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# Employee Management System
class Node:
    def __init__(self, name, department, designation, salary, phone_number,gender,age):
        self.name = name
        self.department = department
        self.designation = designation
        self.salary = salary
        self.phone_number = phone_number
        self.gender = gender
        self.age = age
        self.prev = None
        self.next = None

class EmployeeList:
    def __init__(self):
        self.head = None
        self.tail = None

    def insert_employee(self, name, department, designation, salary, phone_number,gender,age):
        new_node = Node(name, department, designation, salary, phone_number,gender,age)
        if self.head is None:
            self.head = new_node
            self.tail = new_node
        else:
            self.tail.next = new_node
            new_node.prev = self.tail
            self.tail = new_node

    def delete_employee(self, name):
        ptr = self.head
        while ptr is not None:
            if ptr.name == name:
                if ptr.prev is not None:
                    ptr.prev.next = ptr.next
                else:
                    self.head = ptr.next
                if ptr.next is not None:
                    ptr.next.prev = ptr.prev
                break
            ptr = ptr.next

    def show_employee(self):
        ptr = self.head
        while ptr is not None:
            print("Name: ",ptr.name)
            print("Department: ",ptr.department)
            print("Designation: ",ptr.designation)
            print("Salary: ",ptr.salary)
            print("Phone number: ",ptr.phone_number)
            print("Gender: ",ptr.gender)
            print("Age: ",ptr.age)
            ptr = ptr.next

    def search_employee(self, name):
        ptr = self.head
        while ptr is not None:
            if ptr.name == name:
                return ptr
            ptr = ptr.next
        return None

    def update_employee(self, name, department, designation, salary, phone_number,gender,age):
        employee = self.search_employee(name)
        if employee is not None:
            employee.department = department
            employee.designation = designation
            employee.salary = salary
            employee.phone_number = phone_number
            employee.gender = gender
            employee.age = age

    def count_employees(self):
        count = 0

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    ptr = self.head
    while ptr is not None:
        count += 1
        ptr = ptr.next
    return count
#Menu-driven Interface
def main():
    employee_list = EmployeeList()

    print( " Welcome to TKMCE ")
    print("1. Insert employee data")
    print("2. Delete employee data")
    print("3. Show employee data")
    print("4. Search employee data")
    print("5. Update employee data")
    print("6. Count the number of employees")
    print("7. Quit")

    while True:
        choice = int(input("Enter your choice: "))
        if choice == 1:
            name = input("Enter employee name: ")
            department = input("Enter employee department: ")
            designation = input("Enter employee designation: ")
            salary = float(input("Enter employee salary: "))
            phone_number = input("Enter employee phone number: ")
            gender = input("Enter employee gender: ")
            age = int(input("Enter employee age: "))
            employee_list.insert_employee(name, department, designation, salary, phone_number,gender,age)
        elif choice == 2:
            name = input("Enter employee name: ")
            employee_list.delete_employee(name)
        elif choice == 3:
            employee_list.show_employee()
        elif choice == 4:
            name = input("Enter employee name: ")
            employee = employee_list.search_employee(name)
            if employee is not None:
                print("Name: ",employee.name)
                print("Department: ",employee.department)
                print("Designation: ",employee.designation)
                print("Salary: ",employee.salary)
                print("Phone number: ",employee.phone_number)
                print("Gender: ",employee.gender)
                print("Age: ",employee.age)
            else:
                print("Employee not found")
        elif choice == 5:
            name = input("Enter employee name: ")
            department = input("Enter employee department: ")
            designation = input("Enter employee designation: ")
            salary = float(input("Enter employee salary: "))
            phone_number = input("Enter employee phone number: ")
            gender = input("Enter employee gender: ")
            age = int(input("Enter employee age: "))
            employee_list.update_employee(name, department, designation, salary, phone_number,gender,age)
        elif choice == 6:
            count = employee_list.count_employees()
            print(f"Number of employees: {count}")
        elif choice == 7:
            break
        else:
            print("Invalid choice")

    main()

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 Welcome to TKMCE
 1. Insert employee data
 2. Delete employee data
 3. Show employee data

```
4. Search employee data
5. Update employee data
6. Count the number of employees
7. Quit
Enter your choice: 1
Enter employee name: V R MANASI MANASAN
Enter employee department: ARTIFICIAL INTELLIGENCE
Enter employee designation: STUDENT
Enter employee salary: 123651
Enter employee phone number: 3210654798
Enter employee gender: FEMALE
Enter employee age: 23
Enter your choice: 3
Name: V R MANASI MANASAN
Department: ARTIFICIAL INTELLIGENCE
Designation: STUDENT
Salary: 123651.0
Phone number: 3210654798
Gender: FEMALE
Age: 23
Enter your choice: 4
Enter employee name: V R MANASI MANASAN
Name: V R MANASI MANASAN
Department: ARTIFICIAL INTELLIGENCE
Designation: STUDENT
Salary: 123651.0
Phone number: 3210654798
Gender: FEMALE
Age: 23
Enter your choice: 4
Enter employee name: ARYA
Employee not found
Enter your choice: 6
Number of employees: 1
Enter your choice: 5
Enter employee name: SAM
Enter employee department: AE
Enter employee designation: PROFESSOR
Enter employee salary: 147852369
Enter employee phone number: 65417896
Enter employee gender: MALE
Enter employee age: 29
Enter your choice: 2
Enter employee name: SAM
Enter your choice: 6
Number of employees: 1
Enter your choice: 7
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