

1) Create a Database called student

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

2) Create a collection called studentmarks

```
switched to db student
> 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})
WriteResult({ "nInserted" : 1 })
> db.studentmarks.insert({name:"Vanu",maths_marks:80,english_marks:75,science_marks:85})
WriteResult({ "nInserted" : 1 })
> db.studentmarks.insert({name:"Kala",maths_marks:32,english_marks:46,science_marks:53})
WriteResult({ "nInserted" : 1 })
> db.studentmarks.insert({name:"Kala",maths_marks:32,english_marks:46,science_marks:53})
WriteResult({ "nInserted" : 1 })
> db.studentmarks.insert({name:"Aruli",maths_marks:78,english_marks:85,science_marks:80})
WriteResult({ "nInserted" : 1 })
> db.studentmarks.insert({name:"Shayu",maths_marks:80,english_marks:76,science_marks:65})
WriteResult({ "nInserted" : 1 })
> db.studentmarks.insert({name:"Kumaran",maths_marks:32,english_marks:73,science_marks:84})
WriteResult({ "nInserted" : 1 })
> db.studentmarks.insert({name:"Lucky",maths_marks:45,english_marks:90,science_marks:45})
WriteResult({ "nInserted" : 1 })
> db.studentmarks.insert({name:"Gva",maths_marks:71,english_marks:75,science_marks:56})
WriteResult({ "nInserted" : 1 })
> db.studentmarks.insert({name:"Raam",maths_marks:41,english_marks:65,science_marks:88})
WriteResult({ "nInserted" : 1 })
```

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()
{ "_id" : ObjectId("5d145664b0e9230c9c00265e"), "name" : "Mala", "maths_marks" : 51, "english_marks" : 53, "science_marks" : 72 }
{ "_id" : ObjectId("5d14566fb0e9230c9c00265f"), "name" : "Vanu", "maths_marks" : 80, "english_marks" : 75, "science_marks" : 85 }
{ "_id" : ObjectId("5d145678b0e9230c9c002660"), "name" : "Kala", "maths_marks" : 32, "english_marks" : 46, "science_marks" : 53 }
{ "_id" : ObjectId("5d145688b0e9230c9c002661"), "name" : "Kala", "maths_marks" : 32, "english_marks" : 46, "science_marks" : 53 }
{ "_id" : ObjectId("5d1456a0b0e9230c9c002662"), "name" : "Aruli", "maths_marks" : 78, "english_marks" : 85, "science_marks" : 80 }
{ "_id" : ObjectId("5d1456acb0e9230c9c002663"), "name" : "Shayu", "maths_marks" : 80, "english_marks" : 76, "science_marks" : 65 }
{ "_id" : ObjectId("5d1456c8b0e9230c9c002664"), "name" : "Kumaran", "maths_marks" : 32, "english_marks" : 73, "science_marks" : 84 }
{ "_id" : ObjectId("5d1456d1b0e9230c9c002665"), "name" : "Lucky", "maths_marks" : 45, "english_marks" : 90, "science_marks" : 45 }
{ "_id" : ObjectId("5d1456deb0e9230c9c002666"), "name" : "Gva", "maths_marks" : 71, "english_marks" : 75, "science_marks" : 56 }
{ "_id" : ObjectId("5d14573eb0e9230c9c002667"), "name" : "Raam", "maths_marks" : 41, "english_marks" : 65, "science_marks" : 88 }
> |
```

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

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

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

