

```
test> use college
switched to db college
college> db.createCollection("s2mca")
{ ok: 1 }
college> db.s2mca.insert({roll:1,name:'Visal',age:20,div:'A',sub:['Maths','OS']})
DeprecationWarning: Collection.insert() is deprecated. Use insertOne, insertMany, or bulkWrite.
{
  acknowledged: true,
  insertedIds: { '0': ObjectId('6613988694d143be678bf202') }
}
college> db.s2mca.insert({roll:2,name:'John',age:20,div:'B',sub:['Maths','CN']})
{
  acknowledged: true,
  insertedIds: { '0': ObjectId('661398ac94d143be678bf203') }
}
college> db.s2mca.insert({roll:3,name:'Akash',age:20,div:'C',sub:['ACN','AOS']})
{
  acknowledged: true,
  insertedIds: { '0': ObjectId('661398cd94d143be678bf204') }
}
college> db.s2mca.find()
[
  {
    _id: ObjectId('6613988694d143be678bf202'),
    roll: 1,
    name: 'Visal',
    age: 20,
    div: 'A',
    sub: [ 'Maths', 'OS' ]
  },
  {
```

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{
  _id: ObjectId('661398ac94d143be678bf203'),
  roll: 2,
  name: 'John',
  age: 20,
  div: 'B',
  sub: [ 'Maths', 'CN' ]
},
{
  _id: ObjectId('661398cd94d143be678bf204'),
  roll: 3,
  name: 'Akash',
  age: 20,
  div: 'C',
  sub: [ 'ACN', 'AOS' ]
}
]
college> db.s2mca.aggregate([{$match:{div:'A'}},{ $count:'Total stud in A'}]);
[ { 'Total stud in A': 1 } ]
college> db.s2mca.aggregate([{$group:{_id:'$div',total_st:{$sum:1},max_age:{$max:'$age'}}}])
[
  { _id: 'C', total_st: 1, max_age: 20 },
  { _id: 'A', total_st: 1, max_age: 20 },
  { _id: 'B', total_st: 1, max_age: 20 }
]

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```
college> db.s2mca.aggregate([{$match:{age:{$gt:19}}}])
```

```
[
  {
    _id: ObjectId('6613988694d143be678bf202'),
    roll: 1,
    name: 'Visal',
    age: 20,
    div: 'A',
    sub: [ 'Maths', 'OS' ]
  },
  {
    _id: ObjectId('661398ac94d143be678bf203'),
    roll: 2,
    name: 'John',
    age: 20,
    div: 'B',
    sub: [ 'Maths', 'CN' ]
  },
  {
    _id: ObjectId('661398cd94d143be678bf204'),
    roll: 3,
    name: 'Akash',
    age: 20,
    div: 'C',
    sub: [ 'ACN', 'AOS' ]
  }
]
```

```
college> db.s2mca.aggregate([{$sort:{'age':1}}])
```

```
[
  {
    _id: ObjectId('6613988694d143be678bf202'),
    roll: 1,
    name: 'Visal',
    age: 20,
    div: 'A',
    sub: [ 'Maths', 'OS' ]
  },
  {
    _id: ObjectId('661398ac94d143be678bf203'),
    roll: 2,
    name: 'John',
    age: 20,
    div: 'B',
    sub: [ 'Maths', 'CN' ]
  },
  {
    _id: ObjectId('661398cd94d143be678bf204'),
    roll: 3,
    name: 'Akash',
  }
]
```

```

    {
      _id: ObjectId('661398cd94d143be678bf204'),
      roll: 3,
      name: 'Akash',
      age: 20,
      div: 'C',
      sub: [ 'ACN', 'AOS' ]
    }
  ]
college> db.s2mca.aggregate([{$sort: {'age': -1}}])
[
  {
    _id: ObjectId('6613988694d143be678bf202'),
    roll: 1,
    name: 'Visal',
    age: 20,
    div: 'A',
    sub: [ 'Maths', 'OS' ]
  },
  {
    _id: ObjectId('661398ac94d143be678bf203'),
    roll: 2,
    name: 'John',
    age: 20,
    div: 'B',
    sub: [ 'Maths', 'CN' ]
  },
  {
    _id: ObjectId('661398cd94d143be678bf204'),
    roll: 3,
    name: 'Akash',
    age: 20,
    div: 'C',
    sub: [ 'ACN', 'AOS' ]
  }
]
college> db.s2mca.aggregate([{$match: {div: "A"}}, {$sort: {'age': -1}}, {$limit: 1}])
[
  {
    _id: ObjectId('6613988694d143be678bf202'),
    roll: 1,
    name: 'Visal',
    age: 20,
    div: 'A',
    sub: [ 'Maths', 'OS' ]
  }
]

```

