1) Create a Database called student

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

2) Create a collection called studentmarks

```
>
> db.createCollection('studentmarks')
{ "ok" : 1 }
>
>
>
>
> show collections
studentmarks
>
>
```

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_Ma
rks':73,'Science_Marks':84},{'Name':'Lucky','Maths_Marks':66,'English_Marks':90,'Science_Marks':45},{'Name':'Gva','Maths_Marks':71,'English_Mar
ks':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("5b3f09cec4b7fbff30a10e68"),
        "Name" : "Mala",
        "Maths_Marks" : 45,
        "English_Marks" : 53,
        "Science_Marks" : 72
}
{
        "_id" : ObjectId("5b3f09cec4b7fbff30a10e69"),
        "Name" : "Vanu",
        "Maths_Marks" : 80,
        "English_Marks" : 75,
        "Science_Marks" : 85
}
{
        "_id" : ObjectId("5b3f09cec4b7fbff30a10e6a"),
        "Name" : "Kala",
        "Maths_Marks" : 32,
        "English_Marks" : 46,
        "Science_Marks" : 53
}
{
        "_id" : ObjectId("5b3f09cec4b7fbff30a10e6b"),
        "Name" : "Aruli",
        "Maths_Marks" : 78,
        "English_Marks" : 85,
        "Science_Marks" : 80
}
```

```
{
        "_id" : ObjectId("5b3f09cec4b7fbff30a10e6c"),
        "Name" : "Shayu",
        "Maths_Marks" : 80,
        "English_Marks" : 76,
        "Science_Marks" : 65
}
{
        "_id" : ObjectId("5b3f09cec4b7fbff30a10e6d"),
        "Name" : "Kumaran",
        "Maths_Marks" : 32,
        "English_Marks" : 73,
        "Science_Marks" : 84
}
{
        "_id" : ObjectId("5b3f09cec4b7fbff30a10e6e"),
        "Name" : "Lucky",
        "Maths_Marks" : 66,
        "English_Marks" : 90,
        "Science_Marks" : 45
}
{
        "_id" : ObjectId("5b3f09cec4b7fbff30a10e6f"),
        "Name" : "Gva",
        "Maths_Marks" : 71,
        "English_Marks" : 75,
        "Science_Marks" : 56
}
{
        "_id" : ObjectId("5b3f09cec4b7fbff30a10e70"),
        "Name" : "Raam",
        "Maths_Marks" : 41,
        "English_Marks" : 65,
        "Science_Marks" : 88
}
>
```

4) Increase the maths marks of Mala by 6 marks

```
> db.studentmarks.update({Maths_Marks:45},{$inc: {Maths_Marks: +6}})
WriteResult({ "nMatched" : 1, "nUpserted" : 0, "nModified" : 1 })
> db.studentmarks.find().pretty()
{
        "_id" : ObjectId("5b3f09cec4b7fbff30a10e68"),
        "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("5b3f09cec4b7fbff30a10e68"), "Name" : "Mala", "Maths_Marks" : 51, "English_Marks" : 53, "Science_Marks" : 72 }
{ "_id" : ObjectId("5b3f09cec4b7fbff30a10e69"), "Name" : "Vanu", "Maths_Marks" : 80, "English_Marks" : 75, "Science_Marks" : 85 }
{ "_id" : ObjectId("5b3f09cec4b7fbff30a10e6b"), "Name" : "Aruli", "Maths_Marks" : 78, "English_Marks" : 85, "Science_Marks" : 80 }
{ "_id" : ObjectId("5b3f09cec4b7fbff30a10e6c"), "Name" : "Shayu", "Maths_Marks" : 80, "English_Marks" : 76, "Science_Marks" : 65 }
{ "_id" : ObjectId("5b3f09cec4b7fbff30a10e6e"), "Name" : "Lucky", "Maths_Marks" : 66, "English_Marks" : 90, "Science_Marks" : 45 }
{ "_id" : ObjectId("5b3f09cec4b7fbff30a10e6f"), "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 })
>
>
>
```

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

```
> db.studentmarks.find({Marks: {$gt: 50}})


