

Day - 5 MongoDB Assignment

```
use insuranceDB
switched to db insuranceDB
show tables
db.createCollection('MyCln');
{ ok: 1 }
db.find();
TypeError: db.find is not a function
db.MyCln.find();
db.policies.insertMany([
  { policyNo: 101, customerName: "Amit", policyType: "Health", premium: 12000, city: "Delhi", active: true },
  { policyNo: 102, customerName: "Neha", policyType: "Life", premium: 18000, city: "Mumbai", active: true },
  { policyNo: 103, customerName: "Rahul", policyType: "Car", premium: 9000, city: "Delhi", active: false },
  { policyNo: 104, customerName: "Sneha", policyType: "Health", premium: 15000, city: "Chennai", active: true },
  { policyNo: 105, customerName: "Karan", policyType: "Life", premium: 12000, city: "Mumbai", active: false }
])
{
  acknowledged: true,
  insertedIds: {
    '0': ObjectId('695a1602140c69e5575b8079'),
    '1': ObjectId('695a1602140c69e5575b807a'),
    '2': ObjectId('695a1602140c69e5575b807b'),
    '3': ObjectId('695a1602140c69e5575b807c'),
    '4': ObjectId('695a1602140c69e5575b807d')
  }
}
db.policies.find()
{
  _id: ObjectId('695a1602140c69e5575b8079'),
  policyNo: 101,
  customerName: 'Amit',
```

```
policyType: 'Health',
premium: 12000,
city: 'Delhi',
active: true
}
{
_id: ObjectId('695a1602140c69e5575b807a'),
policyNo: 102,
customerName: 'Neha',
policyType: 'Life',
premium: 18000,
city: 'Mumbai',
active: true
}
{
_id: ObjectId('695a1602140c69e5575b807b'),
policyNo: 103,
customerName: 'Rahul',
policyType: 'Car',
premium: 9000,
city: 'Delhi',
active: false
}
{
_id: ObjectId('695a1602140c69e5575b807c'),
policyNo: 104,
customerName: 'Sneha',
policyType: 'Health',
premium: 15000,
city: 'Chennai',
active: true
}
{
_id: ObjectId('695a1602140c69e5575b807d'),
```

```
policyNo: 105,
customerName: 'Karan',
policyType: 'Life',
premium: 22000,
city: 'Mumbai',
active: false
}

db.policies.find({ policyType: "Health" })
{
  _id: ObjectId('695a1602140c69e5575b8079'),
  policyNo: 101,
  customerName: 'Amit',
  policyType: 'Health',
  premium: 12000,
  city: 'Delhi',
  active: true
}
{
  _id: ObjectId('695a1602140c69e5575b807c'),
  policyNo: 104,
  customerName: 'Sneha',
  policyType: 'Health',
  premium: 15000,
  city: 'Chennai',
  active: true
}
db.policies.find({ city: "Mumbai" })
{
  _id: ObjectId('695a1602140c69e5575b807a'),
  policyNo: 102,
  customerName: 'Neha',
  policyType: 'Life',
  premium: 18000,
  city: 'Mumbai',
```

```
active: true
}
{
  _id: ObjectId('695a1602140c69e5575b807d'),
  policyNo: 105,
  customerName: 'Karan',
  policyType: 'Life',
  premium: 22000,
  city: 'Mumbai',
  active: false
}

db.policies.find({}, { customerName: 1, policyType: 1 })

{
  _id: ObjectId('695a1602140c69e5575b8079'),
  customerName: 'Amit',
  policyType: 'Health'
}
{
  _id: ObjectId('695a1602140c69e5575b807a'),
  customerName: 'Neha',
  policyType: 'Life'
}
{
  _id: ObjectId('695a1602140c69e5575b807b'),
  customerName: 'Rahul',
  policyType: 'Car'
}
{
  _id: ObjectId('695a1602140c69e5575b807c'),
  customerName: 'Sneha',
  policyType: 'Health'
}
{
  _id: ObjectId('695a1602140c69e5575b807d'),
```

```
customerName: 'Karan',
policyType: 'Life'

}

db.policies.find({ }, { _id: 0, customerName: 1, premium: 1 })

{
  customerName: 'Amit',
  premium: 12000
}

{
  customerName: 'Neha',
  premium: 18000
}

{
  customerName: 'Rahul',
  premium: 9000
}

{
  customerName: 'Sneha',
  premium: 15000
}

{
  customerName: 'Karan',
  premium: 22000
}

db.policies.find({ }, { premium: 0 })

{
  _id: ObjectId('695a1602140c69e5575b8079'),
  policyNo: 101,
  customerName: 'Amit',
  policyType: 'Health',
  city: 'Delhi',
  active: true
}
```

```
_id: ObjectId('695a1602140c69e5575b807a'),
policyNo: 102,
customerName: 'Neha',
policyType: 'Life',
city: 'Mumbai',
active: true
}
{
_id: ObjectId('695a1602140c69e5575b807b'),
policyNo: 103,
customerName: 'Rahul',
policyType: 'Car',
city: 'Delhi',
active: false
}
{
_id: ObjectId('695a1602140c69e5575b807c'),
policyNo: 104,
customerName: 'Sneha',
policyType: 'Health',
city: 'Chennai',
active: true
}
{
_id: ObjectId('695a1602140c69e5575b807d'),
policyNo: 105,
customerName: 'Karan',
policyType: 'Life',
city: 'Mumbai',
active: false
}
db.policies.find({ premium: { $gt: 15000 } })
{
_id: ObjectId('695a1602140c69e5575b807a'),
```

```
policyNo: 102,
customerName: 'Neha',
policyType: 'Life',
premium: 18000,
city: 'Mumbai',
active: true
}
{
  _id: ObjectId('695a1602140c69e5575b807d'),
  policyNo: 105,
  customerName: 'Karan',
  policyType: 'Life',
  premium: 22000,
  city: 'Mumbai',
  active: false
}
db.policies.find({ active: true })
{
  _id: ObjectId('695a1602140c69e5575b8079'),
  policyNo: 101,
  customerName: 'Amit',
  policyType: 'Health',
  premium: 12000,
  city: 'Delhi',
  active: true
}
{
  _id: ObjectId('695a1602140c69e5575b807a'),
  policyNo: 102,
  customerName: 'Neha',
  policyType: 'Life',
  premium: 18000,
  city: 'Mumbai',
  active: true
```

```
}
```

```
{
```

```
    _id: ObjectId('695a1602140c69e5575b807c'),
```

```
    policyNo: 104,
```

```
    customerName: 'Sneha',
```

```
    policyType: 'Health',
```

```
    premium: 15000,
```

```
    city: 'Chennai',
```

```
    active: true
```

```
}
```

