Ques1

Create a Database called student

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

Ques2

Create a collection called studentmarks

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

Ques3

Create the documents listed in above table.

```
> db.studentmarks.insert([{name:"Kumaran",maths_marks:32,english_marks:73,science_marks:84},{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:75,english_marks:85,science_marks:80},{name:"Shayu",maths_marks:80,english_marks:76,science_marks:65},{name:"Kumaran",maths_m
arks:32,english_marks:73,science_marks:84},{name:"Lucky",maths_marks:66,english_marks:90,science_marks:45},{name:"Gva",maths_marks:71,english_ma
rks:75,science_marks:56},{name:"Raam",maths_marks:41,english_marks:65,science_marks:88}])
BulkWriteResult({
        "writeErrors" : [ ],
        "writeConcernErrors" : [ ],
        "nInserted" : 10,
        "nUpserted" : 0,
        "nMatched" : 0,
        "nModified" : 0,
        "nRemoved" : 0,
        "upserted" : [ ]
})
```

```
> db.studentmarks.find().pretty()
{
        "_id" : ObjectId("5d1435b8bfb65d65ef09e748"),
        "name" : "Kumaran",
        "maths_marks" : 32,
        "english_marks" : 73,
        "science_marks" : 84
}
{
        "_id" : ObjectId("5d1435b8bfb65d65ef09e749"),
        "name" : "Mala",
        "maths_marks" : 45,
        "english_marks" : 53,
        "science_marks" : 72
}
{
        "_id" : ObjectId("5d1435b8bfb65d65ef09e74a"),
        "name" : "Vanu",
        "maths_marks" : 80,
        "english_marks" : 75,
        "science_marks" : 85
}
{
        "_id" : ObjectId("5d1435b8bfb65d65ef09e74b"),
        "name" : "Kala",
        "maths_marks" : 32,
        "english_marks" : 46,
        "science_marks" : 53
}
{
        "_id" : ObjectId("5d1435b8bfb65d65ef09e74c"),
        "name" : "Aruli",
        "maths_marks" : 75,
        "english_marks" : 85,
        "science_marks" : 80
}
```

```
{
        "_id" : ObjectId("5d1435b8bfb65d65ef09e74d"),
        "name" : "Shayu",
        "maths_marks" : 80,
        "english_marks" : 76,
        "science_marks" : 65
}
{
        "_id" : ObjectId("5d1435b8bfb65d65ef09e74e"),
        "name" : "Kumaran",
        "maths_marks" : 32,
        "english_marks" : 73,
        "science_marks" : 84
}
{
        "_id" : ObjectId("5d1435b8bfb65d65ef09e74f"),
        "name" : "Lucky",
        "maths_marks" : 66,
        "english_marks" : 90,
        "science_marks" : 45
}
{
        "_id" : ObjectId("5d1435b8bfb65d65ef09e750"),
        "name" : "Gva",
        "maths_marks" : 71,
        "english_marks" : 75,
        "science_marks" : 56
}
{
        "_id" : ObjectId("5d1435b8bfb65d65ef09e751"),
        "name" : "Raam",
        "maths_marks" : 41,
        "english_marks" : 65,
        "science_marks" : 88
}
```

Ques4
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 })
> db.studentmarks.find().pretty()
{
        "_id" : ObjectId("5d1435b8bfb65d65ef09e748"),
        "name" : "Kumaran",
        "maths_marks" : 32,
        "english_marks" : 73,
        "science_marks" : 84
}
{
        "_id" : ObjectId("5d1435b8bfb65d65ef09e749"),
        "name" : "Mala",
        "maths_marks" : 51,
        "english_marks" : 53,
        "science_marks" : 72
}
{
        "_id" : ObjectId("5d1435b8bfb65d65ef09e74a"),
        "name" : "Vanu",
        "maths_marks" : 80,
        "english_marks" : 75,
        "science_marks" : 85
}
{
        "_id" : ObjectId("5d1435b8bfb65d65ef09e74b"),
        "name" : "Kala",
        "maths_marks" : 32,
        "english_marks" : 46,
        "science_marks" : 53
}
{
        "_id" : ObjectId("5d1435b8bfb65d65ef09e74c"),
        "name" : "Aruli",
        "maths_marks" : 75,
        "english_marks" : 85,
        "science_marks" : 80
}
```

Ques5
List the names of students who got more than 50 marks in Maths Subject.

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

Ques6
Add a new column(field) for Average for all students.

