1. Create a database called student

```
> use students
switched to db students
>
```

2.Create a collection called studentmarks

```
switched to db students
> show collections
studentmarks
> db.studentmarks.find().pretty()
```

3.Create the documents listed in above table.

```
> db.studentmarks.find().pretty()
{
        "_id" : ObjectId("5d07328f94b03d2f41ef29c5"),
        "name" : "Vanu",
        "maths_marks" : 80,
        "english_marks" : 75,
        "science_marks" : 85
}
{
        "_id" : ObjectId("5d0732b394b03d2f41ef29c6"),
        "name" : "Kala",
        "maths_marks" : 32,
        "english_marks" : 46,
        "science_marks" : 53
}
{
        "_id" : ObjectId("5d0732d594b03d2f41ef29c7"),
        "name" : "Aruli",
        "maths_marks" : 78,
        "english_marks" : 85,
        "science_marks" : 80
}
{
        "_id" : ObjectId("5d0732fc94b03d2f41ef29c8"),
        "name" : "Shayu",
        "maths_marks" : 80,
        "english_marks" : 76,
        "science_marks" : 65
}
{
        "_id" : ObjectId("5d07332b94b03d2f41ef29c9"),
        "name" : "Kumaran",
        "maths_marks" : 32,
        "english_marks" : 73,
        "science_marks" : 84
}
{
        "_id" : ObjectId("5d07335494b03d2f41ef29ca"),
        "name" : "Lucky",
        "maths_marks" : 66,
        "english_marks" : 90,
        "science_marks" : 45
}
{
        "_id" : ObjectId("5d07337294b03d2f41ef29cb"),
        "name" : "Gva",
        "maths_marks" : 71,
        "english_marks" : 75,
        "science_marks" : 56
}
{
        "_id" : ObjectId("5d0733a094b03d2f41ef29cc"),
        "name" : "Raam",
        "maths_marks" : 41,
```

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("5d07328f94b03d2f41ef29c5"),
        "name" : "Vanu",
        "maths_marks" : 80,
        "english_marks" : 75,
        "science_marks" : 85
}
{
        "_id" : ObjectId("5d0732d594b03d2f41ef29c7"),
        "name" : "Aruli",
        "maths_marks" : 78,
        "english_marks" : 85,
        "science_marks" : 80
}
{
        "_id" : ObjectId("5d0732fc94b03d2f41ef29c8"),
        "name" : "Shayu",
        "maths_marks" : 80,
        "english_marks" : 76,
        "science_marks" : 65
}
{
        "_id" : ObjectId("5d07335494b03d2f41ef29ca"),
        "name" : "Lucky",
        "maths_marks" : 66,
        "english_marks" : 90,
        "science_marks" : 45
}
{
        "_id" : ObjectId("5d07337294b03d2f41ef29cb"),
        "name" : "Gva",
        "maths_marks" : 71,
        "english_marks" : 75,
        "science_marks" : 56
}
{
        "_id" : ObjectId("5d0770545a4f8e7ceeddaf68"),
        "name" : "Mala",
        "maths_marks" : 57,
        "english_marks" : 53,
        "science_marks" : 72
}
>
```

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("5d07328f94b03d2f41ef29c5"), "name" : "Vanu", "maths_marks" : 80, "english_marks" : 75, "science_marks" : 85, "average" : 80 }
{ "_id" : ObjectId("5d0732b394b03d2f41ef29c6"), "name" : "Kala", "maths_marks" : 32, "english_marks" : 46, "science_marks" : 53, "average" : 43.666666666
666664 }
{ "_id" : ObjectId("5d0732d594b03d2f41ef29c7"), "name" : "Aruli", "maths_marks" : 78, "english_marks" : 85, "science_marks" : 80, "average" : 81 }
{ "_id" : ObjectId("5d0732fc94b03d2f41ef29c8"), "name" : "Shayu", "maths_marks" : 80, "english_marks" : 76, "science_marks" : 65, "average" : 73.66666666
666667 }
{ "_id" : ObjectId("5d07332b94b03d2f41ef29c9"), "name" : "Kumaran", "maths_marks" : 32, "english_marks" : 73, "science_marks" : 84, "average" : 63 }
{ "_id" : ObjectId("5d07335494b03d2f41ef29ca"), "name" : "Lucky", "maths_marks" : 66, "english_marks" : 90, "science_marks" : 45, "average" : 67 }
{ "_id" : ObjectId("5d07337294b03d2f41ef29cb"), "name" : "Gva", "maths_marks" : 71, "english_marks" : 75, "science_marks" : 56, "average" : 67.3333333333
3333 }
{ "_id" : ObjectId("5d0733a094b03d2f41ef29cc"), "name" : "Raam", "maths_marks" : 41, "english_marks" : 65, "science_marks" : 88, "average" : 64.666666666
66667 }
{ "_id" : ObjectId("5d0770545a4f8e7ceeddaf68"), "name" : "Mala", "maths_marks" : 57, "english_marks" : 53, "science_marks" : 72, "average" : 60.666666666
666664 }
>
```

7.Update Marks_Science=75 to Lucky.

```
>
> db.studentmarks.update({"science_marks" : 45},{$set: {"name" : "Lucky","maths_marks" : 66,"english_marks" : 90,"science_marks" : 75}})
WriteResult({ "nMatched" : 0, "nUpserted" : 0, "nModified" : 0 })
```

```
{
        "_id" : ObjectId("5d07335494b03d2f41ef29ca"),
        "name" : "Lucky",
        "maths_marks" : 66,
        "english_marks" : 90,
        "science_marks" : 75
}
```

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" : "Vanu" }
{ "name" : "Aruli" }
{ "name" : "Shayu" }
{ "name" : "Lucky" }
{ "name" : "Gva" }
{ "name" : "Mala" }
>
```

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

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

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

11.Remove Science column/field for Raam

```
>
> db.studentmarks.update({"_id" : ObjectId("5cfeab8edbbb15d418e074a5")}, {$unset: {"science_marks":1}}, false, true)
WriteResult({ "nMatched" : 0, "nUpserted" : 0, "nModified" : 0 })
>
```

12.Update John's Math mark as 87 and English mark as 23, if John not available upsert.

```
> db.studentmarks.update({name: "John"},{$set: {"maths_marks" : 87,"english_marks" : 23}},{upsert:true})
WriteResult({
        "nMatched" : 0,
        "nUpserted" : 1,
        "nModified" : 0,
        "_id" : ObjectId("5d0899f42b827689a30dafbb")
})
```

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

```
> db.studentmarks.update( {"_id" : ObjectId("5d0899f42b827689a30dafbb") }, { $rename: {"english_marks" :"science_marks" } } )
WriteResult({ "nMatched" : 1, "nUpserted" : 0, "nModified" : 1 })
>
>
```

14.Remove Kumaran's document from the collection

```
>
> db.studentmarks.remove ( {"_id" : ObjectId("5d07332b94b03d2f41ef29c9")})
WriteResult({ "nRemoved" : 1 })
```

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

```
> db.studentmarks.find({"_id" : ObjectId("5d0732b394b03d2f41ef29c6")},{"maths_marks" : 1,"science_marks" : 1}).pretty()
{
        "_id" : ObjectId("5d0732b394b03d2f41ef29c6"),
        "maths_marks" : 32,
        "science_marks" : 53
}
```