

1. Create a Database called the student

```
> use student
switched to db student
> show collections
studentmarks
```

2. Create a collection called student marks

```
> use student
switched to db student
> show collections
studentmarks
```

3. Create the documents listed in the above table.

```
>
> 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}])
```

```
1 db.studentmarks.find().pretty()
2 {
3   "_id" : ObjectId("5d8211c9f58fed66606b12f"),
4   "name" : "Mala",
5   "maths_marks" : 45,
6   "english_marks" : 53,
7   "science_marks" : 72
8 }
9 {
10  "_id" : ObjectId("5d8212a4f58fed66606b130"),
11  "name" : "Vanu",
12  "maths_marks" : 80,
13  "english_marks" : 75,
14  "science_marks" : 85
15 }
16 {
17  "_id" : ObjectId("5d8212f4f58fed66606b131"),
18  "name" : "Kala",
19  "maths_marks" : 32,
20  "english_marks" : 46,
21  "science_marks" : 53
22 }
23 {
24  "_id" : ObjectId("5d821331f58fed66606b132"),
25  "name" : "Aruli",
26  "maths_marks" : 78,
27  "english_marks" : 85,
28  "science_marks" : 80
29 }
30 {
31  "_id" : ObjectId("5d821396f58fed66606b133"),
32  "name" : "Shayu",
33  "maths_marks" : 80,
34  "english_marks" : 76,
35  "science_marks" : 65
36 }
37 {
38  "_id" : ObjectId("5d8213cdf58fed66606b134"),
39  "name" : "Kumaran",
40  "maths_marks" : 32,
41  "english_marks" : 73,
42  "science_marks" : 84
43 }
```

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()
```

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

```
Activities Terminal
ukikpc05@ukikpc05-X542UAR: ~
File Edit View Search Terminal Help
> db.studentmarks.find({"maths_marks":{$gt:50}}).pretty()
{
  "_id" : ObjectId("5d0212a4f58fede66060b130"),
  "name" : "Vanu",
  "maths_marks" : 80,
  "english_marks" : 75,
  "science_marks" : 85
}
{
  "_id" : ObjectId("5d021331f58fede66060b132"),
  "name" : "Aruli",
  "maths_marks" : 78,
  "english_marks" : 85,
  "science_marks" : 80
}
{
  "_id" : ObjectId("5d021396f58fede66060b133"),
  "name" : "Shayu",
  "maths_marks" : 80,
  "english_marks" : 76,
  "science_marks" : 65
}
{
  "_id" : ObjectId("5d021401f58fede66060b135"),
  "name" : "Lucky",
  "maths_marks" : 66,
  "english_marks" : 90,
  "science_marks" : 75
}
{
  "_id" : ObjectId("5d02142df58fede66060b136"),
  "name" : "Gva",
  "maths_marks" : 71,
  "english_marks" : 75,
  "science_marks" : 56
}
```

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

```
db.studentmarks.aggregate($addFields:{average:($avg:[$maths_marks,$english_marks,$science_marks])})
{"_id": ObjectId("5d0748523926de60252ab3e0"), "name": "Mala", "maths_marks": 51, "english_marks": 53, "science_marks": 72, "average": 58.666666666666666}
{"_id": ObjectId("5d0748523926de60252ab3e1"), "name": "Vanu", "maths_marks": 80, "english_marks": 75, "science_marks": 85, "average": 80}
{"_id": ObjectId("5d0748523926de60252ab3e2"), "name": "Kala", "maths_marks": 32, "english_marks": 46, "science_marks": 53, "average": 43.666666666666666}
{"_id": ObjectId("5d0748523926de60252ab3e3"), "name": "Aruli", "maths_marks": 78, "english_marks": 85, "science_marks": 80, "average": 81}
{"_id": ObjectId("5d0748523926de60252ab3e4"), "name": "Shayu", "maths_marks": 80, "english_marks": 76, "science_marks": 65, "average": 73.666666666666666}
{"_id": ObjectId("5d0748523926de60252ab3e5"), "name": "Kunaran", "maths_marks": 32, "english_marks": 73, "science_marks": 84, "average": 63}
{"_id": ObjectId("5d0748523926de60252ab3e6"), "name": "Lucky", "maths_marks": 66, "english_marks": 90, "science_marks": 45, "average": 67}
{"_id": ObjectId("5d0748523926de60252ab3e7"), "name": "Gva", "maths_marks": 71, "english_marks": 75, "science_marks": 56, "average": 67.333333333333333}
{"_id": ObjectId("5d0748523926de60252ab3e8"), "name": "Raani", "maths_marks": 41, "english_marks": 65, "science_marks": 88, "average": 64.666666666666666}
```

7. Update Marks_Science=75 to Lucky.

