

1) Create a Database called student
use student

```
> use student
switched to db student
> db.createCollection("studentmarks")
{ "ok" : 1 }
```

2) Create a collection called studentmarks
db.createCollection("studentmarks")

```
> use student
switched to db student
> db.createCollection("studentmarks")
{ "ok" : 1 }
> db.studentmarks.insert({"name": "Mala" })
```

3) Create the documents listed in above table.

db.songdetails.insert({"name": "Malal", "maths_marks": 45, "english_marks": 53, "science_marks": 72})

.

.

.

```
> db.studentmarks.insert({"name": "Mala", "maths_marks": 45, "english_marks": 53, "science_marks": 72})
writeResult({ "nInserted" : 1 })
> db.studentmarks.insert({"name": "Vana", "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": "Arull", "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": "Kunaran", "maths_marks": 32, "english_marks": 73, "science_marks": 84})
writeResult({ "nInserted" : 1 })
> db.studentmarks.insert({"name": "Lucky", "maths_marks": 66, "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

```
@ukipc20:~
ukistu20@ukipc20:~
{ "id" : ObjectId("5c3c59cfaf1d93dbeddf3160"),
  "name" : "Lucky",
  "maths_marks" : 66,
  "english_marks" : 90,
  "science_marks" : 45

  "id" : ObjectId("5c3c59eaf1d93dbeddf3161"),
  "name" : "Gva",
  "maths_marks" : 71,
  "english_marks" : 75,
  "science_marks" : 56

  "id" : ObjectId("5c3c59fef1d93dbeddf3162"),
  "name" : "Raam",
  "maths_marks" : 41,
  "english_marks" : 65,
  "science_marks" : 88

db.studentmarks.update({"name": "Mala"}, {
  .. db.studentmarks.find().pretty()
  ..
  db.studentmarks.update({"name": "Mala"}, {$inc: {"maths_marks": 6}})
  ..
  db.studentmarks.update({"name": "Mala"}, {$inc: {"maths_marks": 6}})
  writeResult({ "nMatched" : 1, "nUpserted" : 0, "nModified" : 1 })
  db.songdetails.find().pretty()
  db.studentmarks.find().pretty()

  "id" : ObjectId("5c3c58b8af1d93dbeddf315a"),
  "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.

```

MongoDB Shell:
> db.studentmarks.find({"maths_marks":{$gt:50}}).pretty()
{
  "_id" : ObjectId("5c3c58b8afid93dbeddf315a"),
  "name" : "Mala",
  "maths_marks" : 51,
  "english_marks" : 53,
  "science_marks" : 72
}
{
  "_id" : ObjectId("5c3c58efafid93dbeddf315b"),
  "name" : "Vanu",
  "maths_marks" : 80,
  "english_marks" : 75,
  "science_marks" : 85
}
{
  "_id" : ObjectId("5c3c5935afid93dbeddf315d"),
  "name" : "Arul",
  "maths_marks" : 78,
  "english_marks" : 85,
  "science_marks" : 80
}
{
  "_id" : ObjectId("5c3c5957afid93dbeddf315e"),
  "name" : "Shayu",
  "maths_marks" : 80,
  "english_marks" : 76,
  "science_marks" : 65
}
{
  "_id" : ObjectId("5c3c59cfafid93dbeddf3160"),
  "name" : "Lucky",
  "maths_marks" : 66,
  "english_marks" : 90,
  "science_marks" : 45
}
{
  "_id" : ObjectId("5c3c59eafid93dbeddf3161"),
  "name" : "Gva",
  "maths_marks" : 71,
  "english_marks" : 78,
  "science_marks" : 56
}

