

## 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

```
use college
```

```
switched to db college
```

```
db.studlist.insert({ fname:"arjun",lname:"b",gender:"male",dept:"mca",mark:"91",grade:"A",contact:{ "ph":9946673258,"loc":"kollam" } });
```

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

```
>
```

```
db.studlist.insert({ fname:"alan",lname:"r",gender:"male",dept:"mca",mark:"91",grade:"A+",contact:{ "ph":9946678258,"loc":"trivadrum" } });
```

```

WriteResult({ "nInserted" : 1 })
>
db.studlist.insert({ fname:"gopika",lname:"g",gender:"female",dept:"mcom",mark:"88",grade:"A",contact:{ "ph":7746678258,"loc":"kozhikode" }});
WriteResult({ "nInserted" : 1 })
>
db.studlist.insert({ fname:"joseph",lname:"saji",gender:"male",dept:"mech",mark:"78",grade:"b",contact:{ "ph":5546678258,"loc":"kannur" }});
WriteResult({ "nInserted" : 1 })
>
db.studlist.insert({ fname:"thomas",lname:"k",gender:"male",dept:"ec",mark:"98",grade:"A+",contact:{ "ph":8846678258,"loc":"wayanad" }});

WriteResult({ "nInserted" : 1 })
>
db.studlist.insert({ fname:"ammu",lname:"raj",gender:"female",dept:"civil",mark:"87",grade:"A",contact:{ "ph":3346678258,"loc":"kollam" }});
WriteResult({ "nInserted" : 1 })
>
db.studlist.insert({ fname:"drishya",lname:"s",gender:"female",dept:"eee",mark:"76",grade:"b+",contact:{ "ph":3446678258,"loc":"trivadrum" }});
WriteResult({ "nInserted" : 1 })
>
db.studlist.insert({ fname:"amal",lname:"c",gender:"male",dept:"mech",mark:"66",grade:"c+",contact:{ "ph":6446678258,"loc":"kasaragod" }});
WriteResult({ "nInserted" : 1 })
>
db.studlist.find({ gender:"female",department:"mca" }, { fname:1,lname:1,mark:1,_id:0 })
>
db.studlist.insert({ fname:"akhila",lname:"b",gender:"female",dept:"mca",mark:"98",grade:"A+",contact:{ "ph":6446678258,"loc":"kottayam" }});
WriteResult({ "nInserted" : 1 })
>
db.studlist.insert({ fname:"vimal",lname:"b",gender:"male",dept:"mca",mark:"68",grade:"c+",contact:{ "ph":2246678258,"loc":"idukki" }});
WriteResult({ "nInserted" : 1 })

```

1.

>

```
db.studlist.find({gender:"female",dept:"mca"},{fname:1,lname:1,mark:1,_id:0})
```

```
{ "fname" : "akhila", "lname" : "b", "mark" : "98" }
```

2.

```
db.studlist.aggregate([{$match:{"dept":"mca"}},{ $group: {_id:0,"fname":{$first:"$fname"},"lname":{$first:"$lname"},"department":{$first:"$dept"},"HighestMark":{$max:"$mark"}}}])
```

```
{ "_id" : 0, "fname" : "arjun", "lname" : "b", "department" : "mca", "HighestMark" : "98" }
```

3.

```
> db.studlist.find({'grade':'A+','gender':'male'},{_id:0,fname:1,lname:1});
```

```
{ "fname" : "alan", "lname" : "r" }
```

```
{ "fname" : "thomas", "lname" : "k" }
```

4.

```
> db.studlist.find({"dept":"mech"}).sort({"mark":-1}).limit(3).pretty()
```

```
{
```

```
"_id" : ObjectId("62963cf44257d56805ea0c3b"),
```

```
"fname" : "joseph",
```

```
"lname" : "saji",
```

```
"gender" : "male",
```

```
"dept" : "mech",
```

```
"mark" : "78",
```

```
"grade" : "b",
```

```
"contact" : {
```

```
"ph" : 5546678258,
```

```
"loc" : "kannur"
```

```
}
```

```
}
```

```
{
```

```
"_id" : ObjectId("62963e1d4257d56805ea0c3f"),
```

```
"fname" : "amal",
```

```
"lname" : "c",
"gender" : "male",
"dept" : "mech",
"mark" : "66",
"grade" : "c+",
"contact" : {
  "ph" : 6446678258,
  "loc" : "kasaragod"
}
```

5.

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

```
{
  "_id" : ObjectId("62963f2b4257d56805ea0c40"),
  "fname": "akhila",
  "lname": "b",
  "gender": "female",
  "dept": "mca",
  "mark": "98",
  "grade": "A+",
  "contact": {
    "ph": 6446678258,
    "loc": "kottayam"
  }
}
```

6.

