

1. Create a Database called the student

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

2. Create a collection called student marks

```
bye
hit
>
>
>
>
> db.createCollection(studentmarks)
2019-06-18T14:10:52.034+0530 E QUERY    [js] ReferenceError: studentmarks is not defined :
@(shell):1:1
> db.createCollection("studentmarks")
{ "ok" : 1 }
```

3. Create the documents listed in the above table.

```
> use student
switched to db student
> 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":"Kumar",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" : [ ]
})
```

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":{"$gt:50}},{"name":1,_id:0}).pretty()
{
  "name" : "Mala"
}
{
  "name" : "Vanu"
}
{
  "name" : "Aruli"
}
{
  "name" : "Shayu"
}
{
  "name" : "Lucky"
}
{
  "name" : "Gva"
}
> db.studentmarks.find({"maths_marks":{"$gt:50}}).pretty()
```

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" : 58.66666666666666 }
{ "_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" : 43.66666666666666 }
{ "_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" : 73.66666666666666 }
{ "_id" : ObjectId("5d0748523926de60252ab3e5"), "name" : "Kumaran", "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" : 67.33333333333333 }
{ "_id" : ObjectId("5d0748523926de60252ab3e8"), "name" : "Raam", "maths_marks" : 41, "english_marks" : 65, "science_marks" : 88, "average" : 64.66666666666667 }
> db.studentmarks.find().pretty()
```

7. Update Marks_Science=75 to Lucky.

```
2019-06-18T10:13:25.277+0530 E QUERY [js] SyntaxError: Missing } after property list @shell:1:57
> db.studentmarks.update({"science_marks":45},{ $set:{ "name" : "Lucky","maths_marks" : 66,"english_marks" : 90,"science_marks" : 75}})
WriteResult({ "nMatched" : 1, "nUpserted" : 0, "nModified" : 1 })
> db.studentmarks.find().pretty()
{
  "name" : "Mala"
}
{
  "name" : "Vanu"
}
{
  "name" : "Aruli"
}
{
  "name" : "Shayu"
}
{
  "name" : "Lucky"
}
{
  "name" : "Gva"
}
> db.studentmarks.find().pretty()
```

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":{"$gt:50}},{"name":1,_id:0}).pretty()
{
  "name" : "Mala"
}
{
  "name" : "Vanu"
}
{
  "name" : "Aruli"
}
{
  "name" : "Shayu"
}
{
  "name" : "Lucky"
}
{
  "name" : "Gva"
}
> db.studentmarks.find({"maths_marks":{"$gt:50"},"english_marks":{"$gt:50"},"science_marks":{"$gt:50}},{"name":1,_id:0}).pretty()
```

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

```
{ "name" : "Shayu" }
{ "name" : "Lucky" }
{ "name" : "Gva" }
> db.studentmarks.find({"maths_marks":{$lt:50},"english_marks":{$gt:50}},{"name":1,_id:0}).pretty()
{ "name" : "Kumaran" }
{ "name" : "Raam" }
> db.studentmarks.find({"maths_marks": { $lt: 40 }, "science_marks": { $lt: 40 } }, db.studentmarks.find({"maths_marks": { $lt: 40 }, "science_marks": { $lt: 40 } },
{ db.studentmarks.find({"maths_marks": { $lt: 40 }, "science_marks": { $lt: 40 } }, {"name": 1, _id: 0 }).pretty()
```

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 } }, db.studentmarks.find({"maths_marks": { $lt: 40 }, "science_marks": { $lt: 40 } },
{ db.studentmarks.find({"maths_marks": { $lt: 40 }, "science_marks": { $lt: 40 } }, {"name": 1, _id: 0 }).pretty()
> db.studentmarks.find({"maths_marks": { $lt: 40 }, "science_marks": { $lt: 40 } }, {"name": 1, _id: 0 }).pretty()
> db.studentmarks.update({"_id" : ObjectId("5d0740523926de60252ab3e8")}, {"$unset: {"science_marks":1}}, false, true)
```

11. Remove Science column/field for Raam

```
{ db.studentmarks.find({"maths_marks": { $lt: 40 }, "science_marks": { $lt: 40 } }, {"name": 1, _id: 0 }).pretty()
> db.studentmarks.find({"maths_marks": { $lt: 40 }, "science_marks": { $lt: 40 } }, {"name": 1, _id: 0 }).pretty()
> db.studentmarks.update({"_id" : ObjectId("5d0740523926de60252ab3e8")}, {"$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.

```
"english_marks" : 65
}
> db.studentmarks.update({"name": "John"}, {"$set: {"maths_marks": 87, "english_marks": 23}}, {"upsert": true})
WriteResult({
  "nMatched" : 0,
  "nUpserted" : 1,
  "nModified" : 0,
  "_id" : ObjectId("5d087b2e6f034d213602142f")
})
```

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

```
    "maths_marks" : 87
  }
}
>
> db.studentmarks.update( {"_id" : ObjectId("5d087b2e6f034d213602142f")} , { $rename: {"english_marks" : "science_marks" } } )
WriteResult({ "nMatched" : 1, "nUpserted" : 0, "nModified" : 1 })
> db.studentmarks.find().pretty()
{
  "_id" : ObjectId("5d0748523926de60252ab3e0"),
```

14. Remove Kumaran's document from the collection

```
}
> db.studentmarks.remove ( {"_id" : ObjectId("5d0748523926de60252ab3e5")})
WriteResult({ "nRemoved" : 1 })
> db.studentmarks.find().pretty()
{
  "_id" : ObjectId("5d0748523926de60252ab3e0"),
  "name" : "Mala",
  "maths_marks" : 51,
```

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

```
>
>
> db.studentmarks.find({"_id" : ObjectId("5d0748523926de60252ab3e3")},{ "maths_marks" : 1, "science_marks" : 1}).pretty()
{
  "_id" : ObjectId("5d0748523926de60252ab3e3"),
  "maths_marks" : 78,
  "science_marks" : 80
}
>
> db.studentmarks.find({"_id" : ObjectId("5d0748523926de60252ab3e2")},{ "maths_marks" : 1, "science_marks" : 1}).pretty()
{
  "_id" : ObjectId("5d0748523926de60252ab3e2"),
  "maths_marks" : 32,
  "science_marks" : 53
}
```