

- 1) Create a Database called student
- 2) Create a collection called studentmarks

```
ukdb.studentmarks.insert([{"name": "mala", "maths_marks": 45, "english_marks": 53, "science_marks": 72}, {"name": "mala", "maths_marks": 45, "english_marks": 53, "science_marks": 72}, {"name": "mala", "maths_marks": 45, "english_marks": 53, "science_marks": 72}, {"name": "mala", "maths_marks": 45, "english_marks": 53, "science_marks": 72}, {"name": "mala", "maths_marks": 45, "english_marks": 53, "science_marks": 72}, {"name": "mala", "maths_marks": 45, "english_marks": 53, "science_marks": 72}, {"name": "mala", "maths_marks": 45, "english_marks": 53, "science_marks": 72}, {"name": "mala", "maths_marks": 45, "english_marks": 53, "science_marks": 72}, {"name": "mala", "maths_marks": 45, "english_marks": 53, "science_marks": 72}, {"name": "mala", "maths_marks": 45, "english_marks": 53, "science_marks": 72}], [{"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": "shavu", "maths_marks": 80, "english_marks": 76, "science_marks": 65}, {"name": "kumanan", "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": [ ]
})
```

- 3) Create the documents listed in above table.

```
db.students.find().pretty()

  "_id" : ObjectId("5b3efe12234d82aefd23563d"),
  "name" : "mala",
  "maths_marks" : 45,
  "english_marks" : 53,
  "science_marks" : 72

  "_id" : ObjectId("5b3efe12234d82aefd23563e"),
  "name" : "vanu",
  "maths_marks" : 80,
  "english_marks" : 75,
  "science_marks" : 85

  "_id" : ObjectId("5b3efe12234d82aefd23563f"),
  "name" : "kala",
  "maths_marks" : 32,
  "english_marks" : 46,
  "science_marks" : 53

  "_id" : ObjectId("5b3efe12234d82aefd235640"),
  "name" : "aruli",
  "maths_marks" : 78,
  "english_marks" : 85,
  "science_marks" : 80

  "_id" : ObjectId("5b3efe12234d82aefd235641"),
  "name" : "shavu",
  "maths_marks" : 80,
  "english_marks" : 76,
  "science_marks" : 65

  "_id" : ObjectId("5b3efe12234d82aefd235642"),
  "name" : "kumanan",
  "maths_marks" : 32,
  "english_marks" : 73,
  "science_marks" : 84

  "_id" : ObjectId("5b3efe12234d82aefd235643"),
  "name" : "lucky",
  "maths_marks" : 66,
  "english_marks" : 90,
  "science_marks" : 45

  "_id" : ObjectId("5b3efe12234d82aefd235644"),
  "name" : "gva",
  "maths_marks" : 71,
  "english_marks" : 75,
```

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.find({"maths_marks":{"$gt:50}}).pretty()
[
  {
    "_id" : ObjectId("5b3efe12234d82aefd23563d"),
    "name" : "mala",
    "maths_marks" : 51,
    "english_marks" : 53,
    "science_marks" : 72
  },
  {
    "_id" : ObjectId("5b3efe12234d82aefd23563e"),
    "name" : "vanu",
    "maths_marks" : 80,
    "english_marks" : 75,
    "science_marks" : 85
  },
  {
    "_id" : ObjectId("5b3efe12234d82aefd235640"),
    "name" : "aruli",
    "maths_marks" : 78,
    "english_marks" : 85,
    "science_marks" : 80
  },
  {
    "_id" : ObjectId("5b3efe12234d82aefd235641"),
    "name" : "shavu",
    "maths_marks" : 80,
    "english_marks" : 76,
    "science_marks" : 65
  },
  {
    "_id" : ObjectId("5b3efe12234d82aefd235643"),
    "name" : "lucky",
    "maths_marks" : 66,
    "english_marks" : 90,
    "science_marks" : 45
  },
  {
    "_id" : ObjectId("5b3efe12234d82aefd235644"),
```

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

