MongoDB 03

1) Create a Database called student

```
> use student
switched to db student
```

2) Create a collection called studentmarks

```
> db.createCollection("studentmarks")
{ "ok" : 1 }
```

3) Create the documents listed in above table.

```
> db.studentmarks.insert([{'name':'mala','Maths_marks':45,'english_marks':53,'science_marks':72},{'name':'Vanu','maths_marks':80,'english_mar
ks':75,'science_marks':85},{'name':'Kala','maths_marks':32,'english_marks':46,'science_marks':53},{'name':'Aruli','maths_marks':78,'english_m
arks':85,'science_marks':80},{'name':'Shayu','maths_marks':80,'english_marks':76,'science_marks':65},{'name':'Kumaran','maths_marks':32,'engl
ish_marks':73,'science_marks':84},{'name':'Lucky','maths_marks':66,'english_marks':90,'science_marks':45},{'name':'Gva','maths_marks':71,'eng
lish_marks':75,'science_marks':56},{'name':'Raam','maths_marks':41,'english_marks':65,'science_marks':88}])
BulkWriteResult({
        "writeErrors" : [ ],
        "writeConcernErrors" : [ ],
        "nInserted" : 9,
        "nUpserted" : 0,
        "nMatched" : 0,
        "nModified" : 0,
        "nRemoved" : 0,
        "upserted" : [ ]
})
>
```

4) Increase the maths marks of Mala by 6 marks

```
> db.studentmarks.update({'name':'Mala'},{$inc:{'maths_marks':6}})
WriteResult({ "nMatched" : 1, "nUpserted" : 0, "nModified" : 1 })
> db.studentmarks.find().pretty()
{
        "_id" : ObjectId("5b42e997f485181c93131f44"),
        "name" : "Mala",
        "maths_marks" : 51,
        "english_marks" : 53,
        "science_marks" : 72
}
```

5) List the names of students who got more than 50 marks in Maths Subject.

```
> db.studentmarks.find({'maths_marks':{$gt:50}}).pretty()
{
        "_id" : ObjectId("5b42e997f485181c93131f44"),
        "name" : "Mala",
        "maths_marks" : 51,
        "english_marks" : 53,
        "science_marks" : 72
}
{
        "_id" : ObjectId("5b42e997f485181c93131f45"),
        "name" : "Vanu",
        "maths_marks" : 80,
        "english_marks" : 75,
        "science_marks" : 85
}
{
        "_id" : ObjectId("5b42e997f485181c93131f47"),
        "name" : "Aruli",
        "maths_marks" : 78,
        "english_marks" : 85,
        "science_marks" : 80
}
{
        "_id" : ObjectId("5b42e997f485181c93131f48"),
        "name" : "Shayu",
        "maths_marks" : 80,
        "english_marks" : 76,
        "science_marks" : 65
}
{
        "_id" : ObjectId("5b42e997f485181c93131f4a"),
        "name" : "Lucksy",
        "maths_marks" : 66,
        "english_marks" : 90,
        "science_marks" : 45
}
{
        "_id" : ObjectId("5b42e997f485181c93131f4b"),
        "name" : "Gva",
        "maths_marks" : 71,
        "english_marks" : 75,
        "science_marks" : 56
}
```

6)Add a new column(field) for Average for all students.

```
> db.studentmarks.update({},{$set:{"average":1}},{upsert:false,multi:true})
WriteResult({ "nMatched" : 9, "nUpserted" : 0, "nModified" : 9 })
> db.studentmarks.find().pretty()
{
        "_id" : ObjectId("5b42e997f485181c93131f44"),
        "name" : "Mala",
        "maths_marks" : 51,
        "english_marks" : 53,
        "science_marks" : 72,
        "average" : 1
}
{
        "_id" : ObjectId("5b42e997f485181c93131f45"),
        "name" : "Vanu",
        "maths_marks" : 80,
        "english_marks" : 75,
        "science_marks" : 85,
        "average" : 1
}
{
        "_id" : ObjectId("5b42e997f485181c93131f46"),
        "name" : "Kala",
        "maths_marks" : 32,
        "english_marks" : 46,
        "science_marks" : 53,
        "average" : 1
}
{
        "_id" : ObjectId("5b42e997f485181c93131f47"),
        "name" : "Aruli",
        "maths_marks" : 78,
        "english_marks" : 85,
        "science_marks" : 80,
        "average" : 1
}
{
        "_id" : ObjectId("5b42e997f485181c93131f48"),
        "name" : "Shayu",
        "maths_marks" : 80,
        "english_marks" : 76,
        "science_marks" : 65,
        "average" : 1
        "science_marks" : 72,
        "maths_marks" : 6,
        "average" : ""
}
{
        "_id" : ObjectId("5b3f08ce185c2c114774a1b6"),
        "name" : "Vanu",
        "maths_marks" : 80,
        "english_marks" : 75,
        "science_marks" : 85,
        "average" : ""
}
{
        "_id" : ObjectId("5b3f08ce185c2c114774a1b7"),
        "name" : "Kala",
        "maths_marks" : 32,
        "english_marks" : 46,
        "science_marks" : 53,
```