HTTP POST /api/policies

```
    policyNo: 105,
```

```
    customerName: "Rohit",
```

```
    policyType: "Bike",
```

```
    premium: 5000,
```

```
    city: "Pune",
```

```
    active: true
```

```
)
```

```
{
```

```
    acknowledged: true,
```

```
    insertedId: ObjectId('695a17b0140c69e5575b807e')
```

```
}
```

HTTP POST /api/policies

```
    policyNo: 101, },
```

```
    { set: { premium: 10000 } }
```

```
)
```

```
{
```

```
    acknowledged: true,
```

```
    insertedId: null,
```

```
    matchedCount: 1,
```

```
    modifiedCount: 1,
```

```
    upsertedCount: 0
```

```
}
```

HTTP PATCH /api/policies/101

```
    { policyType: "Life", },
```

```
    { set: { active: false } }
```

```
)
```

```
{
```

```
    acknowledged: true,
```

```
insertedId: null,
matchedCount: 2,
modifiedCount: 1,
upsertedCount: 0
}

db.policies.deleteOne({ policyNo: 103 })

{
  acknowledged: true,
  deletedCount: 1
}

db.policies.deleteMany({ active: false })

{
  acknowledged: true,
  deletedCount: 2
}
```

```
const policies = [
  {
    policyType: "Health", active: true,
    _id: ObjectId('customerName', 'premium')
  }
]

{
  customerName: 'Amit',
  premium: 13000
}

{
  customerName: 'Sneha',
  premium: 15000
}
```

```
const policy = [
  {
    premium: { $gte: 10000, $lt: 20000 }, },
  {
    customerName: 'Amit', premium: 13000
  }
]

{
  _id: ObjectId('695a1602140c69e5575b8079'),
  customerName: 'Amit',
  premium: 13000
}
```

```
{
  _id: ObjectId('695a1602140c69e5575b807c'),
  customerName: 'Sneha',
  premium: 15000
}

db.policies.find({ premium: { $gte: 15000 }, city: "Mumbai" })
db.policies.find({ premium: { $lte: 15000 }, city: "Mumbai" })
db.policies.find({ city: { $ne: "Delhi" } })

{
  _id: ObjectId('695a1602140c69e5575b807c'),
  policyNo: 104,
  customerName: 'Sneha',
  policyType: 'Health',
  premium: 15000,
  city: 'Chennai',
  active: true
}

{
  _id: ObjectId('695a17b0140c69e5575b807e'),
  policyNo: 106,
  customerName: 'Rohit',
  policyType: 'Bike',
  premium: 5000,
  city: 'Pune',
  active: true
}

db.policies.find({ premium: { $gt: 10000, $lt: 20000 } })

{
  _id: ObjectId('695a1602140c69e5575b8079'),
  policyNo: 101,
  customerName: 'Amit',
  policyType: 'Health',
  premium: 13000,
  city: 'Delhi',
```

```
active: true
}
{
  _id: ObjectId('695a1602140c69e5575b807c'),
  policyNo: 104,
  customerName: 'Sneha',
  policyType: 'Health',
  premium: 15000,
  city: 'Chennai',
  active: true
}
```