```
> db.studentmarks.aggregate({$addFields:{average:{$avg:{$sum:["maths_marks","english_marks","science_marks"]}}}})
{ "_id" : ObjectId("5b3efe12234d82aefd23563d"), "name" : "mala", "maths_marks" : 51, "english_marks" : 53, "science_marks" : 72, "average" : 0 }
{ "_id" : ObjectId("5b3efe12234d82aefd23563e"), "name" : "vanu", "maths_marks" : 80, "english_marks" : 75, "science_marks" : 85, "average" : 0 }
{ "_id" : ObjectId("5b3efe12234d82aefd23563f"), "name" : "kala", "maths_marks" : 32, "english_marks" : 46, "science_marks" : 53, "average" : 0 }
{ "_id" : ObjectId("5b3efe12234d82aefd235640"), "name" : "aruli", "maths_marks" : 78, "english_marks" : 85, "science_marks" : 80, "average" : 0 }
{ "_id" : ObjectId("5b3efe12234d82aefd235641"), "name" : "shavu", "maths_marks" : 80, "english_marks" : 76, "science_marks" : 65, "average" : 0 }
{ "_id" : ObjectId("5b3efe12234d82aefd235642"), "name" : "kumanan", "maths_marks" : 32, "english_marks" : 73, "science_marks" : 84, "average" : 0 }
{ "_id" : ObjectId("5b3efe12234d82aefd235643"), "name" : "lucky", "maths_marks" : 66, "english_marks" : 90, "science_marks" : 45, "average" : 0 }
{ "_id" : ObjectId("5b3efe12234d82aefd235644"), "name" : "gva", "maths_marks" : 71, "english_marks" : 75, "science_marks" : 56, "average" : 0 }
{ "_id" : ObjectId("5b3efe12234d82aefd235645"), "name" : "raam", "maths_marks" : 41, "english_marks" : 65, "science_marks" : 88, "average" : 0 }
>
```

7) Update Marks_Science=75 to Lucky

```
> db.studentmarks.update({"name":"lucky"},{$rename:{"science_marks":"marks_science"}})
WriteResult({ "nMatched" : 1, "nUpserted" : 0, "nModified" : 1 })
> db.studentmarks.update({"marks_science":45}.{$set:{"marks_science":75}})
2018-07-06T12:19:10.620+0530 E QUERY [thread1] SyntaxError: missing name after . operator @(shell):1:44
> db.studentmarks.update({"marks_science":45},{$set:{"marks_science":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}}).pretty()
```

```
{
  "_id" : ObjectId("5b3efe12234d82aefd23563d"),
  "name" : "mala",
  "maths_marks" : 51,
  "english_marks" : 53,
  "science_marks" : 72
}
```

```
{
  "_id" : ObjectId("5b3efe12234d82aefd23563e"),
  "name" : "vanu",
  "maths_marks" : 80,
  "english_marks" : 75,
  "science_marks" : 85
}
```

```
{
  "_id" : ObjectId("5b3efe12234d82aefd235640"),
  "name" : "aruli",
  "maths_marks" : 78,
  "english_marks" : 85,
  "science_marks" : 80
}
```

```
{
  "_id" : ObjectId("5b3efe12234d82aefd235641"),
  "name" : "shavu",
  "maths_marks" : 80,
  "english_marks" : 76,
  "science_marks" : 65
}
```

```
{
  "_id" : ObjectId("5b3efe12234d82aefd235643"),
  "name" : "lucky",
  "maths_marks" : 66,
  "english_marks" : 90,
  "science_marks" : 45
}
```

```
{
  "_id" : ObjectId("5b3efe12234d82aefd235644"),
```

```
> db.studentmarks.find({"english_marks":{"$gt:50}}).pretty()
{
  "_id" : ObjectId("5b3efe12234d82aefd23563d"),
  "name" : "mala",
  "maths_marks" : 51,
  "english_marks" : 53,
  "science_marks" : 72
}
{
  "_id" : ObjectId("5b3efe12234d82aefd23563e"),
  "name" : "vanu",
  "maths_marks" : 80,
  "english_marks" : 75,
  "science_marks" : 85
}
{
  "_id" : ObjectId("5b3efe12234d82aefd235640"),
  "name" : "aruli",
  "maths_marks" : 78,
  "english_marks" : 85,
  "science_marks" : 80
}
{
  "_id" : ObjectId("5b3efe12234d82aefd235641"),
  "name" : "shavu",
  "maths_marks" : 80,
  "english_marks" : 76,
  "science_marks" : 65
}
{
  "_id" : ObjectId("5b3efe12234d82aefd235642"),
  "name" : "kumanan",
  "maths_marks" : 32,
  "english_marks" : 73,
  "science_marks" : 84
}
{
  "_id" : ObjectId("5b3efe12234d82aefd235643"),
```