7) Update Marks_Science=75 to Lucky .

```
> db.studentmarks.update({'name':'Lucksy','science_marks':45},{$set:{'name':'Lucky','Marks_science':75}})
WriteResult({ "nMatched" : 1, "nUpserted" : 0, "nModified" : 1 })
```

```
{
        "_id" : ObjectId("5b42e997f485181c93131f4a"),
        "name" : "Lucky",
        "maths_marks" : 66,
        "english_marks" : 90,
        "science_marks" : 45,
        "Marks_science" : 75
}
```

8) List the names who got more than 50 marks in all subjects.

```
> db.studentmarks.find({'maths_marks':{$gt:50}}).pretty()
{
        "_id" : ObjectId("5b42e997f485181c93131f44"),
        "name" : "Mala",
        "maths_marks" : 51,
        "english_marks" : 53,
        "science_marks" : 72
}
{
        "_id" : ObjectId("5b42e997f485181c93131f45"),
        "name" : "Vanu",
        "maths_marks" : 80,
        "english_marks" : 75,
        "science_marks" : 85
}
{
        "_id" : ObjectId("5b42e997f485181c93131f47"),
        "name" : "Aruli",
        "maths_marks" : 78,
        "english_marks" : 85,
        "science_marks" : 80
}
{
        "_id" : ObjectId("5b42e997f485181c93131f48"),
        "name" : "Shayu",
        "maths_marks" : 80,
        "english_marks" : 76,
        "science_marks" : 65
}
{
        "_id" : ObjectId("5b42e997f485181c93131f4a"),
        "name" : "Lucky",
        "maths_marks" : 66,
        "english_marks" : 90,
        "science_marks" : 45,
        "Marks_science" : 75
}
{
        "_id" : ObjectId("5b42e997f485181c93131f4b"),
        "name" : "Gva",
        "maths_marks" : 71,
        "english_marks" : 75,
```

```
20db.studentmarks.find({'science_marks':{$gt:50}}).pretty()
{
        "_id" : ObjectId("5b42e997f485181c93131f44"),
        "name" : "Mala",
        "maths_marks" : 51,
        "english_marks" : 53,
        "science_marks" : 72
}
{
        "_id" : ObjectId("5b42e997f485181c93131f45"),
        "name" : "Vanu",
        "maths_marks" : 80,
        "english_marks" : 75,
        "science_marks" : 85
}
{
        "_id" : ObjectId("5b42e997f485181c93131f46"),
        "name" : "Kala",
        "maths_marks" : 32,
        "english_marks" : 46,
        "science_marks" : 53
}
{
        "_id" : ObjectId("5b42e997f485181c93131f47"),
        "name" : "Aruli",
        "maths_marks" : 78,
        "english_marks" : 85,
        "science_marks" : 80
}
{
        "_id" : ObjectId("5b42e997f485181c93131f48"),
        "name" : "Shayu",
        "maths_marks" : 80,
        "english_marks" : 76,
        "science_marks" : 65
}
{
        "_id" : ObjectId("5b42e997f485181c93131f49"),
        "name" : "Kumaran",
        "maths_marks" : 32,
        "english_marks" : 73,
        "science_marks" : 84
```

```
> db.studentmarks.find({'english_marks':{$gt:50}}).pretty()
{
        "_id" : ObjectId("5b42e997f485181c93131f44"),
        "name" : "Mala",
        "maths_marks" : 51,
        "english_marks" : 53,
        "science_marks" : 72
}
{
        "_id" : ObjectId("5b42e997f485181c93131f45"),
        "name" : "Vanu",
        "maths_marks" : 80,
        "english_marks" : 75,
        "science_marks" : 85
}
{
        "_id" : ObjectId("5b42e997f485181c93131f47"),
        "name" : "Aruli",
        "maths_marks" : 78,
        "english_marks" : 85,
        "science_marks" : 80
}
{
        "_id" : ObjectId("5b42e997f485181c93131f48"),
        "name" : "Shayu",
        "maths_marks" : 80,
        "english_marks" : 76,
        "science_marks" : 65
}
{
        "_id" : ObjectId("5b42e997f485181c93131f49"),
        "name" : "Kumaran",
        "maths_marks" : 32,
        "english_marks" : 73,
        "science_marks" : 84
}
{
        "_id" : ObjectId("5b42e997f485181c93131f4a"),
        "name" : "Lucky",
        "maths_marks" : 66,
        "english_marks" : 90,
        "science_marks" : 45,
```

