Mongo DB Exercise 3

1. Create a Database called **student**

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

2. Create a collection called **studentmarks**

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

name	maths_marks	english_marks	science_marks
Mala	45	53	72
Vanu	80	75	85
Kala	32	46	53
Aruli	78	85	80
Shayu	80	76	65
Kumaran	32	73	84
Lucky	66	90	45
Gva	71	75	56
Raam	41	65	88

3. Create the document listed above

```
db.studentmarks.insert([
.. {
.. "name":"Mala",
.. "maths_marks": 45,
.. "english_marks": 53,
.. "science_marks": 72
.. },
.. {
.. "name":"Vanu",
.. "maths_marks": 80,
.. "english_marks":75 ,
.. "science_marks": 85
.. },
.. {
.. "name":"Kala",
.. "maths_marks": 32,
.. "english_marks": 46,
.. "science_marks": 53
.. },
.. {
.. "name":"Aruli",
.. "maths_marks": 78,
.. "english_marks": 85,
.. "science_marks": 80
.. },
.. {
.. "name":"Shayu",
.. "maths_marks": 80,
.. "english_marks": 76,
.. "science_marks": 65
.. },
.. {
.. "name":"Kumaran",
.. "maths_marks": 32,
.. "english_marks": 73,
.. "science_marks": 84
.. },
.. {
```

```
... "name":"Lucky",
... "maths_marks": 66,
... "english_marks": 90,
... "science_marks": 45
... },
... {
... "name":"Gva",
... "maths_marks": 71,
... "english_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" : [ ]
})
```

```
> db.studentmarks.find()
{ "_id" : ObjectId("5a3df92b3c87f4345ca3f424"), "name" : "Mala", "maths_marks" : 45, "english_marks" : 53, "science_marks" : 72 }
{ "_id" : ObjectId("5a3df92b3c87f4345ca3f425"), "name" : "Vanu", "maths_marks" : 80, "english_marks" : 75, "science_marks" : 85 }
{ "_id" : ObjectId("5a3df92b3c87f4345ca3f426"), "name" : "Kala", "maths_marks" : 32, "english_marks" : 46, "science_marks" : 53 }
{ "_id" : ObjectId("5a3df92b3c87f4345ca3f427"), "name" : "Aruli", "maths_marks" : 78, "english_marks" : 85, "science_marks" : 80 }
{ "_id" : ObjectId("5a3df92b3c87f4345ca3f428"), "name" : "Shayu", "maths_marks" : 80, "english_marks" : 76, "science_marks" : 65 }
{ "_id" : ObjectId("5a3df92b3c87f4345ca3f429"), "name" : "Kumaran", "maths_marks" : 32, "english_marks" : 73, "science_marks" : 84 }
{ "_id" : ObjectId("5a3df92b3c87f4345ca3f42a"), "name" : "Lucky", "maths_marks" : 66, "english_marks" : 90, "science_marks" : 45 }
{ "_id" : ObjectId("5a3df92b3c87f4345ca3f42b"), "name" : "Gva", "maths_marks" : 71, "english_marks" : 75, "science_marks" : 56 }
{ "_id" : ObjectId("5a3df92b3c87f4345ca3f42c"), "name" : "Raam", "maths_marks" : 41, "english_marks" : 65, "science_marks" : 88 }
>
```

4. Increase the Math marks of Mala by 6 marks

```
>
> db.studentmarks.update({"name":"Mala"},{$inc:{"maths_marks":6}})
WriteResult({ "nMatched" : 1, "nUpserted" : 0, "nModified" : 1 })
>
```

After Modified…

```
{ "_id" : ObjectId("5a3df92b3c87f4345ca3f424"), "name" : "Mala", "maths_marks" : 51, "english_marks" : 53, "science_marks" : 72 }
```

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

```
>
> db.studentmarks.find({"maths_marks":{$gt:50}},{"name":1,_id:0})
{ "name" : "Mala" }
{ "name" : "Vanu" }
{ "name" : "Aruli" }
{ "name" : "Shayu" }
{ "name" : "Lucky" }
{ "name" : "Gva" }
>
```