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

```
{
  "fname": "ammu",
  "lname": "raj",
  "gender": "female",
  "dept": "civil",

```

```
"mark": "87",
"grade": "A",
"contact": {
  "ph": 3346678258,
  "loc": "kollam"
}
}
```

**7.**

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

```
{
  "_id" :
  ObjectId("629648b94257d56805ea0c41"),
  "fname" : "vimal",
  "lname" : "b",
  "gender" : "male",
  "dept" : "mca",
  "mark" : "68",
  "grade" : "c+",
  "contact" : {
    "ph" : 2246678258,
    "loc" : "idukki"
  }
}
```

**8.**

```
> db.studlist.find({"contact.loc":"kollam"},{}).pretty()
```

```
{
  "_id" : ObjectId("62963c1b4257d56805ea0c38"),
  "fname" : "arjun",
  "lname" : "b",
  "gender" : "male",
  "dept" : "mca",
  "mark" : "91",
  "grade" : "A",
  "contact" : {
    "ph" : 9946673258,
```

```

"loc" : "kollam"
}
}
{
  "_id" : ObjectId("62963da44257d56805ea0c3d"),
  "fname" : "ammu",
  "lname" : "raj",
  "gender" : "female",
  "dept" : "civil",
  "mark" : "87",
  "grade" : "A",
  "contact" : {
    "ph" : 3346678258,
    "loc" : "kollam"
  }
}

```

**9.**

>

```

db.studlist.find({$nor:[{"contact.loc":"kollam"}, {"contact.loc":"trivadrum"}]}).pretty()

```

```

{
  "_id" : ObjectId("62963cb04257d56805ea0c3a"),
  "fname" : "gopika",
  "lname" : "g",
  "gender" : "female",
  "dept" : "mcom",
  "mark" : "88",
  "grade" : "A",
  "contact" : {
    "ph" : 7746678258,
    "loc" : "kozhikode"
  }
}

```

```

{
  "_id" :
  ObjectId("62963cf44257d56805ea0c3b"),
  "fname" : "joseph",
  "lname" : "saji",

```

```
"gender" : "male",
"dept" : "mech",
"mark" : "78",
"grade" : "b",
"contact" : {
  "ph" : 5546678258,
  "loc" : "kannur"
}
}
{
  "_id" : ObjectId("62963d684257d56805ea0c3c"),
  "fname" : "thomas",
  "lname" : "k",
  "gender" : "male",
  "dept" : "ec",
  "mark" : "98",
  "grade" : "A+",
  "contact" : {
    "ph" : 8846678258,
    "loc" : "wayanad"
  }
}
{
  "_id" : ObjectId("62963e1d4257d56805ea0c3f"),
  "fname" : "amal",
  "lname" : "c",
  "gender" : "male",
  "dept" : "mech",
  "mark" : "66",
  "grade" : "c+",
  "contact" : {
    "ph" : 6446678258,
    "loc" : "kasaragod"
  }
}
{
  "_id" : ObjectId("62963f2b4257d56805ea0c40"),
```

```

"fname" : "akhila",
"lname" : "b",
"gender" : "female",
"dept" : "mca",
"mark" : "98",
"grade" : "A+",
"contact" : {
"ph" : 6446678258,
"loc" : "kottayam"
}
}
{
"_id" : ObjectId("629648b94257d56805ea0c41"),
"fname" : "vimal",
"lname" : "b",
"gender" : "male",
"dept" : "mca",
"mark" : "68",
"grade" : "c+",
"contact" : {
"ph" : 2246678258,
"loc" : "idukki"
}
}

```

**10.**

>

```

db.studlist.find({$or:[{"contact.loc":"kollam"}, {"contact.loc":"trivadrum"}],gender:"female"},{}).pretty()
{
  "_id" : ObjectId("62963da44257d56805ea0c3d"),
  "fname" : "ammu",
  "lname" : "raj",
  "gender" : "female",
  "dept" : "civil",
  "mark" : "87",
  "grade" : "A",
  "contact" : {

```



```

"ph" : 3346678258,
"loc" : "kollam"
}
}
{
  "_id" : ObjectId("62963dee4257d56805ea0c3e"),
  "fname" : "drishya",
  "lname" : "s",
  "gender" : "female",
  "dept" : "eee",
  "mark" : "76",
  "grade" : "b+",
  "contact" : {
    "ph" : 3446678258,
    "loc" : "trivadrum"
  }
}
}

```

## Output:

1.

```

db.studlist.find({gender:"female",dept:"mca"},{fname:1,lname:1,mark:1,_id:0})
{ "fname" : "akhila", "lname" : "b", "mark" : "98" }
db.studlist.aggregate([{$group: {_id:0,"max_mark":{$max:$mark}}})]
{ "_id" : 0, "max_mark" : "98" }

