

NOSQL

```
> use test
< switched to db test
>

db.students.insertMany([
  { roll_no: 101, name: "Aarav Kumar", age: 20, course: "Computer Science", marks: 88, city: "Delhi" },
  { roll_no: 102, name: "Anika Sharma", age: 21, course: "Artificial Intelligence", marks: 92, city: "Mumbai" },
  { roll_no: 103, name: "Ravi Patel", age: 22, course: "Data Science", marks: 85, city: "Ahmedabad" },
  { roll_no: 104, name: "Meera Das", age: 20, course: "Cyber Security", marks: 90, city: "Kolkata" },
  { roll_no: 105, name: "Saanvi Reddy", age: 23, course: "Information Technology", marks: 87, city: "Hyderabad" }
])
< {
  acknowledged: true,
  insertedIds: [
    '0': ObjectId('6929692877081bde0ecba456'),
    '1': ObjectId('6929692877081bde0ecba457'),
    '2': ObjectId('6929692877081bde0ecba458'),
    '3': ObjectId('6929692877081bde0ecba459'),
    '4': ObjectId('6929692877081bde0ecba45a')
  ]
}
test> |
```

<pre>_id: ObjectId('6929692877081bde0ecba456') roll_no: 101 name: "Aarav Kumar" age: 20 course: "Computer Science" marks: 88 city: "Delhi"</pre>
<pre>_id: ObjectId('6929692877081bde0ecba457') roll_no: 102 name: "Anika Sharma" age: 21 course: "Artificial Intelligence" marks: 92 city: "Mumbai"</pre>
<pre>_id: ObjectId('6929692877081bde0ecba458') roll_no: 103 name: "Ravi Patel" age: 22 course: "Data Science" marks: 85 city: "Ahmedabad"</pre>
<pre>_id: ObjectId('6929692877081bde0ecba459') roll_no: 104 name: "Meera Das" age: 20 course: "Cyber Security" marks: 90 city: "Kolkata"</pre>
<pre>_id: ObjectId('6929692877081bde0ecba45a') roll_no: 105 name: "Saanvi Reddy" age: 23 course: "Information Technology" marks: 87 city: "Hyderabad"</pre>

QUERIES:

Student with highest marks

```
>_MONGOSH

> use test
< already on db test
> db.students.find().sort({ marks: -1 }).limit(1)
< {
  _id: ObjectId('6929692877081bde0ecba457'),
  roll_no: 102,
  name: 'Anika Sharma',
  age: 21,
  course: 'Artificial Intelligence',
  marks: 92,
  city: 'Mumbai'
}
```

Find average marks

```
> db.students.aggregate([
  {
    $group: {
      _id: null,
      averageMarks: { $avg: "$marks" }
    }
  }
])
< {
  _id: null,
  averageMarks: 88.4
}
```

Update student anika sharma's marks to 98

```
> db.students.updateOne(  
  { name: "Anika Sharma" },  
  { $set: { marks: 98 } }  
)  
< {  
  acknowledged: true,  
  insertedId: null,  
  matchedCount: 1,  
  modifiedCount: 1,  
  upsertedCount: 0  
,
```

Updated in the database:

```
_id: ObjectId('6929692877081bde0ecba457')  
roll_no: 102  
name : "Anika Sharma"  
age : 21  
course : "Artificial Intelligence"  
marks : 98  
city : "Mumbai"
```

Find students who scored above 85

```
> db.students.find(  
  { marks: { $gt: 85 } },  
  { name: 1, marks: 1, _id: 0 }  
)  
{  
  {  
    name: 'Aarav Kumar',  
    marks: 88  
  }  
  {  
    name: 'Anika Sharma',  
    marks: 98  
  }  
  {  
    name: 'Meera Das',  
    marks: 90  
  }  
}
```

Find student from “Mumbai”

```
> db.students.find(  
  { city: "Mumbai" },  
  { name: 1, course: 1, _id: 0 }  
)  
< [{  
  name: 'Anika Sharma',  
  course: 'Artificial Intelligence'  
}  
test> |
```

Display name and marks of all students:

```
> db.students.find(  
  {},  
  { name: 1, marks: 1, _id: 0 }  
)  
< [{  
  name: 'Aarav Kumar',  
  marks: 88  
}  
{  
  name: 'Anika Sharma',  
  marks: 98  
}  
{  
  name: 'Ravi Patel',  
  marks: 85  
}  
{  
  name: 'Meera Das',  
  marks: 90  
}  
{  
  name: 'Saanvi Reddy',  
  marks: 87  
}
```

Sum of marks of all students

```
> db.students.aggregate([
  {
    $group: {
      _id: null,
      totalMarks: { $sum: "$marks" }
    }
  }
])
< [
  {
    _id: null,
    totalMarks: 448
  }
]
test>
```