```

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

db.studentmarks.aggregate({\$addFields:{'avarage':.}}).pretty()

```

MongoDB Shell:
> db.studentmarks.aggregate({$addFields:{'avarage':.}}).pretty()
{
  "_id" : ObjectId("5c3c58b8afid93dbeddf315a"),
  "name" : "Mala",
  "maths_marks" : 51,
  "english_marks" : 53,
  "science_marks" : 72,
  "avarage" : ""
}
{
  "_id" : ObjectId("5c3c58efafid93dbeddf315b"),
  "name" : "Vanu",
  "maths_marks" : 80,
  "english_marks" : 75,
  "science_marks" : 85,
  "avarage" : ""
}
{
  "_id" : ObjectId("5c3c5935afid93dbeddf315d"),
  "name" : "Arul",
  "maths_marks" : 78,
  "english_marks" : 85,
  "science_marks" : 80,
  "avarage" : ""
}
{
  "_id" : ObjectId("5c3c5957afid93dbeddf315e"),
  "name" : "Shayu",
  "maths_marks" : 80,
  "english_marks" : 76,
  "science_marks" : 65,
  "avarage" : ""
}
{
  "_id" : ObjectId("5c3c59eafid93dbeddf3161"),
  "name" : "Gva",
  "maths_marks" : 71,
  "english_marks" : 78,
  "science_marks" : 56,
  "avarage" : ""
}

```

7) Update Marks_Science=75 to Lucky .

db.studentmarks.update({"name":"Lucky"},{\$set:{science_marks":75}})

```

MongoDB Shell:
> db.studentmarks.update({"name":"Lucky"},{$set:{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({$and:[{"english_marks":{$gt:50}},{"science_marks":{$gt:50}},{"maths_marks":{$gt:50}}],{"name":1,_id:0})
```

```
> db.studentmarks.find({$and:[{"english_marks":{$gt:50}},{"science_marks":{$gt:50}},{"maths_marks":{$gt:50}}],{"name":1,_id:0})
{ "name" : "Raam" }
{ "name" : "Vanu" }
{ "name" : "Arul" }
{ "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({$and:[{"english_marks":{$gt:50}},{"maths_marks":{$lt:50}}],{"name":1,_id:0})
```

```
2019-01-16T11:57:33.576+0530 E QUERY [thread1] SyntaxError: expected expression, got ',' @ (shell):1:82
> db.studentmarks.find({$and:[{"english_marks":{$gt:50}},{"maths_marks":{$lt:50}}],{"name":1,_id:0})
{ "name" : "Kumaran" }
{ "name" : "Raam" }
```

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}}],{"name":1,_id:0})
```

```
science_marks : 88
}
> db.studentmarks.find({$and:[{"science_marks":{$lt:40}},{"maths_marks":{$lt:40}}],{"name":1,_id:0})
```

11) Remove Science column/field for Raam

```
db.studentmarks.update({"name":"Raam"},{$unset:{"science_marks":88}})
```

```
> db.studentmarks.update({"name":"Raam"},{$unset:{"science_marks":88}})
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.insert({"name":"John","maths_marks":87,"english_marks":23})
```

```
> db.studentmarks.update({"name":"Raam"},{$unset:{"science_marks":88}})
WriteResult({ "nMatched" : 1, "nUpserted" : 0, "nModified" : 1 })
> db.studentmarks.insert({"name":"John","maths_marks":87,"english_marks":23})
WriteResult({ "nInserted" : 1 })
```

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

```
db.studentmarks.update({"name":"John"},{$rename:{"english_marks":"science_marks"}})
```

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

14) Remove Kumaran's document from collection

```
db.studentmarks.remove({"name":"Kumaran"})
```

```
WriteResult({ "nMatched" : 1, "nUpserted" : 0, "nModified" : 1 })
> db.studentmarks.remove({"name":"Kumaran"})
WriteResult({ "nRemoved" : 1 })
> 
```

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

```
db.studentmarks.find({"name":"Aruli"},{"maths_marks":1,"science_marks":1}).pretty()
```

```
WriteResult({ "nRemoved" : 1 })
> db.studentmarks.find({"name":"Kala"},{"maths_marks":1,"science_marks":1}).pretty()
{
  "_id" : ObjectId("5c3c5913af1d93dbeddf315c"),
  "maths_marks" : 32,
  "science_marks" : 53
}
> db.studentmarks.find({"name":"Aruli"},{"maths_marks":1,"science_marks":1}).pretty()
{
  "_id" : ObjectId("5c3c5935af1d93dbeddf315d"),
  "maths_marks" : 78,
  "science_marks" : 80
}
> 
```