1. Names and CGPAs of all students from the 'IT' department

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

2. Students with CGPA >= 8.5 (name, roll number, department)

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

3. Students in 'ECE' or 'ME' department using $in

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

4. Students in 4th year with CGPA > 8.0 (name and CGPA)

db.students.find({ year: 4, cgpa: { $gt: 8.0 } }, { name: 1, cgpa: 1, _id: 0 })

5. Students NOT in 'CSE' and CGPA <= 7.5 using $and and $ne

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

6. Top 3 students with highest CGPA

db.students.find().sort({ cgpa: -1 }).limit(3)

7. Next 3 students after top 3 based on CGPA

db.students.find().sort({ cgpa: -1 }).skip(3).limit(3)

8. Increase CGPA by 0.2 for all 'CSE' students

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

9. Set department to 'Probation' for students with CGPA < 7.0

db.students.updateMany({ cgpa: { $lt: 7.0 } }, { $set: { department: "Probation" } })

10. Remove email field from all 'ME' students

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

11. Rename field cgpa to gpa for all students

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

12. Replace document of roll number 'CSE2104' with new record

db.students.replaceOne(

  { roll_no: "CSE2104" },

  {

    roll_no: "CSE2104", name: "Simran Kaur", year: 2,

    department: "CSE", cgpa: 9.5, email: "simran.kaur@univ.edu"

  })