

LAB ASSIGNMENT 6

NOSQL

AIM: Create a database named **college** and then create a collection named **studlist**. Insert some values into it [You can use the data in **test.json** file].

Write a MongoDB Query to:

1. Display name (both fname and lname) and mark of all female students in MCA department.
2. Display the details of student who secured highest mark in the course MCA
3. Display all male students who secured A+ grade.
4. Display the names of the top three students in Mechanical department.
5. Display the details of female students [fname,lname,grade,mark,contact] who achieved a mark more than 90.
6. Display the details of students who secured mark, more than 80 but less than 90.
7. Display the details of students whose name starts with 'V'
8. Display all students from Kollam
9. Display all students who does not belong to neither Kollam nor Thiruvananthapuram
10. Display all female students who belong to either Kollam or Thiruvananthapuram

CODE

//Creation

```
use college
switched to db college
db.createCollection("studlist")
```

//Insertion

```
>db.studlist.insert({"fname":"manya","lname":"m","gender":"female","place":"kollam","contact":4567231890,"department":"mca","mark":95,"grade":"A+"})
WriteResult({ "nInserted" : 1 })
```

```
>db.studlist.insert({"fname":"gopika","lname":"sraj","gender":"female","place":"thiruvanthapuram","contact":9087231890,"department":"mca","mark":94,"grade":"A+"})
```

```
WriteResult({ "nInserted" : 1 })
```

```
>db.studlist.insert({"fname":"vyshnav","lname":"s","gender":"male","place":"kannur","contact":9087001890,"department":"mechanical","mark":92,"grade":"A+"})
```

```
WriteResult({ "nInserted" : 1 })
```

```
>db.studlist.insert({"fname":"rahul","lname":"kumar","gender":"male","place":"kottayam","contact":8087001890,"department":"mechanical","mark":99,"grade":"A+"})
```

```
WriteResult({ "nInserted" : 1 })
```

```
>db.studlist.insert({"fname":"abin","lname":"s","gender":"male","place":"kollam","contact":8088761890,"department":"mechanical","mark":89,"grade":"A"})
```

```
WriteResult({ "nInserted" : 1 })
```

```
>db.studlist.insert({"fname":"arsha","lname":"lekshmi","gender":"female","place":"thiruvananthapuram","contact":8087689090,"department":"mechanical","mark":75,"grade":"B"})
```

```
WriteResult({ "nInserted" : 1 })
```

```
>db.studlist.insert({"fname":"fathima","lname":"basheer","gender":"female","place":"kollam","contact":8087680900,"department":"mca","mark":87,"grade":"A"})
```

```
WriteResult({ "nInserted" : 1 })
```

```
>db.studlist.insert({"fname":"anoop","lname":"a","gender":"male","place":"kollam","contact":8043210900,"department":"mechanical","mark":77,"grade":"B"})
```

```
WriteResult({ "nInserted" : 1 })
```

```
>db.studlist.insert({"fname":"anoop","lname":"a","gender":"male","place":"kollam","contact":8043210900,"department":"mechanical","mark":77,"grade":"B"})
```

```
WriteResult({ "nInserted" : 1 })
```

```
//Display
```

```
> db.studlist.find().pretty()
```

```
{
  "_id" : ObjectId("62965ec12de939492590b52f"),
  "fname" : "manya",
  "lname" : "m",
  "gender" : "female",
  "place" : "kollam",
  "contact" : 4567231890,
  "department" : "mca",
  "mark" : 95,
  "grade" : "A+"
}
{
  "_id" : ObjectId("62965ee92de939492590b530"),
  "fname" : "gopika",
  "lname" : "s raj",
}
```

```
    "gender" : "female",
    "place" : "thiruvanthapuram",
    "contact" : 9087231890,
    "department" : "mca",
    "mark" : 94,
    "grade" : "A+"
  }
  {
    "_id" : ObjectId("62965f1b2de939492590b531"),
    "fname" : "vyshnav",
    "lname" : "s",
    "gender" : "male",
    "place" : "kannur",
    "contact" : 9087001890,
    "department" : "mechanical",
    "mark" : 92,
    "grade" : "A+"
  }
  {
    "_id" : ObjectId("62965f5d2de939492590b532"),
    "fname" : "rahul",
    "lname" : "kumar",
    "gender" : "male",
    "place" : "kottayam",
    "contact" : 8087001890,
    "department" : "mechanical",
    "mark" : 99,
    "grade" : "A+"
  }
  {
    "_id" : ObjectId("62965f852de939492590b533"),
    "fname" : "abin",
    "lname" : "s",
    "gender" : "male",
    "place" : "kollam",
    "contact" : 8088761890,
    "department" : "mechanical",
    "mark" : 89,
    "grade" : "A"
  }
  {
    "_id" : ObjectId("62965fda2de939492590b534"),
    "fname" : "arsha",
    "lname" : "lekshmi",
    "gender" : "female",
    "place" : "thiruvananthapuram",
```

```

    "contact" : 8087689090,
    "department" : "mechanical",
    "mark" : 75,
    "grade" : "B"
  }
  {
    "_id" : ObjectId("629660092de939492590b535"),
    "fname" : "fathima",
    "lname" : "basheer",
    "gender" : "female",
    "place" : "kollam",
    "contact" : 8087680900,
    "department" : "mca",
    "mark" : 87,
    "grade" : "A"
  }
  {
    "_id" : ObjectId("6296603d2de939492590b536"),
    "fname" : "anoop",
    "lname" : "a",
    "gender" : "male",
    "place" : "kollam",
    "contact" : 8043210900,
    "department" : "mechanical",
    "mark" : 77,
    "grade" : "B"
  }
}