```

> db.studentmarks.find({"science_marks":{"$gt:50}}).pretty()
{
  "_id" : ObjectId("5b3efe12234d82aefd23563d"),
  "name" : "mala",
  "maths_marks" : 51,
  "english_marks" : 53,
  "science_marks" : 72
}
{
  "_id" : ObjectId("5b3efe12234d82aefd23563e"),
  "name" : "vanu",
  "maths_marks" : 80,
  "english_marks" : 75,
  "science_marks" : 85
}
{
  "_id" : ObjectId("5b3efe12234d82aefd23563f"),
  "name" : "kala",
  "maths_marks" : 32,
  "english_marks" : 46,
  "science_marks" : 53
}
{
  "_id" : ObjectId("5b3efe12234d82aefd235640"),
  "name" : "aruli",
  "maths_marks" : 78,
  "english_marks" : 85,
  "science_marks" : 80
}
{
  "_id" : ObjectId("5b3efe12234d82aefd235641"),
  "name" : "shavu",
  "maths_marks" : 80,
  "english_marks" : 76,
  "science_marks" : 65
}
{
  "_id" : ObjectId("5b3efe12234d82aefd235642"),
  "name" : "kumanan",

```

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

```

> db.studentmarks.find({"english_marks":{"$gt:50}},{"maths_marks":{"$lt:50}}).pretty()
Error: error: {
  "ok" : 0,
  "errmsg" : "Unsupported projection option: maths_marks: { $lt: 50.0 }",
  "code" : 2,
  "codeName" : "BadValue"
}
> db.studentmarks.find({$and:[{"english_marks":{"$gt:50}},{"maths_marks":{"$lt:50}}]}).pretty()
{
  "_id" : ObjectId("5b3efe12234d82aefd235642"),
  "name" : "kumanan",
  "maths_marks" : 32,
  "english_marks" : 73,
  "science_marks" : 84
}
{
  "_id" : ObjectId("5b3efe12234d82aefd235645"),
  "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({$and:[{"science_marks":{"$lt":40}},{"maths_marks":{"$lt":40}}]}).pretty()  
>
```

11) Remove Science column/field for Raam

```
> db.studentmarks.find({$and:[{"science_marks":{"$lt":40}},{"maths_marks":{"$lt":40}}]}).pretty()  
> db.studentmarks.update({"name":"raam"},{$unset:{"science_marks":""}})  
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.collection.insert({"name":"jhon","maths_marks":87,"english_marks":23},{upsert:true})  
WriteResult({ "nInserted" : 1 })  
>
```

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

```
> db.studentmarks.insert({"name":"jhon","maths_marks":87,"english_marks":23})  
WriteResult({ "nInserted" : 1 })  
> db.studentmarks.update({"name":"jhon"},{$rename:{"maths_marks":"science_marks"  
})  
WriteResult({ "nMatched" : 1, "nUpserted" : 0, "nModified" : 1 })  
>
```

14) Remove Kumaran's document from collection

```
> db.studentmarks.deleteMany({"name" : "kumanan", "maths_marks" : 32, "english_m  
arks" : 73, "science_marks" : 84} )  
{ "acknowledged" : true, "deletedCount" : 1 }  
>
```

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

```
> db.studentmarks.find({"name":"kala"}).pretty()  
{  
  "_id" : ObjectId("5b3efe12234d82aefd23563f"),  
  "name" : "kala",  
  "maths_marks" : 32,  
  "english_marks" : 46,  
  "science_marks" : 53  
}  
> db.studentmarks.find({"name":"aruli"}).pretty()  
{  
  "_id" : ObjectId("5b3efe12234d82aefd235640"),  
  "name" : "aruli",  
  "maths_marks" : 78,  
  "english_marks" : 85,  
  "science_marks" : 80  
}  
>
```