9) List the names who got less than 50 marks in Maths subject and more than 50 marks in English

```
> db.studentmarks.find({$and:[{'maths_marks':{$lt:50}},{'english_marks':{$gt:50}}]}).pretty()
{
        "_id" : ObjectId("5b42e997f485181c93131f49"),
        "name" : "Kumaran",
        "maths_marks" : 32,
        "english_marks" : 73,
        "science_marks" : 84
}
{
        "_id" : ObjectId("5b42e997f485181c93131f4c"),
        "name" : "Raam",
        "maths_marks" : 41,
        "english_marks" : 65,
        "science_marks" : 88
}
>
```

10) List the names who got less than 40 in both Maths and Science.

```
> db.studentmarks.find({$or:[{'maths_marks':{$lt:40}},{'science_marks':{$lt:40}}]}).pretty()
{
        "_id" : ObjectId("5b42e997f485181c93131f46"),
        "name" : "Kala",
        "maths_marks" : 32,
        "english_marks" : 46,
        "science_marks" : 53
}
{
        "_id" : ObjectId("5b42e997f485181c93131f49"),
        "name" : "Kumaran",
        "maths_marks" : 32,
        "english_marks" : 73,
        "science_marks" : 84
}
```

11) Remove Science column/field for Raam

```
> db.studentmarks.update({'name':'Raam'},{$unset:{'science_marks':''}})
WriteResult({ "nMatched" : 1, "nUpserted" : 0, "nModified" : 1 })
```

```
{
        "_id" : ObjectId("5b42e997f485181c93131f4c"),
        "name" : "Raam",
        "maths_marks" : 41,
        "english_marks" : 65,
        "average" : 1
}
>
```

12) Update John's Math mark as 87 and English mark as 23, if john not available upsert.

```
> var bulk = db.studentmarks.initializeUnorderedBulkOp();
> bulk.find({'name':'John'}).upsert().updateOne({'name':'John','maths_marks':87,'english_marks':23})
> bulk.execute()
BulkWriteResult({
        "writeErrors" : [ ],
        "writeConcernErrors" : [ ],
        "nInserted" : 0,
        "nUpserted" : 1,
        "nMatched" : 0,
        "nModified" : 0,
        "nRemoved" : 0,
        "upserted" : [
                {
                        "index" : 0,
                        "_id" : ObjectId("5b44c298c32acfdba27c77dd")
                }
        ]
})
>
```

13) Rename the english_marks column/field for John to science_marks

```
> db.studentmarks.update({'name':'John'},{$rename:{'english_marks':'science_marks'}})
WriteResult({ "nMatched" : 1, "nUpserted" : 0, "nModified" : 0 })
>
```

14) Remove Kumaran's document from collection

```
> db.studentmarks.remove({'name':'Kumaran'})
WriteResult({ "nRemoved" : 1 })
>
```

15) Find Kala's or Aruli's math_marks and science_marks

```
> db.studentmarks.find({$or:[{'name':'Kala','name':'Aruli'},{'maths_marks':"",'science_marks':""}]}).pretty()
{
        "_id" : ObjectId("5b42e997f485181c93131f47"),
        "name" : "Aruli",
        "maths_marks" : 78,
        "english_marks" : 85,
        "science_marks" : 80,
        "average" : 1
}
>
```