

# MongoDB Exercise

```
ukistu14@ukipc14: ~  
ukistu14@ukipc14: ~  
ukistu14@ukipc14: ~  
ukistu14@ukipc14:~$ sudo mongo  
[sudo] password for ukistu14:  
MongoDB shell version v3.6.5  
connecting to: mongodb://127.0.0.1:27017  
MongoDB server version: 3.6.5  
Server has startup warnings:  
2018-07-06T11:25:42.460+0530 I STORAGE [initandlisten] ** WARNING: Using the XFS filesystem is strongly recommended with the WiredTiger storage engine  
2018-07-06T11:25:42.460+0530 I STORAGE [initandlisten] ** See http://dochub.mongodb.org/core/prodnotes-filesystem  
2018-07-06T11:25:54.564+0530 I CONTROL [initandlisten] ** WARNING: Access control is not enabled for the database.  
2018-07-06T11:25:54.578+0530 I CONTROL [initandlisten] ** Read and write access to data and configuration is unrestricted.  
2018-07-06T11:25:54.578+0530 I CONTROL [initandlisten] ** WARNING: You are running this process as the root user, which is not recommended.  
2018-07-06T11:25:54.578+0530 I CONTROL [initandlisten] ** WARNING: This server is bound to localhost.  
2018-07-06T11:25:54.578+0530 I CONTROL [initandlisten] ** Remote systems will be unable to connect to this server.  
2018-07-06T11:25:54.578+0530 I CONTROL [initandlisten] ** Start the server with --bind_ip <address> to specify which IP addresses it should serve responses from, or with --bind_ip_all to bind to all interfaces. If this behavior is desired, start the server with --bind_ip 127.0.0.1 to disable this warning.  
> show dbs  
admin 0.000GB  
config 0.000GB  
local 0.000GB  
marks 0.000GB  
music 0.000GB  
person 0.000GB  
uki3 0.000GB  
> use student  
switched to db student  
>
```

1. Create a Database called student

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

2. Create a collection called studentmarks

```
> 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},{'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().pretty()
{
  "_id" : ObjectId("5b3f0d0c68e61db02645ba1e"),
  "Name" : "Mala",
  "Maths_marks" : 45,
  "English_marks" : 53,
  "Science_marks" : 72
}
{
  "_id" : ObjectId("5b3f0d0c68e61db02645ba1f"),
  "Name" : "Vanu",
  "Maths_marks" : 80,
  "English_marks" : 75,
  "Science_marks" : 85
}
{
  "_id" : ObjectId("5b3f0d0c68e61db02645ba20"),
  "Name" : "kala",
  "Maths_marks" : 32,
  "English_marks" : 46,
  "Science_marks" : 53
}
{
  "_id" : ObjectId("5b3f0d0c68e61db02645ba21"),
  "Name" : "Aruli",
  "Maths_marks" : 78,
  "English_marks" : 85,
  "Science_marks" : 80
}
{
  "_id" : ObjectId("5b3f0d0c68e61db02645ba22"),
  "Name" : "shayu",
  "Maths_marks" : 80,
  "English_marks" : 76,
  "Science_marks" : 65
}
{
  "_id" : ObjectId("5b3f0d0c68e61db02645ba23"),
  "Name" : "Kumaran",
  "Maths_marks" : 32,
  "English_marks" : 73,

```

4. Increase the maths marks of Mala by 6 marks

```

> db.studentmarks.update({'Maths_marks':45},{ $set: {'Maths_marks':51}})
WriteResult({ "nMatched" : 1, "nUpserted" : 0, "nModified" : 1 })
> db.studentmarks.find().pretty()
{
  "_id" : ObjectId("5b3f0d0c68e61db02645ba1e"),
  "Name" : "Mala",
  "Maths_marks" : 51,
  "English_marks" : 53,
  "Science_marks" : 72
}

