

1. Create a Database called the student

```
> show dbs
admin    0.000GB
config  0.000GB
local    0.000GB
music    0.000GB
student  0.000GB
uki      0.000GB
> use student
switched to db student
>
```

2. Create a collection called studentmarks

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

3. Create the documents listed in the above table.

```
> db.studentmarks.insert([{name:"Mala",maths_marks:45,english_marks:53,science_m
arks:72},{name:"Vanu",maths_marks:80,english_marks:75,science_marks:85},{name:"K
ala",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_mark
s:76,science_marks:65},{name:"Kumaran",maths_marks:32,english_marks:73,science_m
arks: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" : [ ]
})
```

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 })
>
```

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

```
> db.studentmarks.update({"name" : "Mala"},{ $inc: {"maths_marks" : 6}} )
WriteResult({ "nMatched" : 1, "nUpserted" : 0, "nModified" : 1 })
> db.studentmarks.find( { "maths_marks" : { $gt:50 }},{ "name": 1, _id:0 }).pretty()
{ "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.aggregate({$addFields:{Average:{$avg:{"$maths_marks","$english_marks","$science_marks"}}}).pretty()
{
  "_id" : ObjectId("5d08977a4c8cab0f36b3f722"),
  "name" : "Mala",
  "maths_marks" : 51,
  "english_marks" : 53,
  "science_marks" : 72,
  "Average" : 58.666666666666664
}
```

7. Update Marks_Science=75 to Lucky.

```
> db.studentmarks.update({"science_marks" : 45},{ $set: {"name" : "Lucky","maths_marks" : 66,"english_marks" : 90,"science_marks" : 75}})
WriteResult({ "nMatched" : 1, "nUpserted" : 0, "nModified" : 1 })
>
```

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

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

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

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

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

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

11. Remove Science column/field for Raam

```
> db.studentmarks.update({"_id" : ObjectId("5d08977a4c8cab0f36b3f72a")}, { $unset: { "science_marks": 1 } }, false, true)
WriteResult({ "nMatched" : 1, "nUpserted" : 0, "nModified" : 1 })
>
```

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

```
> db.studentmarks.update({name: "John"},{$set: {"maths_marks" : 87,"english_marks" : 23}},{upsert:true})
WriteResult({
  "nMatched" : 0,
  "nUpserted" : 1,
  "nModified" : 0,
  "_id" : ObjectId("5d089ce65ae711cfb508053c")
})
```

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

```
> db.studentmarks.update( {"_id" : ObjectId("5d089ce65ae711cfb508053c")} , { $rename: {"english_marks" : "science_marks" } } )
WriteResult({ "nMatched" : 1, "nUpserted" : 0, "nModified" : 1 })
```

14. Remove Kumaran's document from the collection

```
> db.studentmarks.remove ( {"_id" : ObjectId("5d08977a4c8cab0f36b3f727")})
WriteResult({ "nRemoved" : 1 })
>
```

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

```
> db.studentmarks.find({"_id" : ObjectId("5d08977a4c8cab0f36b3f725")},{"maths_marks" : 1,"science_marks" : 1}).pretty()
{
  "_id" : ObjectId("5d08977a4c8cab0f36b3f725"),
  "maths_marks" : 78,
  "science_marks" : 80
}
>
>
> db.studentmarks.find({"_id" : ObjectId("5d08977a4c8cab0f36b3f724")},{"maths_marks" : 1,"science_marks" : 1}).pretty()
{
  "_id" : ObjectId("5d08977a4c8cab0f36b3f724"),
  "maths_marks" : 32,
  "science_marks" : 53
}
```