

Pract 12

```
C:\Users\anand>pip install pymongo
```

```
C:\Users\anand>mongod
```

```
C:\Users\anand>cd
```

```
C:\Users\anand\OneDrive\Desktop\pract12
```

```
C:\Users\anand\OneDrive\Desktop\pract12>dir
```

Volume in drive C has no label.

Volume Serial Number is 56E8-7D03

Directory of

```
C:\Users\anand\OneDrive\Desktop\pract12
```

```
10/13/2025 05:15 PM <DIR>      .
```

```
10/13/2025 05:14 PM <DIR>      ..
```

```
10/13/2025 05:15 PM      4,045 stud3.py
```

```
1 File(s)      4,045 bytes
```

```
2 Dir(s) 201,968,553,984 bytes free
```

```
C:\Users\anand\OneDrive\Desktop\pract12>python  
stud3.py
```

```
===== Student Management Menu =====
```

```
1. Add student
```

```
2. List students
```

```
3. Edit student
```

```
4. Delete student
```

```
5. Exit
```

```
Enter your choice: 1
```

```
Enter roll number: 04
```

```
Enter name: Anand
```

```
Enter age: 20
```

```
Enter department: Computer
```

```
Student added successfully! Roll No: 4
```

```
===== Student Management Menu =====
```

```
1. Add student
```

```
2. List students
```

```
3. Edit student
```

```
4. Delete student
```

```
5. Exit
```

```
Enter your choice: 1
```

```
Enter roll number: 01
```

```
Enter name: Ram
```

```
Enter age: 21
```

```
Enter department: AIDS
```

```
Student added successfully! Roll No: 1
```

```
===== Student Management Menu =====
```

```
1. Add student
```

```
2. List students
```

```
3. Edit student
```

```
4. Delete student
```

```
5. Exit
```

```
Enter your choice: 1
```

```
Enter roll number: 05
```

```
Enter name: Niru
```

```
Enter age: 19
```

Enter department: EnTC

Student added successfully! Roll No: 5

===== Student Management Menu =====

1. Add student
2. List students
3. Edit student
4. Delete student
5. Exit

Enter your choice: 2

Students in the database:

Roll No: 4 | Name: Anand | Age: 20 | Department: Computer

Roll No: 1 | Name: Ram | Age: 21 | Department: AIDS

Roll No: 5 | Name: Niru | Age: 19 | Department: EnTC

===== Student Management Menu =====

1. Add student
2. List students
3. Edit student
4. Delete student
5. Exit

Enter your choice: 3

Enter roll number to edit: 1

Enter new name: Raju

Enter new age: 24

Enter new department: Civil

Student updated successfully.

===== Student Management Menu =====

1. Add student
2. List students
3. Edit student
4. Delete student
5. Exit

Enter your choice: 2

Students in the database:

Roll No: 4 | Name: Anand | Age: 20 | Department: Computer

Roll No: 1 | Name: Raju | Age: 24 | Department: Civil

Roll No: 5 | Name: Niru | Age: 19 | Department: EnTC

===== Student Management Menu =====

1. Add student
2. List students
3. Edit student
4. Delete student
5. Exit

Enter your choice: 3

Enter roll number to edit: 1

Enter new name: XYZ

Enter new age: 25

Enter new department: Mechanical

Student updated successfully.

===== Student Management Menu =====

1. Add student
2. List students
3. Edit student
4. Delete student
5. Exit

Enter your choice: 4

Enter roll number to delete: 1

Student deleted successfully.

===== Student Management Menu =====

1. Add student
2. List students
3. Edit student
4. Delete student
5. Exit

Enter your choice: 2

Students in the database:

Roll No: 4 | Name: Anand | Age: 20 | Department:
Computer

Roll No: 5 | Name: Niru | Age: 19 | Department:
EnTC

===== Student Management Menu =====

1. Add student
2. List students
3. Edit student
4. Delete student
5. Exit

Enter your choice: 5

Exiting program.

C:\Users\anand\OneDrive\Desktop\pract12>

*****PYTHON CODE*****

```
from pymongo import MongoClient
```

```
# Connect to MongoDB
```

```
client = MongoClient('mongodb://localhost:27017/')
```

```
db = client['school']      # Database name
```

```
collection = db['student']  # Collection name
```

```
def add_student(roll_number, name, age,  
department):
```

```
    """Add a new student with a manually entered roll  
    number."""
```

```
    # Check if roll number already exists
```

```
    if collection.find_one({"roll_number":  
roll_number}):
```

```
        print(" A student with this roll number already  
exists.")
```

```
        return
```

```
    student = {  
        "roll_number": roll_number,  
        "name": name,  
        "age": age,  
        "department": department  
    }
```

```
    collection.insert_one(student)
```

```

    print(f"Student added successfully! Roll No:
{roll_number}")

def list_students():
    """Display all students in the database."""
    students = list(collection.find())

    if not students:
        print("No students found.")
        return

    print("\nStudents in the database:")
    for s in students:
        roll_no = s.get('roll_number', 'N/A')
        name = s.get('name', 'N/A')
        age = s.get('age', 'N/A')
        dept = s.get('department', 'N/A')

        print(f"Roll No: {roll_no} | Name: {name} | Age:
{age} | Department: {dept}")

def edit_student(roll_number, new_name, new_age,
new_department):
    """Edit student details using roll number."""
    result = collection.update_one(
        {"roll_number": roll_number},
        {"$set": {"name": new_name, "age": new_age,
"department": new_department}}
    )
    if result.matched_count:
        print(" Student updated successfully.")
    else:
        print(" No student found with that roll number.")

```

```

def delete_student(roll_number):
    """Delete a student using roll number."""
    result = collection.delete_one({"roll_number":
roll_number})
    if result.deleted_count:
        print(" Student deleted successfully.")
    else:
        print(" No student found with that roll number.")

def main():
    while True:
        print("\n===== Student Management Menu
=====")
        print("1. Add student")
        print("2. List students")
        print("3. Edit student")
        print("4. Delete student")
        print("5. Exit")

        choice = input("Enter your choice: ").strip()

        if choice == '1':
            roll_number = input("Enter roll number:
").strip()
            name = input("Enter name: ").strip()
            age = input("Enter age: ").strip()
            department = input("Enter department:
").strip()

            if not roll_number.isdigit():

```

```

        print(" Roll number must be a number.")

        continue

    if not age.isdigit():

        print(" Age must be a number.")

        continue

    add_student(int(roll_number), name, int(age),
department)

elif choice == '2':

    list_students()

elif choice == '3':

    roll_number = input("Enter roll number to
edit: ").strip()

    if not roll_number.isdigit():

        print(" Roll number must be a number.")

        continue

    new_name = input("Enter new name: ").strip()

    new_age = input("Enter new age: ").strip()

    new_department = input("Enter new
department: ").strip()

    if not new_age.isdigit():

        print(" Age must be a number.")

        continue

    edit_student(int(roll_number), new_name,
int(new_age), new_department)

```

```

    elif choice == '4':

        roll_number = input("Enter roll number to
delete: ").strip()

        if not roll_number.isdigit():

            print(" Roll number must be a number.")

            continue

        delete_student(int(roll_number))

elif choice == '5':

    print(" Exiting program.")

    break

else:

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

if __name__ == '__main__':

    main()

```