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from pymongo import MongoClient

# Establish MongoDB connection
client = MongoClient("mongodb://localhost:27017/")
db = client["employee_db"]
collection = db["employees"]

# CRUD Functions
def create_employee():
    name = input("Enter employee name: ")
    age = int(input("Enter employee age: "))
    position = input("Enter employee position: ")
    department = input("Enter employee department: ")

    employee_data = {
        "name": name,
        "age": age,
        "position": position,
        "department": department
    }

    result = collection.insert_one(employee_data)
    print(f"Employee created with ID: {result.inserted_id}")

def read_employee():
    emp_id = input("Enter employee ID to search: ")
    employee = collection.find_one({"_id": emp_id})

    if employee:
        print("Employee found:")
        print(employee)
    else:
        print("Employee not found.")

def update_employee():
    emp_id = input("Enter employee ID to update: ")
    employee = collection.find_one({"_id": emp_id})

    if employee:
        print("Enter new details (leave blank to keep current value):")
        name = input(f"Name [{employee['name']}]: ") or employee['name']
        age = input(f"Age [{employee['age']}]: ") or employee['age']
        position = input(f"Position [{employee['position']}]: ") or employee['position']
        department = input(f"Department [{employee['department']}]: ") or
employee['department']

        updated_data = {
            "name": name,

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        "age": int(age),
        "position": position,
        "department": department
    }

    collection.update_one({"_id": emp_id}, {"$set": updated_data})
    print("Employee updated successfully.")
else:
    print("Employee not found.")

def delete_employee():
    emp_id = input("Enter employee ID to delete: ")
    result = collection.delete_one({"_id": emp_id})

    if result.deleted_count > 0:
        print("Employee deleted successfully.")
    else:
        print("Employee not found.")

def list_employees():
    employees = collection.find()

    print("Employees in database:")
    for emp in employees:
        print(emp)

# Main Menu
def main():
    while True:
        print("\nEmployee Database Menu")
        print("1. Create Employee")
        print("2. Read Employee")
        print("3. Update Employee")
        print("4. Delete Employee")
        print("5. List All Employees")
        print("6. Exit")

        choice = input("Enter your choice: ")

        if choice == '1':
            create_employee()
        elif choice == '2':
            read_employee()
        elif choice == '3':
            update_employee()
        elif choice == '4':
            delete_employee()
        elif choice == '5':

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        list_employees()
    elif choice == '6':
        print("Exiting...")
        break
    else:
        print("Invalid choice! Please select a valid option.")

if __name__ == "__main__":
    main()
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