> db.studentmarks.find({Maths_Marks: {$gt: 50}})
{ "_id" : ObjectId("5b3f09cec4b7fbff30a10e68"), "Name" : "Mala", "Maths_Marks" : 51, "English_Marks" : 53, "Science_Marks" : 72 }
{ "_id" : ObjectId("5b3f09cec4b7fbff30a10e69"), "Name" : "Vanu", "Maths_Marks" : 80, "English_Marks" : 75, "Science_Marks" : 85 }
{ "_id" : ObjectId("5b3f09cec4b7fbff30a10e6b"), "Name" : "Aruli", "Maths_Marks" : 78, "English_Marks" : 85, "Science_Marks" : 80 }
{ "_id" : ObjectId("5b3f09cec4b7fbff30a10e6c"), "Name" : "Shayu", "Maths_Marks" : 80, "English_Marks" : 76, "Science_Marks" : 65 }
{ "_id" : ObjectId("5b3f09cec4b7fbff30a10e6e"), "Name" : "Lucky", "Maths_Marks" : 66, "English_Marks" : 90, "Science_Marks" : 75 }
{ "_id" : ObjectId("5b3f09cec4b7fbff30a10e6f"), "Name" : "Gva", "Maths_Marks" : 71, "English_Marks" : 75, "Science_Marks" : 56 }
>
>
>
```

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

```
>
> db.studentmarks.find({$and:[{Maths_Marks: {$gt: 50}},{English_Marks: {$gt: 50}},{Science_Marks: {$gt: 50}}]})
{ "_id" : ObjectId("5b3f09cec4b7fbff30a10e68"), "Name" : "Mala", "Maths_Marks" : 51, "English_Marks" : 53, "Science_Marks" : 72 }
{ "_id" : ObjectId("5b3f09cec4b7fbff30a10e69"), "Name" : "Vanu", "Maths_Marks" : 80, "English_Marks" : 75, "Science_Marks" : 85 }
{ "_id" : ObjectId("5b3f09cec4b7fbff30a10e6b"), "Name" : "Aruli", "Maths_Marks" : 78, "English_Marks" : 85, "Science_Marks" : 80 }
{ "_id" : ObjectId("5b3f09cec4b7fbff30a10e6c"), "Name" : "Shayu", "Maths_Marks" : 80, "English_Marks" : 76, "Science_Marks" : 65 }
{ "_id" : ObjectId("5b3f09cec4b7fbff30a10e6e"), "Name" : "Lucky", "Maths_Marks" : 66, "English_Marks" : 90, "Science_Marks" : 75 }
{ "_id" : ObjectId("5b3f09cec4b7fbff30a10e6f"), "Name" : "Gva", "Maths_Marks" : 71, "English_Marks" : 75, "Science_Marks" : 56 }
>
>
>
```

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

```
>
>
> db.studentmarks.find({$or:[{Maths_Marks: {$lt: 40}},{Science_Marks: {$lt: 40}}]})
{ "_id" : ObjectId("5b3f09cec4b7fbff30a10e6a"), "Name" : "Kala", "Maths_Marks" : 32, "English_Marks" : 46, "Science_Marks" : 53 }
{ "_id" : ObjectId("5b3f09cec4b7fbff30a10e6d"), "Name" : "Kumaran", "Maths_Marks" : 32, "English_Marks" : 73, "Science_Marks" : 84 }
>
>
```

11) Remove Science column/field for Raam

```
>
> db.studentmarks.update({'Name':'Raam'},{$unset: {Science_Marks:88}});
WriteResult({ "nMatched" : 1, "nUpserted" : 0, "nModified" : 1 })
>
>
```

```
{
        "_id" : ObjectId("5b3f09cec4b7fbff30a10e70"),
        "Name" : "Raam",
        "Maths_Marks" : 41,
        "English_Marks" : 65
}
>
```

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}])

BulkWriteResult({
        "writeErrors" : [ ],
        "writeConcernErrors" : [ ],
        "nInserted" : 1,
        "nUpserted" : 0,
        "nMatched" : 0,
        "nModified" : 0,
        "nRemoved" : 0,
        "upserted" : [ ]
})
>
```

```
}
{
        "_id" : ObjectId("5b436a8663cd9259feecd6ce"),
        "Name" : "John",
        "Maths_Marks" : 87,
        "English_Marks" : 23
}
>
```

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

14) Remove Kumaran’s document from collection

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

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