Document saved with id: 695a1602140c69e5575b807c

3 documents found

customerName: "Sneha", policyType: "Health")

```
)
```

```
{
  _id: ObjectId('695a1602140c69e5575b8079'),
  policyNo: 101,
  customerName: 'Amit',
  policyType: 'Health',
  premium: 13000,
  city: 'Delhi',
  active: true
}
```

Document saved with id: 695a1602140c69e5575b8079

3 documents found

customerName: "Amit", policyType: "Health", city: "Delhi")

```
)
```

```
{
  _id: ObjectId('695a17b0140c69e5575b807e'),
  policyNo: 106,
  customerName: 'Rohit',
  policyType: 'Bike',
  premium: 5000,
  city: 'Pune',
  active: true
}
```

```
db.policies.find({ active: { $exists: false } })  
db.policies.find().sort({ premium: -1 })  
{  
  _id: ObjectId('695a1602140c69e5575b807c'),  
  policyNo: 104,  
  customerName: 'Sneha',  
  policyType: 'Health',  
  premium: 15000,  
  city: 'Chennai',  
  active: true  
}  
{  
  _id: ObjectId('695a1602140c69e5575b8079'),  
  policyNo: 101,  
  customerName: 'Amit',  
  policyType: 'Health',  
  premium: 13000,  
  city: 'Delhi',  
  active: true  
}  
{  
  _id: ObjectId('695a17b0140c69e5575b807e'),  
  policyNo: 106,  
  customerName: 'Rohit',  
  policyType: 'Bike',  
  premium: 5000,  
  city: 'Pune',  
  active: true  
}  
db.policies.find().sort({ premium: -1 }).limit(2)  
{  
  _id: ObjectId('695a1602140c69e5575b807c'),  
  policyNo: 104,  
  customerName: 'Sneha',
```

```
policyType: 'Health',
premium: 15000,
city: 'Chennai',
active: true
}
{
_id: ObjectId('695a1602140c69e5575b8079'),
policyNo: 101,
customerName: 'Amit',
policyType: 'Health',
premium: 13000,
city: 'Delhi',
active: true
}
db.policies.find().skip(2)
{
_id: ObjectId('695a17b0140c69e5575b807e'),
policyNo: 106,
customerName: 'Rohit',
policyType: 'Bike',
premium: 5000,
city: 'Pune',
active: true
}
db.policies.countDocuments({ active: true })
3
db.policies.find({}, { _id: 0, customerName: 1, premium: 1 })
{
customerName: 'Amit',
premium: 13000
}
{
customerName: 'Sneha',
premium: 15000
```

```
}
```

```
{
```

```
    customerName: 'Rohit',
```

```
    premium: 5000
```

```
}
```

```
const policies = [
```

```
    { _id: '0', Name: 'SrohitName', Amount: 'Spremium' }
```

```
)
```

```
{
```

```
    Name: 'Amit',
```

```
    Amount: 13000
```

```
}
```

```
{
```

```
    Name: 'Sneha',
```

```
    Amount: 15000
```

```
}
```

```
{
```

```
    Name: 'Rohit',
```

```
    Amount: 5000
```

```
}
```

```
]
```

```
const policies = [
```

```
    { _id: ObjectId('695a1602140c69e5575b8079'), policyType: 'HEALTH' }
```

```
)
```

```
{
```

```
    _id: ObjectId('695a1602140c69e5575b8079'),
```

```
    policyType: 'HEALTH'
```

```
}
```

```
{
```

```
    _id: ObjectId('695a1602140c69e5575b807c'),
```

```
    policyType: 'HEALTH'
```

```
}
```

```
{
```

```
    _id: ObjectId('695a17b0140c69e5575b807e'),
```

```
    policyType: 'BIKE'
```

```
}
```

```
db.policies.aggregate([
  {
    $project: {
      customerName: 1,
      totalPremium: { $multiply: ["$premium", 1.18] }
    }
  }
])
{
  _id: ObjectId('695a1602140c69e5575b8079'),
  customerName: 'Amit',
  totalPremium: 15340
}
{
  _id: ObjectId('695a1602140c69e5575b807c'),
  customerName: 'Sneha',
  totalPremium: 17700
}
{
  _id: ObjectId('695a17b0140c69e5575b807e'),
  customerName: 'Rohit',
  totalPremium: 5900
}
```

