Mongo DB Assignment

1. Find the names and CGPAs of all students from the "IT" department.

Ans: db.students.find({department:"IT"},{name:1,cgpa:1,_id:0})

2. List all students whose CGPA is greater than or equal to 8.5. Show only their name, roll number, and department.

Ans: db.students.find({cgpa:{$gte:8.5}},{name:1,roll_no:1,department:1,_id:0})

3. Find students who are in either the "ECE" or "ME" department using $in.

Ans: db.students.find({department:{$in:["ECE","ME"]}})

4. Get the name and CGPA of students who are in the 4th year and have a CGPA greater than 8.0.

Ans: db.students.find({year:4,cgpa:{$gt:8}},{_id:0,name:1,cgpa:1})

5. Find all students who are not in the "CSE" department and have a CGPA less than or equal to 7.5 using $and and $ne.

Ans: db.students.find({$and:[{department:{$ne:"CSE"}},{cgpa:{$lte:7.5}}]})

6. Display the top 3 students with the highest CGPA across all departments.

Ans: db.students.find({},{_id:0,name:1,department:1,cgpa:1}).sort({cgpa:-1}).limit(3)

7. Show the next 3 students after skipping the top 3 based on CGPA (pagination).

Ans: db.students.find({},{_id:0,name:1,department:1,cgpa:1}).sort({cgpa:-1}).skip(3).limit(3)

8. Increase the CGPA by 0.2 for all students in the "CSE" department

Ans: db.students.updateMany({department:"CSE"},{$inc:{cgpa:0.2}})

9. Set the department to "Probation" for all students with CGPA less than 7.0.

Ans: db.students.updateMany({cgpa:{$lt:7}},{$set:{department:"Probation"}}

10. Remove the email field from all students in the "ME" department.

Ans: db.students.updateMany({department:"ME"},{$unset:{email:1}})

11. Rename the field cgpa to gpa for all students.

Ans: db.students.updateMany({},{$rename:{cgpa:"gpa"}})

12. Replace the entire document of a student with roll number "CSE2104" with a new record containing updated values.

Ans: db.students.replaceOne({roll_no:"CSE2104"}, { roll_no:"ME2104",name:"XYZ",department:"ME",year:2,gpa:8.5})