```
> db.studentmarks.update({},{$set:{"average":1}},false,true)
WriteResult({ "nMatched" : 10, "nUpserted" : 0, "nModified" : 0 })
> db.studentmarks.find().pretty()
{
        "_id" : ObjectId("5d1435b8bfb65d65ef09e748"),
        "name" : "Kumaran",
        "maths_marks" : 32,
        "english_marks" : 73,
        "science_marks" : 84,
        "average" : 1
}
{
        "_id" : ObjectId("5d1435b8bfb65d65ef09e749"),
        "name" : "Mala",
        "maths_marks" : 51,
        "english_marks" : 53,
        "science_marks" : 72,
        "average" : 1
}
{
        "_id" : ObjectId("5d1435b8bfb65d65ef09e74a"),
        "name" : "Vanu",
        "maths_marks" : 80,
        "english_marks" : 75,
        "science_marks" : 85,
        "average" : 1
}
{
        "_id" : ObjectId("5d1435b8bfb65d65ef09e74b"),
        "name" : "Kala",
        "maths_marks" : 32,
        "english_marks" : 46,
        "science_marks" : 53,
        "average" : 1
}
```

```
{
        "_id" : ObjectId("5d1435b8bfb65d65ef09e74d"),
        "name" : "Shayu",
        "maths_marks" : 80,
        "english_marks" : 76,
        "science_marks" : 65,
        "average" : 1
}
{
        "_id" : ObjectId("5d1435b8bfb65d65ef09e74e"),
        "name" : "Kumaran",
        "maths_marks" : 32,
        "english_marks" : 73,
        "science_marks" : 84,
        "average" : 1
}
{
        "_id" : ObjectId("5d1435b8bfb65d65ef09e74f"),
        "name" : "Lucky",
        "maths_marks" : 66,
        "english_marks" : 90,
        "science_marks" : 45,
        "average" : 1
}
{
        "_id" : ObjectId("5d1435b8bfb65d65ef09e750"),
        "name" : "Gva",
        "maths_marks" : 71,
        "english_marks" : 75,
        "science_marks" : 56,
        "average" : 1
}
{
        "_id" : ObjectId("5d1435b8bfb65d65ef09e751"),
        "name" : "Raam",
        "maths_marks" : 41,
        "english_marks" : 65,
        "science_marks" : 88,
        "average" : 1
}
```

Ques7
Update Marks_Science=75 to Lucky .

```
> db.studentmarks.update({"_id" : ObjectId("5d1435b8bfb65d65ef09e74f")},{$set:{"science_marks":75}})
WriteResult({ "nMatched" : 1, "nUpserted" : 0, "nModified" : 1 })
```

Ques8
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}}]},{_id:0,maths_marks:0,english_
marks:0,science_marks:0,average:0})
{ "name" : "Mala" }
{ "name" : "Vanu" }
{ "name" : "Aruli" }
{ "name" : "Shayu" }
{ "name" : "Lucky" }
{ "name" : "Gva" }
```

Ques9
List the names who got less than 50 marks in Maths subject and more than 50 marks in English

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

Ques10
10) List the names who got less than 40 in both Maths and Science.

```
> db.studentmarks.find( { $and: [{"maths_marks" :{$gt:40}},{"science_marks":{$lt:40}}]},{_id:0,maths_marks:0,english_marks:0,science_marks:0,ave
rage:0})
```

