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

Query 1
```
> db.studlist.find({'depart':'mca','gender':'female'},{'fname':1,'lname':1,'mark':1});
```

```
{ "_id" : ObjectId("6294d34a02ae8e7edd958641"), "fname" : "catherine", "lname" : "m",
"mark" : "84" }
```

Query 2
```
db.studlist3.aggregate([{$group:{_id:0,"max_mark":{$max:"$mark"}}}])
{ "_id" : 0, "max_mark" : "90" }
```
Query 3
```
db.studlist3.find({'grade':'A+','gender':'male'},{_id:0,'fname':1,'lname':1});
```

{ "fname" : "jeff", "lname" : "justin" }

Query 4

db.studlist3.find({"depart":"mechanical"}).sort({"mark":-1}).limit(3).pretty()

```
{
    "_id" : ObjectId("62961485500c4e4ad9c061af"),
    "fname" : "soja",
    "lname" : "sebastian",
    "depart" : "mechanical",
    "grade" : "66",
    "gender" : "female",
    "contact" : "9875467",
    "mark" : "B",
    "location" : "trivandrum"
}
{
    "_id" : ObjectId("62960cca500c4e4ad9c061ad"),
    "fname" : "vismaya",
    "lname" : "sebastian",
    "depart" : "mechanical",
    "grade" : "A",
    "gender" : "female",
    "contact" : "9875467",
    "mark" : "90",
    "location" : "kottayam"
}
{
    "_id" : ObjectId("62960c96500c4e4ad9c061ab"),
    "fname" : "tessy",
    "lname" : "A",
    "depart" : "mechanical",
    "grade" : "A",
    "gender" : "female",
    "contact" : "99778967",
    "mark" : "83",
    "location" : "kollam"
}
```

Query 5

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

```
{
    "_id" : ObjectId("629616c8500c4e4ad9c061b1"),
    "fname" : "anu",
    "lname" : "t",
    "depart" : "mechanical",
    "grade" : "A+",
    "gender" : "female",
```

```
        "contact" : "9875467",
        "mark" : "96",
        "location" : "kollam"
}
```

Query 6
```
db.studlist.find({$and:[{mark:{$gt:80}},{mark:{$lt:90}}]}).pretty()
{
        "_id" : ObjectId("62960c96500c4e4ad9c061ab"),
        "fname" : "tessy",
        "lname" : "A",
        "depart" : "mechanical",
        "grade" : "A",
        "gender" : "female",
        "contact" : "99778967",
        "mark" : "83",
        "location" : "kollam"
}
{
        "_id" : ObjectId("62961042500c4e4ad9c061ae"),
        "fname" : "sona",
        "lname" : "sebastian",
        "depart" : "mca",
        "grade" : "A",
        "gender" : "female",
        "contact" : "9875467",
        "mark" : "85",
        "location" : "trivandrum"
}
```

Query 7
```
db.studlist3.find({"fname":{$regex:"v"}},{"fname":1}).pretty()
{ "_id" : ObjectId("62960cca500c4e4ad9c061ad"), "fname" : "vismaya" }
```

Query 8
```
db.studlist3.find({"location":"kollam"}).pretty()
{
        "_id" : ObjectId("62960b68500c4e4ad9c061a3"),
        "fname" : "jeff",
        "lname" : "justin",
        "depart" : "mca",
        "grade" : "A+",
        "gender" : "male",
        "contact" : "9875467",
        "mark" : "90",
        "location" : "kollam"
}
{
        "_id" : ObjectId("62960c96500c4e4ad9c061ab"),
```

```
            "fname" : "tessy",
            "lname" : "A",
            "depart" : "mechanical",
            "grade" : "A",
            "gender" : "female",
            "contact" : "99778967",
            "mark" : "83",
            "location" : "kollam"
}
{
            "_id" : ObjectId("6296168b500c4e4ad9c061b0"),
            "fname" : "anu",
            "lname" : "t",
            "depart" : "mechanical",
            "grade" : "96",
            "gender" : "female",
            "contact" : "9875467",
            "mark" : "A+",
            "location" : "kollam"
}
{
            "_id" : ObjectId("629616c8500c4e4ad9c061b1"),
            "fname" : "anu",
            "lname" : "t",
            "depart" : "mechanical",
            "grade" : "A+",
            "gender" : "female",
            "contact" : "9875467",
            "mark" : "96",
            "location" : "kollam"
}
```