```

Query 1

```
db.studlist.find({"gender":"female","department":"mca"},{"fname":1,"lname":1,"mark":1})
```

Query 2

```
db.studlist.find({"department":"mca"}).sort({"mark":-1}).limit(1).pretty()
```

Query 3

```
db.studlist.find({"gender":"male","grade":"A+"}, {"fname":1,"lname":1})
```

Query 4

```
db.studlist.find({"department":"mechanical"}).sort({"mark":-1}).limit(3).pretty()
```

Query 5

```
db.studlist.find({"mark":{$gt:90},"gender":"female"}, {"fname":1,"lname":1,"grade":1,"mark":1,"contact":1}).pretty()
```

Query 6

```
db.studlist.find({$and:[{mark:{$gt:80}},{mark:{$lt:90}}]}).pretty()
```

Query 7

```
db.studlist.find({fname:{$regex:"^v"}},{fname:1}).pretty()
```

Query 8

```
db.studlist.find({place:"kollam"}).pretty()
```

Query 9

```
db.studlist.find({$nor:[{place:"kollam"},{place:"thiruvananthapuram"}]}).pretty()
```

Query 10

```
db.studlist.find({$or:[{place:"kollam"},{place:"thiruvananthapuram"}],"gender":"female"})  
.pretty()
```

OUTPUT

1.

```
{ "_id" : ObjectId("62965ec12de939492590b52f"), "fname" : "manya", "lname" : "m", "mark" : 95 }  
{ "_id" : ObjectId("62965ee92de939492590b530"), "fname" : "gopika", "lname" : "s raj", "mark" : 94 }  
{ "_id" : ObjectId("629660092de939492590b535"), "fname" : "fathima", "lname" : "basheer", "mark" : 87 }
```

2.

```
{  
  "_id" : ObjectId("62965ec12de939492590b52f"),  
  "fname" : "manya",  
  "lname" : "m",  
  "gender" : "female",  
  "place" : "kollam",  
  "contact" : 4567231890,  
  "department" : "mca",  
  "mark" : 95,  
  "grade" : "A+"  
}
```

3.

```
{
  "_id" : ObjectId("62965f5d2de939492590b532"),
  "fname" : "rahul",
  "lname" : "kumar",
  "gender" : "male",
  "place" : "kottayam",
  "contact" : 8087001890,
  "department" : "mechanical",
  "mark" : 99,
  "grade" : "A+"
}
{
  "_id" : ObjectId("62965f1b2de939492590b531"),
  "fname" : "vyshnav",
  "lname" : "s",
  "gender" : "male",
  "place" : "kannur",
  "contact" : 9087001890,
  "department" : "mechanical",
  "mark" : 92,
  "grade" : "A+"
}
{
  "_id" : ObjectId("62965f852de939492590b533"),
  "fname" : "abin",
  "lname" : "s",
  "gender" : "male",
  "place" : "kollam",
  "contact" : 8088761890,
  "department" : "mechanical",
  "mark" : 89,
  "grade" : "A"
}
```

