

```
// =====
```

```
//  USE DATABASE
```

```
// =====
```

```
use CollegeDB
```

```
// =====
```

```
//  CREATE COLLECTION
```

```
// =====
```

```
db.createCollection("students")
```

```
// =====
```

```
//  INSERT (CREATE)
```

```
// =====
```

```
// insertOne
```

```
db.students.insertOne({
```

```
    roll: 1,
```

```
    name: "Shritej",
```

```
    branch: "CS",
```

```
    marks: 85,
```

```
    city: "Pune"
```

```
})
```

```
// insertMany
```

```
db.students.insertMany([
  { roll: 2, name: "Atharva", branch: "IT", marks: 92, city: "Mumbai" },
  { roll: 3, name: "Kunjal", branch: "ENTC", marks: 76, city: "Pune" },
  { roll: 4, name: "Harshad", branch: "CS", marks: 45, city: "Kolhapur" },
  { roll: 5, name: "Ayush", branch: "CS", marks: 68, city: "Pune" }
])
```

```
// =====
```

```
//  READ (FIND)
```

```
// =====
```

```
// find all
```

```
db.students.find()
```

```
// projection
```

```
db.students.find({}, { name: 1, marks: 1, _id: 0 })
```

```
// =====
```

```
//  LOGICAL OPERATORS
```

```
// =====
```

```
// AND
```

```
db.students.find({ $and: [ { branch: "CS" }, { city: "Pune" } ] })
```

// OR

```
db.students.find({ $or: [ { marks: { $gt: 90 } }, { city: "Mumbai" } ] })
```

// NOT

```
db.students.find({ marks: { $not: { $gt: 80 } } })
```

// NOR

```
db.students.find({ $nor: [ { branch: "IT" }, { marks: { $gt: 90 } } ] })
```

// =====

//  COMPARISON OPERATORS

// =====

// > , <

```
db.students.find({ marks: { $gt: 70 } })
```

```
db.students.find({ marks: { $lt: 50 } })
```

// range


```
db.students.find({ marks: { $gte: 60, $lte: 90 } })
```

// in, nin

```
db.students.find({ branch: { $in: ["CS", "IT"] } })
```

```
db.students.find({ city: { $nin: ["Pune", "Mumbai"] } })
```

```
// =====
```

```
//  REGEX (Pattern Search)
```

```
// =====
```

```
// name starts with A
```

```
db.students.find({ name: { $regex: "^A" } })
```

```
// ends with j, ignore case
```

```
db.students.find({ name: { $regex: "j$", $options: "i" } })
```

```
// =====
```

```
//  UPDATE
```

```
// =====
```


```
// updateOne
```

```
db.students.updateOne(  
  { roll: 4 },  
  { $set: { marks: 60, city: "Nagpur" } }  
)
```

```
// updateMany
```

```
db.students.updateMany(  
  { city: "Pune" },  
  { $set: { hostel: "Yes" } }  
)
```

```
// update with $inc, $push
db.students.updateOne(
  { roll: 2 },
  {
    $inc: { marks: 5 },
    $push: { skills: "NodeJS" }
  }
)
```

```
// =====
//  SAVE() ALTERNATIVE (WORKING)
// =====
```

```
// Modern replacement for save()
db.students.updateOne(
  { _id: ObjectId("690de729b4c1271f2b50eb6b") },
  {
    $set: {
      name: "Paras",
      branch: "CS",
      marks: 88
    }
  },
  { upsert: true }
)
```

)

```
// =====
```

```
//  SAVE() (OLD MONGODB — ONLY FOR JOURNAL)
```

```
// =====
```

```
// This WILL NOT run in modern mongosh,
```

```
// but write it in your journal:
```

```
/*
```

```
db.students.save({  
  _id: ObjectId("690de729b4c1271f2b50eb6b"),  
  name: "Paras",  
  branch: "CS",  
  marks: 88  
})
```

```
*/
```

```
// =====
```

```
//  DELETE
```

```
// =====
```


```
// deleteOne
```

```
db.students.deleteOne({ roll: 5 })
```

```
// deleteMany
```

```
db.students.deleteMany({ marks: { $lt: 40 } })
```

```
// =====
```

```
//  SORTING
```

```
// =====
```

```
// descending
```

```
db.students.find().sort({ marks: -1 })
```

```
// ascending
```

```
db.students.find().sort({ name: 1 })
```

```
// =====
```


```
//  LIMIT & SKIP
```

```
// =====
```

```
db.students.find().limit(3)
```

```
db.students.find().skip(2)
```

```
// =====
```

```
//  DISTINCT
```

```
// =====
```

```
db.students.distinct("city")
```

```
// =====
```

```
//  COUNT
```

```
// =====
```

```
db.students.countDocuments()
```

```
db.students.countDocuments({ branch: "CS" })
```

```
// =====
```

```
//  AGGREGATION QUERIES
```

```
// =====
```

```
// group by branch
```

```
db.students.aggregate([  
  { $group: { _id: "$branch", avgMarks: { $avg: "$marks" }, totalStudents: { $sum: 1 } } }  
])
```

```
// match + sort + limit
```

```
db.students.aggregate([  
  { $match: { city: "Pune" } },  
  { $sort: { marks: -1 } },  
  { $limit: 5 }  
])
```



```
// =====
```

```
//  INDEX
```

```
// =====
```

```
db.students.createIndex({ name: 1 })
```

```
// =====
```

```
//  DROP COLLECTION / DATABASE
```

```
// =====
```

```
db.students.drop()
```

```
db.dropDatabase()
```