Query 9

```
db.studlist3.find({$nor:[{location:"kollam"},{location:"trivandrum"}]}).pretty()
{
            "_id" : ObjectId("62960c77500c4e4ad9c061a9"),
            "fname" : "catherine",
            "lname" : "m",
            "depart" : "mca",
            "grade" : "A",
            "gender" : "female",
            "contact" : "99878967",
            "mark" : "84",
            "location" : "ekm"
}
{
            "_id" : ObjectId("62960c85500c4e4ad9c061aa"),
```

```
        "fname" : "tom",
        "lname" : "A",
        "depart" : "civil",
        "grade" : "B",
        "gender" : "male",
        "contact" : "997778967",
        "mark" : "67",
        "location" : "ekm"
}
{
        "_id" : ObjectId("62960cca500c4e4ad9c061ad"),
        "fname" : "vismaya",
        "lname" : "sebastian",
        "depart" : "mechanical",
        "grade" : "A",
        "gender" : "female",
        "contact" : "9875467",
        "mark" : "90",
        "location" : "kottayam"
}
```

Query 10

```
db.studlist3.find({$or:[{location:"kollam"},{location:"trivandrum"}]}).pretty()
{
        "_id" : ObjectId("62960b68500c4e4ad9c061a3"),
        "fname" : "jeff",
        "lname" : "justin",
        "depart" : "mca",
        "grade" : "A+",
        "gender" : "male",
        "contact" : "9875467",
        "mark" : "90",
        "location" : "kollam"
}
{
        "_id" : ObjectId("62960c96500c4e4ad9c061ab"),
        "fname" : "tessy",
        "lname" : "A",
        "depart" : "mechanical",
        "grade" : "A",
        "gender" : "female",
        "contact" : "99778967",
        "mark" : "83",
        "location" : "kollam"
}
```

```
{
     "_id" : ObjectId("62960ca7500c4e4ad9c061ac"),
     "fname" : "jeri",
     "lname" : "J",
     "depart" : "electrical",
     "grade" : "B+",
     "gender" : "male",
     "contact" : "99775467",
     "mark" : "75",
     "location" : "trivandrum"
}
{
     "_id" : ObjectId("62961042500c4e4ad9c061ae"),
     "fname" : "sona",
     "lname" : "sebastian",
     "depart" : "mca",
     "grade" : "A",
     "gender" : "female",
     "contact" : "9875467",
     "mark" : "85",
     "location" : "trivandrum"
}
{
     "_id" : ObjectId("62961485500c4e4ad9c061af"),
     "fname" : "soja",
     "lname" : "sebastian",
     "depart" : "mechanical",
     "grade" : "66",
     "gender" : "female",
     "contact" : "9875467",
     "mark" : "B",
     "location" : "trivandrum"
}
{
     "_id" : ObjectId("6296168b500c4e4ad9c061b0"),
     "fname" : "anu",
     "lname" : "t",
     "depart" : "mechanical",
     "grade" : "96",
     "gender" : "female",
     "contact" : "9875467",
     "mark" : "A+",
     "location" : "kollam"
}
{
     "_id" : ObjectId("629616c8500c4e4ad9c061b1"),
```

"fname" : "anu",
"lname" : "t",
"depart" : "mechanical",
"grade" : "A+",
"gender" : "female",
"contact" : "9875467",
"mark" : "96",
"location" : "kollam"