```
> db.studentmarks.update({},{$set:{"average":1}},false,true)
WriteResult({ "nMatched" : 10, "nUpserted" : 0, "nModified" : 10 })
> db.studentmarks.find()
{ "_id" : ObjectId("5d145664b0e9230c9c00265e"), "name" : "Mala", "maths_marks" : 51, "english_marks" : 53, "science_marks" : 72, "average" : 1 }
{ "_id" : ObjectId("5d14566fb0e9230c9c00265f"), "name" : "Vanu", "maths_marks" : 80, "english_marks" : 75, "science_marks" : 85, "average" : 1 }
{ "_id" : ObjectId("5d145678b0e9230c9c002660"), "name" : "Kala", "maths_marks" : 32, "english_marks" : 46, "science_marks" : 53, "average" : 1 }
{ "_id" : ObjectId("5d145688b0e9230c9c002661"), "name" : "Kala", "maths_marks" : 32, "english_marks" : 46, "science_marks" : 53, "average" : 1 }
{ "_id" : ObjectId("5d1456a0b0e9230c9c002662"), "name" : "Aruli", "maths_marks" : 78, "english_marks" : 85, "science_marks" : 80, "average" : 1 }
{ "_id" : ObjectId("5d1456acb0e9230c9c002663"), "name" : "Shayu", "maths_marks" : 80, "english_marks" : 76, "science_marks" : 65, "average" : 1 }
{ "_id" : ObjectId("5d1456c8b0e9230c9c002664"), "name" : "Kumaran", "maths_marks" : 32, "english_marks" : 73, "science_marks" : 84, "average" : 1 }
{ "_id" : ObjectId("5d1456d1b0e9230c9c002665"), "name" : "Lucky", "maths_marks" : 66, "english_marks" : 90, "science_marks" : 75, "average" : 1 }
{ "_id" : ObjectId("5d1456deb0e9230c9c002666"), "name" : "Gva", "maths_marks" : 71, "english_marks" : 75, "science_marks" : 56, "average" : 1 }
{ "_id" : ObjectId("5d14573eb0e9230c9c002667"), "name" : "Raam", "maths_marks" : 41, "english_marks" : 65, "average" : 1 }
```

7) Update Marks_Science=75 to Lucky .

```
> db.studentmarks.find()
{ "_id" : ObjectId("5d145664b0e9230c9c00265e"), "name" : "Mala", "maths_marks" : 51, "english_marks" : 53, "science_marks" : 72, "average" : 1 }
{ "_id" : ObjectId("5d14566fb0e9230c9c00265f"), "name" : "Vanu", "maths_marks" : 80, "english_marks" : 75, "science_marks" : 85, "average" : 1 }
{ "_id" : ObjectId("5d145678b0e9230c9c002660"), "name" : "Kala", "maths_marks" : 32, "english_marks" : 46, "science_marks" : 53, "average" : 1 }
{ "_id" : ObjectId("5d145688b0e9230c9c002661"), "name" : "Kala", "maths_marks" : 32, "english_marks" : 46, "science_marks" : 53, "average" : 1 }
{ "_id" : ObjectId("5d1456a0b0e9230c9c002662"), "name" : "Aruli", "maths_marks" : 78, "english_marks" : 85, "science_marks" : 80, "average" : 1 }
{ "_id" : ObjectId("5d1456acb0e9230c9c002663"), "name" : "Shayu", "maths_marks" : 80, "english_marks" : 76, "science_marks" : 65, "average" : 1 }
{ "_id" : ObjectId("5d1456c8b0e9230c9c002664"), "name" : "Kumaran", "maths_marks" : 32, "english_marks" : 73, "science_marks" : 84, "average" : 1 }
{ "_id" : ObjectId("5d1456d1b0e9230c9c002665"), "name" : "Lucky", "maths_marks" : 45, "english_marks" : 45, "marks_science" : 75 }
{ "_id" : ObjectId("5d1456deb0e9230c9c002666"), "name" : "Gva", "maths_marks" : 71, "english_marks" : 75, "science_marks" : 56, "average" : 1 }
{ "_id" : ObjectId("5d14573eb0e9230c9c002667"), "name" : "Raam", "maths_marks" : 41, "english_marks" : 65, "average" : 1 }
> |
```

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

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

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

```
> db.studentmarks.find({$and:[{maths_marks:{$lt:40}},{science_marks:{$lt:40}}]},{_id:0,maths_marks:0,science_marks:0,english_marks:0})
> |
```

11) Remove Science column/field for Raam