```

2.

```

db.studlist.aggregate([{$match: {dept: "mca"}}, {$group: {_id:0, "fname": {$first: "$fname"}, "lname": {$first: "$lname"}, "department": {$first: "$dept"}, "Highest Mark": {$max: "$mark"}}})]
{ "_id" : 0, "fname" : "arjun", "lname" : "b", "department" : "mca", "Highest Mark" : "98" }

```

3.

```

db.studlist.find({grade:"A+",gender:"male"},{_id:0,fname:1,lname:1});
{ "fname" : "alan", "lname" : "r" }
{ "fname" : "thomas", "lname" : "k" }

```

4.

```

{ "fname" : "thomas", "lname" : "k" }
db.studlist.find({"dept":"mech"}).sort({"mark":-1}).limit(3).pretty()
  "_id" : ObjectId("62963cf44257d56805ea0c3b"),
  "fname" : "joseph",
  "lname" : "saji",
  "gender" : "male",
  "dept" : "mech",
  "mark" : "78",
  "grade" : "b",
  "contact" : {
    "ph" : 5546678258,
    "loc" : "kannur"
  }
}
  "_id" : ObjectId("62963e1d4257d56805ea0c3f"),
  "fname" : "amal",
  "lname" : "c",
  "gender" : "male",
  "dept" : "mech",
  "mark" : "66",
  "grade" : "c+",
  "contact" : {
    "ph" : 6446678258,
    "loc" : "kasaragod"
  }
}

```

7.

```
db.studlist.find({fname:{$regex:'^v'}}).pretty()
{
  "_id" : ObjectId("629648b94257d56885ea0c41"),
  "fname" : "vimal",
  "lname" : "b",
  "gender" : "male",
  "dept" : "mca",
  "mark" : "68",
  "grade" : "c+",
  "contact" : {
    "ph" : 2246678258,
    "loc" : "idukki"
  }
}
```

8.

```
db.studlist.find({"contact.loc":"kollam"}).pretty()
{
  "_id" : ObjectId("62963c1b4257d56885ea0c38"),
  "fname" : "arjun",
  "lname" : "b",
  "gender" : "male",
  "dept" : "mca",
  "mark" : "91",
  "grade" : "A",
  "contact" : {
    "ph" : 9946673258,
    "loc" : "kollam"
  }
}
{
  "_id" : ObjectId("62963de44257d56885ea0c3d"),
  "fname" : "ammu",
  "lname" : "raj",
  "gender" : "female",
  "dept" : "civil",
  "mark" : "87",
  "grade" : "A",
  "contact" : {
    "ph" : 3346678258,
    "loc" : "kollam"
  }
}
```

9.

```
Select Command Prompt - mongo
> db.studlist.find({$or:[{"contact.loc":"kollam"}, {"contact.loc":"trivadrum"}]}).pretty()
{
  "_id" : ObjectId("62963cb04257d56885ea0c3a"),
  "fname" : "gopika",
  "lname" : "g",
  "gender" : "female",
  "dept" : "mcom",
  "mark" : "88",
  "grade" : "A",
  "contact" : {
    "ph" : 7746678258,
    "loc" : "kozhikode"
  }
}
{
  "_id" : ObjectId("62963cf44257d56885ea0c3b"),
  "fname" : "joseph",
  "lname" : "saji",
  "gender" : "male",
  "dept" : "mech",
  "mark" : "78",
  "grade" : "b",
  "contact" : {
    "ph" : 5546678258,
    "loc" : "kannur"
  }
}
{
  "_id" : ObjectId("62963d684257d56885ea0c3c"),
  "fname" : "thomas",
  "lname" : "k",
  "gender" : "male",
  "dept" : "ec",
  "mark" : "98",
  "grade" : "A+",
  "contact" : {
    "ph" : 8846678258,
    "loc" : "wayanad"
  }
}
```

10.

```
3446678258, "loc" : "trivadrum" } }  
> db.studlist.find({$or:[{"contact.loc":"kollam"}, {"contact.loc":"trivadrum"}],gender:"female"},{}).pretty()  
{  
  "_id" : ObjectId("62963da44257d56805ea0c3d"),  
  "fname" : "ammu",  
  "lname" : "raj",  
  "gender" : "female",  
  "dept" : "civil",  
  "mark" : "87",  
  "grade" : "A",  
  "contact" : {  
    "ph" : 3446678258,  
    "loc" : "kollam"  
  }  
}  
  
  "_id" : ObjectId("62963dee4257d56805ea0c3e"),  
  "fname" : "drishya",  
  "lname" : "s",  
  "gender" : "female",  
  "dept" : "eee",  
  "mark" : "78",  
  "grade" : "B",  
  "contact" : {  
    "ph" : 3446678258,  
    "loc" : "trivadrum"  
  }  
}
```