OUTPUT

```
{ _id : ObjectId("62961042500c4e4ad9c001ae"), fname : sona , lname : sebastian , depart : mca , grade : A , g
> db.studlist.find({'depart':'mca','gender':'female'},{'fname':1,'lname':1,'mark':1});
{ "_id" : ObjectId("6294d34a02ae8e7edd958641"), "fname" : "catherine", "lname" : "m", "mark" : "84" }
{ "_id" : ObjectId("62960c30500c4e4ad9c061a8"), "fname" : "catherine", "lname" : "m", "mark" : "84" }
>
```

```
{ _id : ObjectId("62960c30500c4e4ad9c001a8"), fname : catherine , lname :
> db.studlist3.aggregate([{$group:{_id:0,"max_mark":{$max:"$mark"}}}])
{ "_id" : 0, "max_mark" : "90" }
>
```

```
> db.studlist3.find({'grade':'A+','gender':'male'},{_id:0,'fname':1,'lname':1});
{ "fname" : "jeff", "lname" : "justin" }
>
```

```
WriteResult({ "nInserted" : 1 })
> db.studlist3.find({"depart":"mechanical"}).sort({"mark":-1}).limit(3).pretty()
{
        "_id" : ObjectId("62961485500c4e4ad9c061af"),
        "fname" : "soja",
        "lname" : "sebastian",
        "depart" : "mechanical",
        "grade" : "66",
        "gender" : "female",
        "contact" : "9875467",
        "mark" : "B",
        "location" : "trivandrum"
}
{
        "_id" : ObjectId("62960cca500c4e4ad9c061ad"),
        "fname" : "vismaya",
        "lname" : "sebastian",
        "depart" : "mechanical",
        "grade" : "A",
        "gender" : "female",
        "contact" : "9875467",
        "mark" : "90",
        "location" : "kottayam"
}
{
        "_id" : ObjectId("62960c96500c4e4ad9c061ab"),
        "fname" : "tessy",
        "lname" : "A",
        "depart" : "mechanical",
        "grade" : "A",
        "gender" : "female",
        "contact" : "99778967",
        "mark" : "83",
        "location" : "kollam"
}
>
```

```
> db.studlist3.find({"fname":{$regex:"v"}},{"fname":1}).pretty()
{ "_id" : ObjectId("62960cca500c4e4ad9c061ad"), "fname" : "vismaya" }
>
```

```
db.studlist3.find({"location":"kollam"}).pretty()

        "_id" : ObjectId("62960b68500c4e4ad9c061a3"),
        "fname" : "jeff",
        "lname" : "justin",
        "depart" : "mca",
        "grade" : "A+",
        "gender" : "male",
        "contact" : "9875467",
        "mark" : "90",
        "location" : "kollam"


        "_id" : ObjectId("62960c96500c4e4ad9c061ab"),
        "fname" : "tessy",
        "lname" : "A",
        "depart" : "mechanical",
        "grade" : "A",
        "gender" : "female",
        "contact" : "99778967",
        "mark" : "83",
        "location" : "kollam"


        "_id" : ObjectId("6296168b500c4e4ad9c061b0"),
        "fname" : "anu",
        "lname" : "t",
        "depart" : "mechanical",
        "grade" : "96",
        "gender" : "female",
        "contact" : "9875467",
        "mark" : "A+",
        "location" : "kollam"


        "_id" : ObjectId("629616c8500c4e4ad9c061b1"),
        "fname" : "anu",
        "lname" : "t",
        "depart" : "mechanical",
        "grade" : "A+",
        "gender" : "female",
        "contact" : "9875467",
        "mark" : "96",
        "location" : "kollam"
```

```
> db.studlist3.find({$nor:[{location:"kollam"},{location:"trivandrum"}]}).pretty()
{
        "_id" : ObjectId("62960c77500c4e4ad9c061a9"),
        "fname" : "catherine",
        "lname" : "m",
        "depart" : "mca",
        "grade" : "A",
        "gender" : "female",
        "contact" : "99878967",
        "mark" : "84",
        "location" : "ekm"
}
{
        "_id" : ObjectId("62960c85500c4e4ad9c061aa"),
        "fname" : "tom",
        "lname" : "A",
        "depart" : "civil",
        "grade" : "B",
        "gender" : "male",
        "contact" : "997778967",
        "mark" : "67",
        "location" : "ekm"
}
{
        "_id" : ObjectId("62960cca500c4e4ad9c061ad"),
        "fname" : "vismaya",
        "lname" : "sebastian",
        "depart" : "mechanical",
        "grade" : "A",
        "gender" : "female",
        "contact" : "9875467",
        "mark" : "90",
        "location" : "kottayam"
}
>
```

```
@(shell):1.08
> db.studlist3.find({$or:[{location:"kollam"},{location:"trivandrum"}],"gender":"female"}).pretty()
{
        "_id" : ObjectId("62960c96500c4e4ad9c061ab"),
        "fname" : "tessy",
        "lname" : "A",
        "depart" : "mechanical",
        "grade" : "A",
        "gender" : "female",
        "contact" : "99778967",
        "mark" : "83",
        "location" : "kollam"
}
{
        "_id" : ObjectId("62961042500c4e4ad9c061ae"),
        "fname" : "sona",
        "lname" : "sebastian",
        "depart" : "mca",
        "grade" : "A",
        "gender" : "female",
        "contact" : "9875467",
        "mark" : "85",
        "location" : "trivandrum"
}
{
        "_id" : ObjectId("62961485500c4e4ad9c061af"),
        "fname" : "soja",
        "lname" : "sebastian",
        "depart" : "mechanical",
        "grade" : "66",
        "gender" : "female",
        "contact" : "9875467",
        "mark" : "B",
        "location" : "trivandrum"
}
{
        "_id" : ObjectId("6296168b500c4e4ad9c061b0"),
        "fname" : "anu",
        "lname" : "t",
        "depart" : "mechanical",
        "grade" : "96",
        "gender" : "female",
        "contact" : "9875467",
        "mark" : "A+",
        "location" : "kollam"
}
```