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

```
>
> db.studentmarks.update({}, {$set: {"Average":"null"}}, {multi: true});
WriteResult({ "nMatched" : 9, "nUpserted" : 0, "nModified" : 9 })
>
>
> db.studentmarks.find().pretty()
{
        "_id" : ObjectId("5a3df92b3c87f4345ca3f42c"),
        "name" : "Raam",
        "maths_marks" : 41,
        "english_marks" : 65,
        "Average" : "null"
}
{
        "_id" : ObjectId("5a3e431b7f4a1c7c991d208d"),
        "name" : "John",
        "maths_marks" : 87,
        "science_marks" : 23,
        "Average" : "null"
}
{
        "_id" : ObjectId("5a3df92b3c87f4345ca3f424"),
        "name" : "Mala",
        "maths_marks" : 51,
        "english_marks" : 53,
        "science_marks" : 72,
        "Average" : "null"
}
{
        "_id" : ObjectId("5a3df92b3c87f4345ca3f425"),
        "name" : "Vanu",
        "maths_marks" : 80,
        "english_marks" : 75,
        "science_marks" : 85,
        "Average" : "null"
}
{
```

7. Update Marks_Science=75 to Lucky

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

```
{
        "_id" : ObjectId("5a3df92b3c87f4345ca3f42a"),
        "name" : "Lucky",
        "maths_marks" : 66,
        "english_marks" : 90,
        "science_marks" : 75
}
```

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

```
>
> db.studentmarks.find({$and: [{"english_marks": {$gt:50}}, {"science_marks": {$gt:50}},{"maths_marks": {$gt:50}}]},{"name":1,_id:0})
{ "name" : "Mala" }
{ "name" : "Vanu" }
{ "name" : "Aruli" }
{ "name" : "Shayu" }
{ "name" : "Lucky" }
{ "name" : "Gva" }
>
>
```

9. **List the names who got less than 50 marks in Math subject and more than 50 marks in English**

```
>
> db.studentmarks.find({$and: [{"english_marks": {$gt:50}},{"maths_marks": {$lt:50}}]},{"name":1,_id:0})
{ "name" : "Kumaran" }
{ "name" : "Raam" }
```

10. **List the names who got less than 40 in both Math and Science.**

Here I have used “and” method…

```
>
> db.studentmarks.find({$and: [{"maths_marks": {$lt:40}}, {"science_marks": {$lt:40}},{"name":1,_id:0})
...
```

There are no results…

Here I have used “or” method

```
>
> db.studentmarks.find({$or: [{"maths_marks": {$lt:40}},{"science_marks":{$lt:40}}]},{"name":1,_id:0})
{ "name" : "Kala" }
{ "name" : "Kumaran" }
>
```

11. Remove Science column/field for Raam

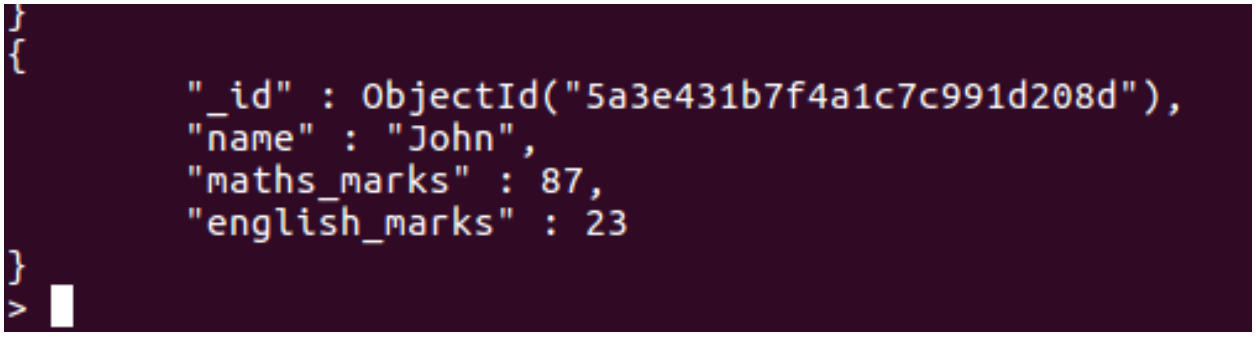
```
>
> db.studentmarks.update({"name":"Raam"},{$unset:{"science_marks":88}})
WriteResult({ "nMatched" : 1, "nUpserted" : 0, "nModified" : 1 })
>
```

After removing….