Using \$project and \$aggregate

```
db.policies.aggregate([
  {
    $project: {
      customerName: 1,
      category: {
        $cond: {
          $gt: ["$premium", 15000],
          "High",
          "Normal"
        }
      }
    }
  }
])
{
  _id: ObjectId('695a1602140c69e5575b8079'),
  customerName: 'Amit',
  category: 'Normal'
```

```
}

{
  _id: ObjectId('695a1602140c69e5575b807c'),
  customerName: 'Sneha',
  category: 'Normal'
}

{
  _id: ObjectId('695a17b0140c69e5575b807e'),
  customerName: 'Rohit',
  category: 'Normal'
}
```

db.policies.aggregate()

```
( { $group: { _id: null, totalPremium: { $sum: "$premium" } } } )
```

1)

```
db.policies.aggregate()
( { $group: { _id: "SpolicyType", avgPremium: { $avg: "$premium" } } } )
```

1)

```
{
  _id: 'Bike',
  avgPremium: 5000
}

{
  _id: 'Health',
  avgPremium: 14000
}
```

db.locations.aggregate()

```
( { $group: { _id: null, count: { $sum: 1 } } } )
```

1)

```
[
  {
    _id: 'Delhi',
    count: 1
  },
  {
    _id: 'Chennai',
    count: 1
  }
]
```

```
    }
}

{
  _id: 'Pune',
  count: 1
}
```

do policies aggregate?

```
] )  
{  
  _id: 'Health',  
  maxPremium: 15000  
}  
{  
  _id: 'Bike',  
  maxPremium: 5000  
}
```

qq-pool@es.egg2eggs()

])

For more information about the study, please contact Dr. Michael J. Kupferschmidt at (415) 502-2555 or via email at kupferschmidt@ucsf.edu.

GD policies aggregate (1)

```
] )  
{  
  _id: 'Health',  
  avgPremium: 14000  
}  
  
{  
  _id: 'Bike',  
  avgPremium: 5000  
}
```

© 2010 Pearson Education, Inc.

```
] )  
{  
  _id: 'Delhi',
```

```
total: 13000
}
{
  _id: 'Chennai',
  total: 15000
}
{
  _id: 'Pune',
  total: 5000
}
```

10 documents returned

1 document(s) found matching the query

1)

```
{
  _id: true,
  count: 3
}
```

10 documents aggregated

```
 1) $group: { _id: "SpolicyType", avgPremium: { $avg: "$premium" } },
  1) $match: { avgPremium: { $gt: 15000 } }
]
```

10 policies aggregated

1)

```
 1) $group: {
    _id: "SpolicyType",
    policies: { $push: "$$ROOT" },
    count: { $sum: 1 }
  }
]
```

1)

```
{
  _id: 'Health',
  policies: [
    {
      _id: ObjectId('695a1602140c69e5575b8079'),
      policyNo: 101,
      customerName: 'Amit',
      policyType: 'Health',
      premium: 15000
    }
  ]
}
```

```
        premium: 13000,
        city: 'Delhi',
        active: true
    },
    {
        _id: ObjectId('695a1602140c69e5575b807c'),
        policyNo: 104,
        customerName: 'Sneha',
        policyType: 'Health',
        premium: 15000,
        city: 'Chennai',
        active: true
    }
],
count: 2
}
{
    _id: 'Bike',
    policies: [
        {
            _id: ObjectId('695a17b0140c69e5575b807e'),
            policyNo: 106,
            customerName: 'Rohit',
            policyType: 'Bike',
            premium: 5000,
            city: 'Pune',
            active: true
        }
    ],
    count: 1
}
```

```
const result = await db.collection('policies').find({}).sort({policyType: 'Health'}).limit(1).toArray()
```

```
)
```

```
{
  acknowledged: true,
  insertedId: null,
  matchedCount: 2,
  modifiedCount: 2,
  upsertedCount: 0
}

db.policies.insertMany([
  {
    assets: [
      {
        lastUpdated: new Date()
      }
    ],
    acknowledged: true,
    insertedId: null,
    matchedCount: 3,
    modifiedCount: 3,
    upsertedCount: 0
  }
])

db.policies.updateMany(
  {
    active: false,
    sunset: { $eq: "" }
  }
)

{
  acknowledged: true,
  insertedId: null,
  matchedCount: 0,
  modifiedCount: 0,
  upsertedCount: 0
}

db.policies.deleteMany({ premium: { $gt: 25000 } })

{
  acknowledged: true,
  deletedCount: 0
}

db.policies.drop()

true
```

insuranceDB