

Group B - 5

Problem Statement:

Design and Implement any 5 query using MongoDB

1.import student.json

```
root@student:/home/student# mongoimport --db stu --collection student --file
/home/student/Desktop/student.json
2017-09-25T17:08:54.631+0530 connected to: localhost
2017-09-25T17:08:54.775+0530 imported 9 documents
```

2. create a unique index on rollno

```
> db.students.ensureIndex({rollno:1},{unique:true})
{
  "createdCollectionAutomatically" : false,
  "numIndexesBefore" : 1,
  "numIndexesAfter" : 2,
  "ok" : 1
}
```

3. create a compound index on class and branch

```
> db.students.ensureIndex({class:1,branch:1})
{
  "createdCollectionAutomatically" : false,
  "numIndexesBefore" : 2,
  "numIndexesAfter" : 3,
  "ok" : 1
}
```

4. Find the names of students who have scored above 45 in subject DMSA

```
> db.students.find({$and:[{"result.subject":"DMSA"}, {"result.marks":{$gt:45}}],
  {_id:0,name:1})
{ "name" : "Ammara" }
{ "name" : "Swati" }
```

5. Find the names of students studying in class 'SE'

```
> db.students.find({"class":"SE"}).pretty()
{
  "_id" : ObjectId("540ea641e24154308e32b7c6"),
  "rollno" : "Se301",
  "name" : "Ekta", "result" : [
    {
      "subject" : "DSPS",
      "marks" : 41
    }, {
      "subject" : "OSA",
      "marks" : 44
    }, {
      "subject" : "MA",
      "marks" : 40
    }, {
      "subject" : "DELD",
      "marks" : 40
    }, {
      "subject" : "DS",
      "marks" : 42
    }
  ],
  "class" : "SE",
  "branch" : "Computer"
}
```

6. Display students who have got marks above 50 in any subject

```
> db.students.find({"result.marks":50}).pretty()
{
  "_id" : ObjectId("540e9f94e24154308e32b7c0"),
  "rollno" : "Te302",
  "name" : "Ammara",
  "result" : [
```

```

{
  "subject" : "TOC",
  "marks" : 50
}, {
  "subject" : "OSD",
  "marks" : 57
}, {
  "subject" : "DCWSN",
  "marks" : 55
}, {
  "subject" : "DMSA",
  "marks" : 55
}, {
  "subject" : "CFCA",
  "marks" : 56
}
],
"class" : "TE",
"branch" : "Computer"
}

```

7. Find students having less than 40 marks in any subject

```

> db.students.find({"result.marks":{$lte:40}}).pretty()
{
  "_id" : ObjectId("540e9ef6e24154308e32b7bf"),
  "rollno" : "Te301",
  "name" : "Abhishek",
  "result" : [
    {
      "subject" : "TOC",
      "marks" : 40
    }
    {
      "subject" : "OSD",
      "marks" : 42
    }
  ]
}

```

```
, {
  "subject" : "DCWSN",
  "marks" : 40
}, {
  "subject" : "DMSA",
  "marks" : 41
}, {
  "subject" : "CFCA",
  "marks" : 45
}
],
"class" : "TE",
"branch" : "Computer"
}
{
  "_id" : ObjectId("540ea0ade24154308e32b7c1"),
  "rollno" : "Te401",
  "name" : "Amar",
  "result" : [
    {
      "subject" : "SPOS",
      "marks" : 40
    }, {
      "subject" : "MCA",
      "marks" : 47
    }, {
      "subject" : "EMT",
      "marks" : 45
    },
    {
      "subject" : "DSP",
      "marks" : 43
    }, {
      "subject" : "NT",
```

```
"marks" : 41
},
"class" : "TE",
"branch" : "EnTC"
}
{
  "_id" : ObjectId("540ea1a0e24154308e32b7c4"),
  "rollno" : "Te304",
  "name" : "Swati",
  "result" : [
    {
      "subject" : "TOC",
      "marks" : 41
    },
    {
      "subject" : "OSD",
      "marks" : 43
    },
    {
      "subject" : "DCWSN",
```

```
"marks" : 40
},
{
  "subject" : "DMSA",
  "marks" : 41
},
{
  "subject" : "CFCA",
  "marks" : 46
}
],
"class" : "TE",
"branch" : "Computer"
}
{
  "_id" : ObjectId("540ea210e24154308e32b7c5"),
  "rollno" : "Te402",
  "name" : "Chetan",
  "result" : [
```

```
{  
  "subject" : "SPOS",  
  "marks" : 41  
},  
{  
  "subject" : "MCA",  
  "marks" : 44  
},  
{  
  "subject" : "EMT",  
  "marks" : 40  
},  
{  
  "subject" : "DSP",  
  "marks" : 43  
},  
{  
  "subject" : "NT",
```

```
"marks" : 40
},
"class" : "TE",
"branch" : "EnTC"
}
{
  "_id" : ObjectId("540ea641e24154308e32b7c6"),
  "rollno" : "Se301",
  "name" : "Ekta",
  "result" : [
    {
      "subject" : "DSPS",
      "marks" : 41
    },
    {
      "subject" : "OSA",
      "marks" : 44
    },
  ],
}
```



```
{
  "subject" : "MA",
  "marks" : 40
},
{
  "subject" : "DELD",
  "marks" : 40
},
{
  "subject" : "DS",
  "marks" : 42
}
],
"class" : "SE",
"branch" : "Computer"
}
```

8. Display the total marks of each student.

```
> db.students.aggregate({$unwind:"$result"},{$group:{_id:"$rollno",totalMarks:
```

```
{ $sum: "$result.marks" } } } }  
{ "_id" : "Te402", "totalMarks" : 208 } { "_id" : "Te304", "totalMarks" : 211 }  
{ "_id" : "Te303", "totalMarks" : 215 }  
{ "_id" : "Te401", "totalMarks" : 216 }  
{ "_id" : "Te302", "totalMarks" : 273 }  
{ "_id" : "Se301", "totalMarks" : 207 }  
{ "_id" : "Te301", "totalMarks" : 208 }
```

9. Display students whose total marks are above 210

```
> db.students.aggregate({ $unwind: "$result" }, { $group: { _id: "$rollno", totalMarks: { $sum: "$result.marks" } } }, { $match: { totalMarks: { $gte: 210 } } })  
{ "_id" : "Te304", "totalMarks" : 211 }  
{ "_id" : "Te303", "totalMarks" : 215 }  
{ "_id" : "Te401", "totalMarks" : 216 }  
{ "_id" : "Te302", "totalMarks" : 273 }
```