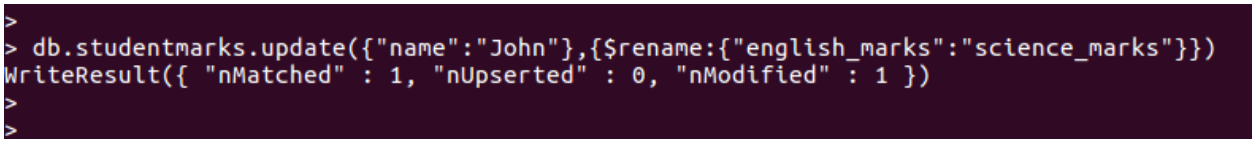
```
{
        "_id" : ObjectId("5a3df92b3c87f4345ca3f42c"),
        "name" : "Raam",
        "maths_marks" : 41,
        "english_marks" : 65
}
>
```

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

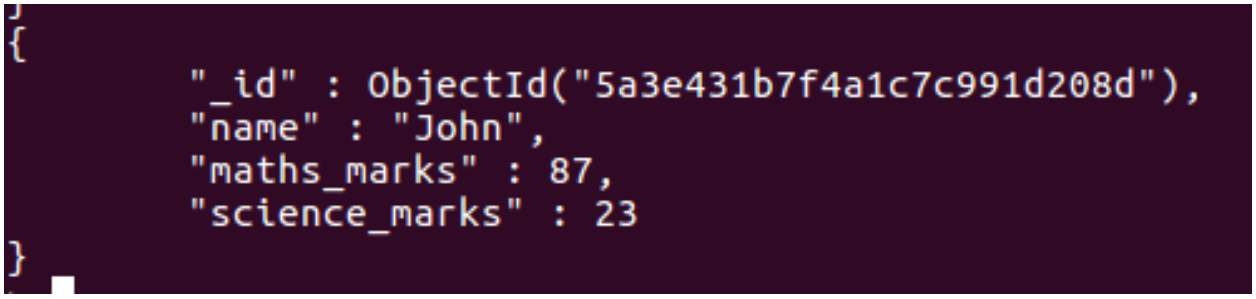
```
>
> db.studentmarks.update(
...     { name: "John" },
...     {
... "name":"John",
...         "maths_marks": 87,
...       "english_marks": 23
...     },
...     { upsert: true }
... )
WriteResult({
        "nMatched" : 0,
        "nUpserted" : 1,
        "nModified" : 0,
        "_id" : ObjectId("5a3e431b7f4a1c7c991d208d")
})
>
```



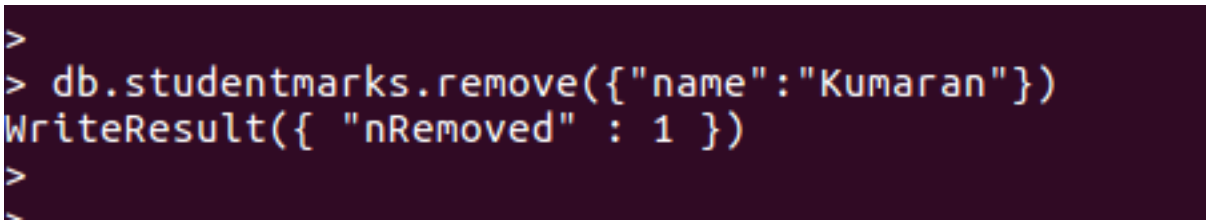
13.Rename the english_marks column/field for John to science_marks



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



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({"name":"Aruli"},{"maths_marks":1,"science_marks":1,_id:0})
{ "maths_marks" : 78, "science_marks" : 80 }
>
>
> db.studentmarks.find({"name":"Kala"},{"maths_marks":1,"science_marks":1,_id:0})
{ "maths_marks" : 32, "science_marks" : 53 }
>
>
```

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