```
college> db.s2mca.aggregate([{$unwind: '$sub'}])
[
  {
    _id: ObjectId('6613988694d143be678bf202'),
    roll: 1,
    name: 'Visal',
    age: 20,
    div: 'A',
    sub: 'Maths'
  },
  {
    _id: ObjectId('6613988694d143be678bf202'),
    roll: 1,
    name: 'Visal',
    age: 20,
    div: 'A',
    sub: 'OS'
  },
  {
    _id: ObjectId('661398ac94d143be678bf203'),
    roll: 2,
    name: 'John',
    age: 20,
    div: 'B',
    sub: 'Maths'
  },
  {
    _id: ObjectId('661398ac94d143be678bf203'),
    roll: 2,
    name: 'John',
    age: 20,
    div: 'B',
    sub: 'CN'
  },
  {
    _id: ObjectId('661398cd94d143be678bf204'),
    roll: 3,
    name: 'Akash',
    age: 20,
    div: 'C',
    sub: 'ACN'
  },
  {
    _id: ObjectId('661398cd94d143be678bf204'),
    roll: 3,
    name: 'Akash',
    age: 20,
    div: 'C',
    sub: 'AOS'
  }
]
```



```
college> db.s2mca.aggregate([{$unwind: '$sub'}])
[
  {
    _id: ObjectId('6613988694d143be678bf202'),
    roll: 1,
    name: 'Visal',
    age: 20,
    div: 'A',
    sub: 'Maths'
  },
  {
    _id: ObjectId('6613988694d143be678bf202'),
    roll: 1,
    name: 'Visal',
    age: 20,
    div: 'A',
    sub: 'OS'
  },
  {
    _id: ObjectId('661398ac94d143be678bf203'),
    roll: 2,
    name: 'John',
    age: 20,
    div: 'B',
    sub: 'Maths'
  },
  {
    _id: ObjectId('661398ac94d143be678bf203'),
    roll: 2,
    name: 'John',
    age: 20,
    div: 'B',
    sub: 'CN'
  },
  {
    _id: ObjectId('661398cd94d143be678bf204'),
    roll: 3,
    name: 'Akash',
    age: 20,
    div: 'C',
    sub: 'ACN'
  },
  {
    _id: ObjectId('661398cd94d143be678bf204'),
    roll: 3,
    name: 'Akash',
    age: 20,
    div: 'C',
    sub: 'AOS'
  }
]
```

```
college> db.s2mca.aggregate([{$unwind: '$sub'}])
[
  {
    _id: ObjectId('6613988694d143be678bf202'),
    roll: 1,
    name: 'Visal',
    age: 20,
    div: 'A',
    sub: 'Maths'
  },
  {
    _id: ObjectId('6613988694d143be678bf202'),
    roll: 1,
    name: 'Visal',
    age: 20,
    div: 'A',
    sub: 'OS'
  },
  {
    _id: ObjectId('661398ac94d143be678bf203'),
    roll: 2,
    name: 'John',
    age: 20,
    div: 'B',
    sub: 'Maths'
  },
  {
    _id: ObjectId('661398ac94d143be678bf203'),
    roll: 2,
    name: 'John',
    age: 20,
    div: 'B',
    sub: 'CN'
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    _id: ObjectId('661398cd94d143be678bf204'),
    roll: 3,
    name: 'Akash',
    age: 20,
    div: 'C',
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  },
  {
    _id: ObjectId('661398cd94d143be678bf204'),
    roll: 3,
    name: 'Akash',
    age: 20,
    div: 'C',
    sub: 'AOS'
  }
]
```

```
]
college> db.s2mca.aggregate([{$group:{_id:'roll',averageAge:{$avg:'$age'}}}]);
[ { _id: 'roll', averageAge: 20 } ]
college> db.s2mca.aggregate([{$group:{_id:'$gender',count:{$sum:1}}}]);
[ { _id: null, count: 3 } ]
college> db.s2mca.find({name:/^j/});

college> db.s2mca.find({name:/^J/});
[
  {
    _id: ObjectId('661398ac94d143be678bf203'),
    roll: 2,
    name: 'John',
    age: 20,
    div: 'B',
    sub: [ 'Maths', 'CN' ]
  }
]
```