

Chit 10

mongo

use collegeDB

```
db.student.insertMany([
  {stud_id:1, stud_name:"Amit", dept:"Computer", marks:70},
  {stud_id:2, stud_name:"Sneha", dept:"Civil", marks:45},
  {stud_id:3, stud_name:"Rohit", dept:"Chemical", marks:25}
])
```

```
db.student.find({marks:{$gt:50}})
db.student.find({marks:{$gte:50,$lte:80}})
db.student.find({dept:"Computer", marks:{$gt:60}})
db.student.updateMany({dept:"Civil"},{$set:{marks:30}})
db.student.deleteMany({dept:"Chemical", marks:{$lt:30}})
```

Chit 11

```
db.employee.insertMany([
  {emp_id:1, emp_name:"Amit", dept:"HR", salary:60000, joining_date:new Date("2024-05-01")},
  {emp_id:2, emp_name:"Sneha", dept:"Admin", salary:50000, joining_date:new Date("2023-02-01")},
  {emp_id:3, emp_name:"Rohit", dept:"HR", salary:70000, joining_date:new Date("2023-12-01")}
])
db.employee.find({salary:{$gt:50000}})
db.employee.find({salary:{$gte:50000,$lte:80000}})
db.employee.find({dept:"HR", salary:{$gt:60000}})
db.employee.updateMany({dept:"Admin"},[{$set:{salary:{$multiply:["$salary",1.05]}}}])
```

```
db.employee.deleteMany({dept:"HR", joining_date:{$lt:new Date("2025-01-01")}})
```

Chit 12

```
db.sales.insertMany([
  {customerName:"Amit", product:"Laptop", category:"Electronics", quantity:1, price:60000,
  date:new Date(), city:"Pune", paymentMode:"UPI"},

  {customerName:"Sneha", product:"Phone", category:"Electronics", quantity:2, price:30000,
  date:new Date(), city:"Mumbai", paymentMode:"Cash"},

  {customerName:"Rohit", product:"Chair", category:"Furniture", quantity:3, price:2000,
  date:new Date(), city:"Pune", paymentMode:"UPI"}])
```

Total sales per category

```
db.sales.aggregate([{$group:{_id:"$category",
  totalRevenue:{$sum:{$multiply:["$quantity","$price"]}}}}])
```

Average order value per city

```
db.sales.aggregate([{$group:{_id:"$city",
  avgOrderValue:{$avg:{$multiply:["$quantity","$price"]}}}}])
```

Top 3 products by total revenue

```
db.sales.aggregate([
  {$group:{_id:"$product", revenue:{$sum:{$multiply:["$quantity","$price"]}}}},
  {$sort:{revenue:-1}},
  {$limit:3}])
```

Count of orders per payment mode

```
db.sales.aggregate([{$group:{_id:"$paymentMode", totalOrders:{$sum:1}}}))
```

Create index on category

```
db.sales.createIndex({category:1})
```

Chit 13

Use mongodb

```
db.bank.insertMany([
  {cust_id:1, cust_name:"Amit", branch:"Pune", balance:20000},
  {cust_id:2, cust_name:"Sneha", branch:"Pune", balance:30000},
  {cust_id:3, cust_name:"Rohit", branch:"Mumbai", balance:15000}
])

var mapFunction = function() {
  emit(this.branch, this.balance);
};

var reduceFunction = function(key, values) {
  return Array.sum(values);
};

db.bank.mapReduce(mapFunction, reduceFunction, {out:"branch_balance"});
db.branch_balance.find();
```

Chit 14

```
db.books.insertMany([
  {book_id:1, title:"DBMS", author:"Navathe", type:"Academic"},
  {book_id:2, title:"MongoDB", author:"Andrew", type:"Technical"},
  {book_id:3, title:"SQL Basics", author:"Ramakrishnan", type:"Academic"}
])

var mapF = function() {
  emit(this.type, 1);
};

var reduceF = function(key, values) {
  return Array.sum(values);
};

db.books.mapReduce(mapF, reduceF, {out:"book_count"});
db.book_count.find();
```