_database, "r", encoding="utf-8") as f:

reader = csv.reader(f)

for row in reader:

if len(row) > 0:

if roll != row[0]:

updated\_data.append(row)

else:

student\_found = True

if student\_found:

with open(student\_database, "w", newline='', encoding="utf-8") as f:

writer = csv.writer(f)

writer.writerows(updated\_data)

print("Roll no.", roll, "deleted successfully")

else:

print("Roll No. not found in our database")

input("Press any key to continue")

while True:

display\_menu()

choice = input("Enter your choice: ")

if choice == '1':

add\_student()

elif choice == '2':

view\_students()

elif choice == '3':

search\_student()

elif choice == '4':

update\_student()

elif choice == '5':

delete\_student()

elif choice == '6':

break

else:

print("Invalid choice. Please try again.")

print("-------------------------------")

print(" Thank you for using our system")

print("-------------------------------")