```

Activities Terminal
ukikpc05@ukikpc05-X542UAR: ~
File Edit View Search Terminal Help
> db.studentmarks.save({"_id" : ObjectId("5d021401f58fede66060b135"), "name" : "Lucky", "maths_marks" : 66, "english_marks" : 90, "science_marks" : 75})
WriteResult({ "nMatched" : 1, "nUpserted" : 0, "nModified" : 0 })
>

```

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

```

science_marks : 88
}
> 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()
>

```

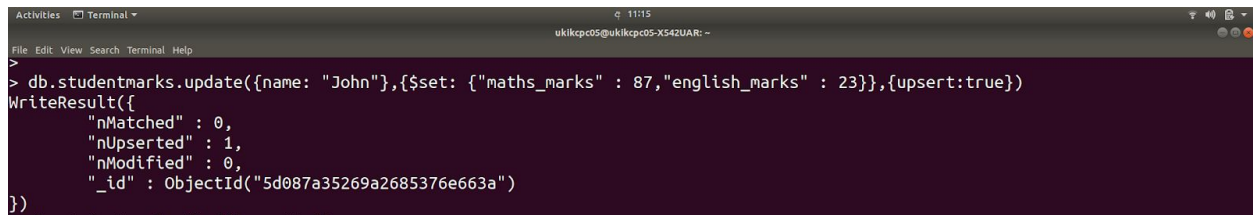
11. Remove Science column/field for Raam

```

}
> db.studentmarks.update({"_id" : ObjectId("5d02144ef58fede66060b137")}, {$unset: {"science_marks":1}}, false, true)
WriteResult({ "nMatched" : 1, "nUpserted" : 0, "nModified" : 1 })
> db.studentmarks.find().pretty()

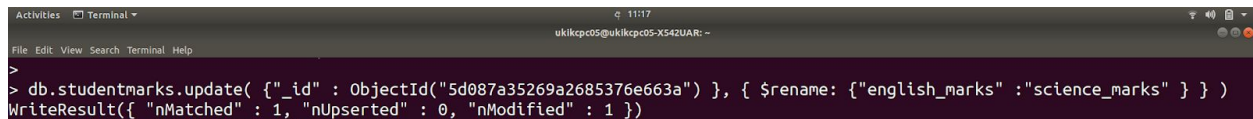
```

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

A terminal window with a dark background. The title bar shows 'Activities', 'Terminal', and system icons. The terminal text shows a MongoDB update command and its result.

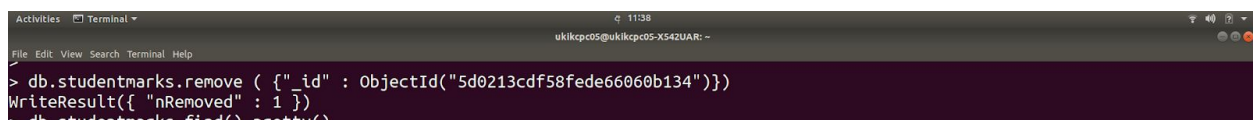
```
> db.studentmarks.update({name: "John"},{$set: {"maths_marks" : 87,"english_marks" : 23}},{upsert:true})
WriteResult({
  "nMatched" : 0,
  "nUpserted" : 1,
  "nModified" : 0,
  "_id" : ObjectId("5d087a35269a2685376e663a")
})
```

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

A terminal window with a dark background. The title bar shows 'Activities', 'Terminal', and system icons. The terminal text shows a MongoDB rename command and its result.

```
> db.studentmarks.update( { "_id" : ObjectId("5d087a35269a2685376e663a") }, { $rename: {"english_marks" : "science_marks" } } )
WriteResult({ "nMatched" : 1, "nUpserted" : 0, "nModified" : 1 })
```

14. Remove Kumaran's document from the collection

A terminal window with a dark background. The title bar shows 'Activities', 'Terminal', and system icons. The terminal text shows a MongoDB remove command and its result.

```
> db.studentmarks.remove ( { "_id" : ObjectId("5d0213cdf58fede66060b134") })
WriteResult({ "nRemoved" : 1 })
```

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

```
}
> db.studentmarks.find({"_id" : ObjectId("5d021331f58fede66060b132")}, {"maths_marks" : 1, "science_marks" : 1}).pretty()
{
  "_id" : ObjectId("5d021331f58fede66060b132"),
  "maths_marks" : 78,
  "science_marks" : 80
}
> □
```