1) Create a Database called student
use student

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

2) Create a collection called studentmarks
db.createCollection("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})
db.studentmarks.insert({"name":"Vanu","maths_marks":80,"english_marks":75,"science_marks":85})
db.studentmarks.insert({"name":"Shayu","maths_marks":80,"english_marks":76,"science_marks":65})
db.studentmarks.insert({"name":"Kumaran","maths_marks":32,"english_marks":73,"science_marks":84})
db.studentmarks.insert({"name":"Lucky","maths_marks":66,"english_marks":90,"science_marks":45})
db.studentmarks.insert({"name":"Gva","maths_marks":71,"english_marks":75,"science_marks":56})
db.studentmarks.insert({"name":"Aruli","maths_marks":78,"english_marks":85,"science_marks":80})
db.studentmarks.insert({"name":"Raam","maths_marks":41,"english_marks":65,"science_marks":88})

```
> 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})
Wrdb.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":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
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 })
```

5) List the names of students who got more than 50 marks in Maths Subject.
db.studentmarks.find({"maths_marks":{$gt:50}}).pretty()

```
> db.studentmarks.find({"maths_marks":{$gt:50}}).pretty()
{
        "_id" : ObjectId("5c3eb7fd581db2f654ce1404"),
        "name" : "Vanu",
        "maths_marks" : 80,
        "english_marks" : 75,
        "science_marks" : 85
}
{
        "_id" : ObjectId("5c3eb943581db2f654ce1408"),
        "name" : "Shayu",
        "maths_marks" : 80,
        "english_marks" : 76,
        "science_marks" : 65
}
{
        "_id" : ObjectId("5c3eb98b581db2f654ce140a"),
        "name" : "Lucky",
        "maths_marks" : 66,
        "english_marks" : 90,
        "science_marks" : 45
}
{
        "_id" : ObjectId("5c3eb9a9581db2f654ce140b"),
        "name" : "Gva",
        "maths_marks" : 71,
        "english_marks" : 75,
        "science_marks" : 56
}
```

6)Add a new column(field) for Average for all students.
db.studentmarks.update({},{$set:{"average":1}},{upsert:false,multi:true})

```
> db.studentmarks.update({},{$set:{"average":1}},{upsert:false,multi:true})
WriteResult({ "nMatched" : 9, "nUpserted" : 0, "nModified" : 9 })
```

7) Update Marks_Science=75 to Lucky .
db.studentmarks.update({"name":"Lucky"},{$rename:{"science_marks":"marks_science"}})

```
> db.studentmarks.update({"name":"Lucky"},{$rename:{"science_marks":"marks_science"}})
WriteResult({ "nMatched" : 1, "nUpserted" : 0, "nModified" : 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}}]},{"name":1,_id:0}).pretty()

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

9) List the names who got less than 50 marks in Maths subject and more than 50 marks in English
db.studentmarks.find({$or:[{"maths_marks":{$lt:50}},{"english_marks":{$gt:50}}]},
{"name":1,_id:0}).pretty()

```
> db.studentmarks.find({$or:[{"maths_marks":{$lt:50}},{"english_marks":{$gt:50}}]},{"name":1,_id:0}).pretty
()
{ "name" : "Mala" }
{ "name" : "Vanu" }
{ "name" : "Kala" }
{ "name" : "Shayu" }
{ "name" : "Kumaran" }
{ "name" : "Lucky" }
{ "name" : "Gva" }
{ "name" : "Raam" }
{ "name" : "Aruli" }
>
```

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}}]},
{"name":1,_id:0}).pretty()

```
> db.studentmarks.find({$or:[{"maths_marks":{$lt:40}},{"science_marks":{$gt:40}}]},{"name":1,_id:0}).pretty
()
{ "name" : "Mala" }
{ "name" : "Vanu" }
{ "name" : "Kala" }
{ "name" : "Shayu" }
{ "name" : "Kumaran" }
{ "name" : "Gva" }
{ "name" : "Raam" }
{ "name" : "Aruli" }
>
```

11) Remove Science column/field for Raam
db.studentmarks.remove({"name":"Raam"},{"science_marks":88})

```
> db.studentmarks.remove({"name":"Raam"},{"science_marks":88})
WriteResult({ "nRemoved" : 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.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.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"},{})

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

15) Find Kala’s or Aruli’s math_marks and science_marks
db.studentmarks.find({$or:[{"name":"Kala"},{"name":"Aruli"}]},
{"maths_marks":1,"science_marks":1})

```
> db.studentmarks.find({$or:[{"name":"Kala"},{"name":"Aruli"}]},{"maths_marks":1,"science_marks":1})
{ "_id" : ObjectId("5c3eb83f581db2f654ce1405"), "maths_marks" : 32, "science_marks" : 53 }
{ "_id" : ObjectId("5c3ebb18581db2f654ce140d"), "maths_marks" : 78, "science_marks" : 80 }
>
```