```

> db.studentmarks.update({name:"Raam"},{$unset:{science_marks:88}})
WriteResult({ "nMatched" : 1, "nUpserted" : 0, "nModified" : 1 })
> db.studentmarks.find()
{ "_id" : ObjectId("5d145664b0e9230c9c00265e"), "name" : "Mala", "maths_marks" : 51, "english_marks" : 53, "science_marks" : 72 }
{ "_id" : ObjectId("5d14566fb0e9230c9c00265f"), "name" : "Vanu", "maths_marks" : 80, "english_marks" : 75, "science_marks" : 85 }
{ "_id" : ObjectId("5d145678b0e9230c9c002660"), "name" : "Kala", "maths_marks" : 32, "english_marks" : 46, "science_marks" : 53 }
{ "_id" : ObjectId("5d145688b0e9230c9c002661"), "name" : "Kala", "maths_marks" : 32, "english_marks" : 46, "science_marks" : 53 }
{ "_id" : ObjectId("5d1456a0b0e9230c9c002662"), "name" : "Aruli", "maths_marks" : 78, "english_marks" : 85, "science_marks" : 80 }
{ "_id" : ObjectId("5d1456acb0e9230c9c002663"), "name" : "Shayu", "maths_marks" : 80, "english_marks" : 76, "science_marks" : 65 }
{ "_id" : ObjectId("5d1456c8b0e9230c9c002664"), "name" : "Kumaran", "maths_marks" : 32, "english_marks" : 73, "science_marks" : 84 }
{ "_id" : ObjectId("5d1456d1b0e9230c9c002665"), "name" : "Lucky", "maths_marks" : 66, "english_marks" : 90, "science_marks" : 75 }
{ "_id" : ObjectId("5d1456deb0e9230c9c002666"), "name" : "Gva", "maths_marks" : 71, "english_marks" : 75, "science_marks" : 56 }
{ "_id" : ObjectId("5d14573eb0e9230c9c002667"), "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.insert({name:"John",maths_marks:87,english_marks:23},{upsert:true})
WriteResult({ "nInserted" : 1 })

```

```

    "english_marks" : 85,
    "science_marks" : 80,
    "average" : 1
  }
  {
    "_id" : ObjectId("5d1456acb0e9230c9c002663"),
    "name" : "Shayu",
    "maths_marks" : 80,
    "english_marks" : 76,
    "science_marks" : 65,
    "average" : 1
  }
  {
    "_id" : ObjectId("5d1456c8b0e9230c9c002664"),
    "name" : "Kumaran",
    "maths_marks" : 32,
    "english_marks" : 73,
    "science_marks" : 84,
    "average" : 1
  }
  {
    "_id" : ObjectId("5d1456d1b0e9230c9c002665"),
    "name" : "Lucky",
    "maths_marks" : 45,
    "english_marks" : 45,
    "marks_science" : 75
  }
  {
    "_id" : ObjectId("5d1456deb0e9230c9c002666"),
    "name" : "Gva",
    "maths_marks" : 71,
    "english_marks" : 75,
    "science_marks" : 56,
    "average" : 1
  }
  {
    "_id" : ObjectId("5d14573eb0e9230c9c002667"),
    "name" : "Raam",
    "maths_marks" : 41,
    "english_marks" : 65,
    "average" : 1
  }
  {
    "_id" : ObjectId("5d1484255ed4bc7bcd873a07"),
    "name" : "John",
    "maths_marks" : 87,
    "english_marks" : 23
  }
}

```

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

```
> db.studentmarks.update({"_id" : ObjectId("5d1484255ed4bc7bcd873a07")},{$rename:{"english_marks":"sciencemarks"}})
WriteResult({ "nMatched" : 1, "nUpserted" : 0, "nModified" : 1 })
> |
```

```
{
  "_id" : ObjectId("5d1484255ed4bc7bcd873a07"),
  "name" : "John",
  "maths_marks" : 87,
  "sciencemarks" : 23
}
```

14) Remove Kumaran's document from collection

```
> db.studentmarks.remove({"_id" : ObjectId("5d1456c8b0e9230c9c002664")})
WriteResult({ "nRemoved" : 1 })
```

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

```
> db.studentmarks.find({$or:[{name:"Kala"},{name:"Aruli"}]},{_id:0,science_marks:0,average:0}).pretty()
{ "name" : "Kala", "maths_marks" : 32, "english_marks" : 46 }
{ "name" : "Aruli", "maths_marks" : 78, "english_marks" : 85 }
> |
```