```

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

```
> db.studentmarks.find({'Maths_marks':{'$gt:50}})
{ "_id" : ObjectId("5b3f0d0c68e61db02645ba1e"), "Name" : "Mala", "Maths_marks" : 51, "English_marks" : 53, "Science_marks" : 72 }
{ "_id" : ObjectId("5b3f0d0c68e61db02645ba1f"), "Name" : "Vanu", "Maths_marks" : 80, "English_marks" : 75, "Science_marks" : 85 }
{ "_id" : ObjectId("5b3f0d0c68e61db02645ba21"), "Name" : "Aruli", "Maths_marks" : 78, "English_marks" : 85, "Science_marks" : 80 }
{ "_id" : ObjectId("5b3f0d0c68e61db02645ba22"), "Name" : "shayu", "Maths_marks" : 80, "English_marks" : 76, "Science_marks" : 65 }
{ "_id" : ObjectId("5b3f0d0c68e61db02645ba24"), "Name" : "lucky", "Maths_marks" : 66, "English_marks" : 90, "Science_marks" : 45 }
{ "_id" : ObjectId("5b3f0d0c68e61db02645ba25"), "Name" : "Gva", "Maths_marks" : 71, "English_marks" : 75, "Science_marks" : 56 }
```

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

7. Update Marks\_Science=75 to Lucky .

```
> db.studentmarks.update({'Science_marks':45},{ $set:{'Science_marks':75}})
WriteResult({ "nMatched" : 1, "nUpserted" : 0, "nModified" : 1 })
> db.studentmarks.find().pretty()
```

```
{
  "_id" : ObjectId("5b423ce0dad1b5da335a90ef"),
  "Name" : "lucky",
  "Maths_marks" : 66,
  "English_marks" : 90,
  "Science_marks" : 75
}
```

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

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}}]}).pretty()
{
  "_id" : ObjectId("5b423bb3dad1b5da335a90e0"),
  "Name" : "Mala",
  "Maths_marks" : 45,
  "English_marks" : 53,
  "Science_marks" : 72
}
{
  "_id" : ObjectId("5b423bb3dad1b5da335a90e5"),
  "Name" : "Kumaran",
  "Maths_marks" : 32,
  "English_marks" : 73,
  "Science_marks" : 84
}
{
  "_id" : ObjectId("5b423bb3dad1b5da335a90e8"),
  "Name" : "Raam",
  "Maths_marks" : 41,
  "English_marks" : 65,
  "Science_marks" : 85
}
```

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

```
> db.studentmarks.find({'$or':[{'Maths_marks':{'$lt:40}},{'Science_marks':{'$gt:40}}]})
{ "_id" : ObjectId("5b423bb3dad1b5da335a90e0"), "Name" : "Mala", "Maths_marks" : 45, "English_marks" : 53, "Science_marks" : 72 }
{ "_id" : ObjectId("5b423bb3dad1b5da335a90e1"), "Name" : "Vanu", "Maths_marks" : 80, "English_marks" : 75, "Science_marks" : 85 }
{ "_id" : ObjectId("5b423bb3dad1b5da335a90e2"), "Name" : "Kala", "Maths_marks" : 32, "English_marks" : 46, "Science_marks" : 53 }
{ "_id" : ObjectId("5b423bb3dad1b5da335a90e3"), "Name" : "Aruli", "Maths_marks" : 78, "English_marks" : 85, "Science_marks" : 80 }
{ "_id" : ObjectId("5b423bb3dad1b5da335a90e4"), "Name" : "Shaya", "Maths_marks" : 80, "English_marks" : 76, "Science_marks" : 65 }
{ "_id" : ObjectId("5b423bb3dad1b5da335a90e5"), "Name" : "Kumaran", "Maths_marks" : 32, "English_marks" : 73, "Science_marks" : 84 }
{ "_id" : ObjectId("5b423bb3dad1b5da335a90e6"), "Name" : "lucky", "Maths_marks" : 66, "English_marks" : 90, "Science_marks" : 755 }
{ "_id" : ObjectId("5b423bb3dad1b5da335a90e7"), "Name" : "Gva", "Maths_marks" : 71, "English_marks" : 75, "Science_marks" : 56 }
{ "_id" : ObjectId("5b423bb3dad1b5da335a90e8"), "Name" : "Raam", "Maths_marks" : 41, "English_marks" : 65, "Science_marks" : 85 }
```

11. Remove Science column/field for Raam
12. Update John's Math mark as 87 and English mark as 23, if John not available upsert.
13. Rename the english\_marks column/field for John to science\_marks
14. Remove Kumaran's document from collection
15. Find Kala's or Aruli's math\_marks and science\_marks