4.

```
{ "_id" : ObjectId("62965f1b2de939492590b531"), "fname" : "vyshnav", "lname" : "s" }
{ "_id" : ObjectId("62965f5d2de939492590b532"), "fname" : "rahul", "lname" : "kumar" }
```

5.

```
{
  "_id" : ObjectId("62965ec12de939492590b52f"),
  "fname" : "manya",
  "lname" : "m",
  "contact" : 4567231890,
  "mark" : 95,
  "grade" : "A+"
}
{
  "_id" : ObjectId("62965ee92de939492590b530"),
  "fname" : "gopika",
  "lname" : "s raj",
  "contact" : 9087231890,
  "mark" : 94,
  "grade" : "A+"
}
```

6.

```
{
  "_id" : ObjectId("62965f852de939492590b533"),
  "fname" : "abin",
  "lname" : "s",
  "gender" : "male",
  "place" : "kollam",
  "contact" : 8088761890,
  "department" : "mechanical",
  "mark" : 89,
  "grade" : "A"
}
{
  "_id" : ObjectId("629660092de939492590b535"),
  "fname" : "fathima",
  "lname" : "basheer",
  "gender" : "female",
  "place" : "kollam",
  "contact" : 8087680900,
  "department" : "mca",
  "mark" : 87,
  "grade" : "A"
}
```

7.

```
{ "_id" : ObjectId("62965f1b2de939492590b531"), "fname" : "vyshnav" }
```

8.

```
{
  "_id" : ObjectId("62965ec12de939492590b52f"),
  "fname" : "manya",
  "lname" : "m",
  "gender" : "female",
  "place" : "kollam",
  "contact" : 4567231890,
  "department" : "mca",
  "mark" : 95,
  "grade" : "A+"
}
{
  "_id" : ObjectId("62965f852de939492590b533"),
  "fname" : "abin",
  "lname" : "s",
  "gender" : "male",
  "place" : "kollam",
  "contact" : 8088761890,
  "department" : "mechanical",
  "mark" : 89,
  "grade" : "A"
}
{
  "_id" : ObjectId("629660092de939492590b535"),
  "fname" : "fathima",
  "lname" : "basheer",
  "gender" : "female",
  "place" : "kollam",
  "contact" : 8087680900,
  "department" : "mca",
  "mark" : 87,
  "grade" : "A"
}
```


9.

```
{
  "_id" : ObjectId("62965ee92de939492590b530"),
  "fname" : "gopika",
  "lname" : "s raj",
  "gender" : "female",
  "place" : "thiruvanthapuram",
  "contact" : 9087231890,
  "department" : "mca",
  "mark" : 94,
  "grade" : "A+"
}

{
  "_id" : ObjectId("62965f1b2de939492590b531"),
  "fname" : "vyshnav",
  "lname" : "s",
  "gender" : "male",
  "place" : "kannur",
  "contact" : 9087001890,
  "department" : "mechanical",
  "mark" : 92,
  "grade" : "A+"
}

{
  "_id" : ObjectId("62965f5d2de939492590b532"),
  "fname" : "rahul",
  "lname" : "kumar",
  "gender" : "male",
  "place" : "kottayam",
  "contact" : 8087001890,
  "department" : "mechanical",
  "mark" : 99,
  "grade" : "A+"
}
```

10.

```
{
  "_id" : ObjectId("62965ec12de939492590b52f"),
  "fname" : "manyu",
  "lname" : "m",
  "gender" : "female",
  "place" : "kollam",
  "contact" : 4567231890,
  "department" : "mca",
  "mark" : 95,
  "grade" : "A+"
}
{
  "_id" : ObjectId("62965fda2de939492590b534"),
  "fname" : "arsha",
  "lname" : "lekshmi",
  "gender" : "female",
  "place" : "thiruvananthapuram",
  "contact" : 8087689090,
  "department" : "mechanical",
  "mark" : 75,
  "grade" : "B"
}
{
  "_id" : ObjectId("629660092de939492590b535"),
  "fname" : "fathima",
  "lname" : "basheer",
  "gender" : "female",
  "place" : "kollam",
  "contact" : 8087680900,
  "department" : "mca",
  "mark" : 87,
  "grade" : "A"
}
```