Ans1-

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

{

name: 'Aditya Patel',

cgpa: 8.7

}

{

name: 'Vikas Nair',

cgpa: 8.4

}

{

name: 'Karan Gupta',

cgpa: 8.9

}

{

name: 'Dev Mishra',

cgpa: 8.6

}

Ans2-

**db.day.find({cgpa:{$gte :8.5}},{name:1,roll\_no:1,department:1,\_id:0})**

{

roll\_no: 'CSE2101',

name: 'Aarav Sharma',

department: 'CSE'

}

{

roll\_no: 'CSE2104',

name: 'Simran Kaur',

department: 'CSE'

}

{

roll\_no: 'IT2105',

name: 'Aditya Patel',

department: 'IT'

}

{

roll\_no: 'CSE2201',

name: 'Neha Jain',

department: 'CSE'

}

{

roll\_no: 'CSE2301',

name: 'Meera Joshi',

department: 'CSE'

}

{

roll\_no: 'IT2304',

name: 'Karan Gupta',

department: 'IT'

}

{

roll\_no: 'IT2404',

name: 'Dev Mishra',

department: 'IT'

}

{

roll\_no: 'CSE2405',

name: 'Tanya Roy',

department: 'CSE'

}

Ans3-

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

{

\_id: ObjectId('684e9df3150537ee7e6ae253'),

roll\_no: 'ECE2102',

name: 'Priya Verma',

year: 2,

department: 'ECE',

cgpa: 8.2,

email: 'priya.ece@univ.edu'

}

{

\_id: ObjectId('684e9df3150537ee7e6ae254'),

roll\_no: 'ME2103',

name: 'Rahul Singh',

year: 2,

department: 'ME',

cgpa: 7.8,

email: 'rahul.me@univ.edu'

}

{

\_id: ObjectId('684e9df3150537ee7e6ae258'),

roll\_no: 'ECE2202',

name: 'Rohan Mehta',

year: 3,

department: 'ECE',

cgpa: 8.3,

email: 'rohan.ece@univ.edu'

}

{

\_id: ObjectId('684e9df3150537ee7e6ae259'),

roll\_no: 'ME2203',

name: 'Sneha Reddy',

year: 3,

department: 'ME',

cgpa: 7.6,

email: 'sneha.me@univ.edu'

}

{

\_id: ObjectId('684e9df3150537ee7e6ae25c'),

roll\_no: 'ECE2302',

name: 'Ankit Bansal',

year: 4,

department: 'ECE',

cgpa: 8.1,

email: 'ankit.ece@univ.edu'

}

{

\_id: ObjectId('684e9df3150537ee7e6ae25d'),

roll\_no: 'ME2303',

name: 'Pooja Yadav',

year: 4,

department: 'ME',

cgpa: 7.5,

email: 'pooja.me@univ.edu'

}

{

\_id: ObjectId('684e9df3150537ee7e6ae260'),

roll\_no: 'ECE2402',

name: 'Aman Khan',

year: 1,

department: 'ECE',

cgpa: 7.9,

email: 'aman.ece@univ.edu'

}

{

\_id: ObjectId('684e9df3150537ee7e6ae261'),

roll\_no: 'ME2403',

name: 'Ishita Desai',

year: 1,

department: 'ME',

cgpa: 8.1,

email: 'ishita.me@univ.edu'

}

{

\_id: ObjectId('684e9df3150537ee7e6ae264'),

roll\_no: 'ECE2406',

name: 'Nikhil Rao',

year: 1,

department: 'ECE',

cgpa: 7.8,

email: 'nikhil.ece@univ.edu'

}

{

\_id: ObjectId('684e9df3150537ee7e6ae265'),

roll\_no: 'ME2407',

name: 'Shreya Pandey',

year: 1,

department: 'ME',

cgpa: 8.2,

email: 'shreya.me@univ.edu'

}

Ans4-

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

{

name: 'Meera Joshi',

cgpa: 9.3

}

{

name: 'Ankit Bansal',

cgpa: 8.1

}

{

name: 'Karan Gupta',

cgpa: 8.9

}

Ans5-

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

Ans6-

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

{

\_id: ObjectId('684ed3bbf17747b560c16d05'),

roll\_no: 'CSE2301',

name: 'Meera Joshi',

year: 4,

department: 'CSE',

cgpa: 9.3,

email: 'meera.cse@univ.edu'

}

{

\_id: ObjectId('684ed3bbf17747b560c16d01'),

roll\_no: 'CSE2201',

name: 'Neha Jain',

year: 3,

department: 'CSE',

cgpa: 9.1,

email: 'neha.cse@univ.edu'

}

{

\_id: ObjectId('684ed3bbf17747b560c16cff'),

roll\_no: 'CSE2104',

name: 'Simran Kaur',

year: 2,

department: 'CSE',

cgpa: 9,

email: 'simran.cse@univ.edu'

}

Ans7-

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

{

\_id: ObjectId('684ed3bbf17747b560c16d08'),

roll\_no: 'IT2304',

name: 'Karan Gupta',

year: 4,

department: 'IT',

cgpa: 8.9,

email: 'karan.it@univ.edu'

}

{

\_id: ObjectId('684ed3bbf17747b560c16d0d'),

roll\_no: 'CSE2405',

name: 'Tanya Roy',

year: 1,

department: 'CSE',

cgpa: 8.7,

email: 'tanya.cse@univ.edu'

}

{

\_id: ObjectId('684ed3bbf17747b560c16d00'),

roll\_no: 'IT2105',

name: 'Aditya Patel',

year: 2,

department: 'IT',

cgpa: 8.7,

email: 'aditya.it@univ.edu'

}

Ans8-

db.student.updateMany({department:"cse"},{$inc:{cgpa:0.2}})

{

acknowledged: true,

insertedId: null,

matchedCount: 0,

modifiedCount: 0,

upsertedCount: 0

}

Ans9-

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

{

acknowledged: true,

insertedId: null,

matchedCount: 0,

modifiedCount: 0,

upsertedCount: 0

}

Ans10-

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

{

\_id: ObjectId('684ed3bbf17747b560c16d0f'),

roll\_no: 'ME2407',

name: 'Shreya Pandey',

year: 1,

department: 'ME',

cgpa: 8.399999999999999

}

{

\_id: ObjectId('684ed3bbf17747b560c16d0b'),

roll\_no: 'ME2403',

name: 'Ishita Desai',

year: 1,

department: 'ME',

cgpa: 8.299999999999999

}

{

\_id: ObjectId('684ed3bbf17747b560c16d07'),

roll\_no: 'ME2303',

name: 'Pooja Yadav',

year: 4,

department: 'ME',

cgpa: 7.7

}

{

\_id: ObjectId('684ed3bbf17747b560c16d03'),

roll\_no: 'ME2203',

name: 'Sneha Reddy',

year: 3,

department: 'ME',

cgpa: 7.8

}

{

\_id: ObjectId('684ed3bbf17747b560c16cfe'),

roll\_no: 'ME2103',

name: 'Rahul Singh',

year: 2,

department: 'ME',

cgpa: 8

}

Ans11-

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

{

\_id: ObjectId('684ed3bbf17747b560c16d0f'),

roll\_no: 'ME2407',

name: 'Shreya Pandey',

year: 1,

department: 'ME',

gpa: 8.399999999999999

}

Ans12-

db.students.replaceOne({ roll\_no: "CSE2104" }, { roll\_no: "CSE2104", name: "Simran Kaur", year: 3, department: "CSE", cgpa: 9.5, email: "simran.new@univ.edu" })