**Practical No: 6** **Roll No:**

**Subject:** Artificial Intelligence

**Title:** Implement any one of the following Expert System

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**Program Code :**

import csv

student\_fields = ['Roll', 'Name', 'Age', 'Email', 'Phone']

student\_database = 'students.csv'

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

student\_data = [input(f"Enter {field}: ") for field in student\_fields]

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

writer = csv.writer(file)

writer.writerow(student\_data)

print("Data saved successfully")

input("Press Enter to continue")

def view\_students():

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

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

reader = csv.reader(file)

for i, field in enumerate(student\_fields):

print(f"{field:<15}", end='')

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

for row in reader:

for item in row:

print(f"{item:<15}", end='')

print("\n")

input("Press Enter to continue")

def search\_student():

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

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

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

reader = csv.reader(file)

for row in reader:

if row and roll == row[0]:

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

for field, value in zip(student\_fields, row):

print(f"{field}: {value}")

break

else:

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

input("Press Enter to continue")

def update\_student():

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

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

updated\_data = []

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

reader = csv.reader(file)

for row in reader:

if row and roll == row[0]:

print("Student Found:")

student\_data = [input(f"Enter {field}: ") for field in student\_fields]

updated\_data.append(student\_data)

else:

updated\_data.append(row)

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

writer = csv.writer(file)

writer.writerows(updated\_data)

print("Data updated successfully")

input("Press Enter to continue")

def delete\_student():

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

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

updated\_data = []

student\_found = False # Add a flag to check if the student is found

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

reader = csv.reader(file)

for row in reader:

if row and roll == row[0]:

print(f"Roll no. {roll} deleted successfully")

student\_found = True

else:

updated\_data.append(row)

if not student\_found: # Check if the student was not found

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

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

writer = csv.writer(file)

writer.writerows(updated\_data)

input("Press Enter to continue")

def main():

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 enter a number between 1 and 6.")

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

print(" Thank you for using our system")

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

if \_\_name\_\_ == "\_\_main\_\_":

main()

**Output :**

>>> %Run 6\_system.py

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Welcome to Student Management System

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1. Add New Student

2. View Students

3. Search Student

4. Update Student

5. Delete Student

6. Quit

Enter your choice: 1

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Add Student Information

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Enter Roll: 28

Enter Name: Piyush Balasaheb Kale

Enter Age: 20

Enter Email: kalepiyush02@gmail.com

Enter Phone: 8484065719

Data saved successfully

Press Enter to continue

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Welcome to Student Management System

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1. Add New Student

2. View Students

3. Search Student

4. Update Student

5. Delete Student

6. Quit

Enter your choice: 2

--- Student Records ---

Roll Name Age Email Phone

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28 Piyush Balasaheb Kale20 kalepiyush02@gmail.com8484065719

Press Enter to continue3

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Welcome to Student Management System

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1. Add New Student

2. View Students

3. Search Student

4. Update Student

5. Delete Student

6. Quit

Enter your choice: 3

--- Search Student ---

Enter roll no. to search: 28

----- Student Found -----

Roll: 28

Name: Piyush Balasaheb Kale

Age: 20

Email: kalepiyush02@gmail.com

Phone: 8484065719

Press Enter to continue

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Welcome to Student Management System

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1. Add New Student

2. View Students

3. Search Student

4. Update Student

5. Delete Student

6. Quit

Enter your choice: 4

--- Update Student ---

Enter roll no. to update: 19

Data updated successfully

Press Enter to continue

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Welcome to Student Management System

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1. Add New Student

2. View Students

3. Search Student

4. Update Student

5. Delete Student

6. Quit

Enter your choice: 5

--- Delete Student ---

Enter roll no. to delete: 28

Roll no. 28 deleted successfully

Press Enter to continue

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Welcome to Student Management System

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1. Add New Student

2. View Students

3. Search Student

4. Update Student

5. Delete Student

6. Quit

Enter your choice: 6

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Thank you for using our system

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