Ques11

Remove Science column/field for Raam

```
> db.studentmarks.update({name:"Raam"},{$unset:{science_marks:88}})
WriteResult({ "nMatched" : 1, "nUpserted" : 0, "nModified" : 1 })
> db.studentmarks.find()
{ "_id" : ObjectId("5d1435b8bfb65d65ef09e748"), "name" : "Kumaran", "maths_marks" : 32, "english_marks" : 73, "science_marks" : 84, "average" :
1 }
{ "_id" : ObjectId("5d1435b8bfb65d65ef09e749"), "name" : "Mala", "maths_marks" : 51, "english_marks" : 53, "science_marks" : 72, "average" : 1 }
{ "_id" : ObjectId("5d1435b8bfb65d65ef09e74a"), "name" : "Vanu", "maths_marks" : 80, "english_marks" : 75, "science_marks" : 85, "average" : 1 }
{ "_id" : ObjectId("5d1435b8bfb65d65ef09e74b"), "name" : "Kala", "maths_marks" : 32, "english_marks" : 46, "science_marks" : 53, "average" : 1 }
{ "_id" : ObjectId("5d1435b8bfb65d65ef09e74c"), "name" : "Aruli", "maths_marks" : 75, "english_marks" : 85, "science_marks" : 80, "average" : 1
}
{ "_id" : ObjectId("5d1435b8bfb65d65ef09e74d"), "name" : "Shayu", "maths_marks" : 80, "english_marks" : 76, "science_marks" : 65, "average" : 1
}
{ "_id" : ObjectId("5d1435b8bfb65d65ef09e74e"), "name" : "Kumaran", "maths_marks" : 32, "english_marks" : 73, "science_marks" : 84, "average" :
1 }
{ "_id" : ObjectId("5d1435b8bfb65d65ef09e74f"), "name" : "Lucky", "maths_marks" : 66, "english_marks" : 90, "science_marks" : 75, "average" : 1
}
{ "_id" : ObjectId("5d1435b8bfb65d65ef09e750"), "name" : "Gva", "maths_marks" : 71, "english_marks" : 75, "science_marks" : 56, "average" : 1 }
{ "_id" : ObjectId("5d1435b8bfb65d65ef09e751"), "name" : "Raam", "maths_marks" : 41, "english_marks" : 65, "average" : 1 }
>
```

Ques12
Update John's Math mark as 87 and English mark as 23, if john not available upsert

```
> db.studentmarks.insert({name:"Jhone",maths_marks:87,english_marks:23},{upsert:true})
WriteResult({ "nInserted" : 1 })
> db.studentmarks.find().pretty()
{
        "_id" : ObjectId("5d1435b8bfb65d65ef09e749"),
        "name" : "Mala",
        "maths_marks" : 51,
        "english_marks" : 53,
        "science_marks" : 72,
        "average" : 1
}
{
        "_id" : ObjectId("5d1435b8bfb65d65ef09e74a"),
        "name" : "Vanu",
        "maths_marks" : 80,
        "english_marks" : 75,
        "science_marks" : 85,
        "average" : 1
}
{
        "_id" : ObjectId("5d1435b8bfb65d65ef09e74b"),
        "name" : "Kala",
        "maths_marks" : 32,
        "english_marks" : 46,
        "science_marks" : 53,
        "average" : 1
}
{
        "_id" : ObjectId("5d1435b8bfb65d65ef09e74c"),
        "name" : "Aruli",
        "maths_marks" : 75,
        "english_marks" : 85,
        "science_marks" : 80,
        "average" : 1
}
```

```
{
        "_id" : ObjectId("5d1435b8bfb65d65ef09e74d"),
        "name" : "Shayu",
        "maths_marks" : 80,
        "english_marks" : 76,
        "science_marks" : 65,
        "average" : 1
}
{
        "_id" : ObjectId("5d1435b8bfb65d65ef09e74f"),
        "name" : "Lucky",
        "maths_marks" : 66,
        "english_marks" : 90,
        "science_marks" : 75,
        "average" : 1
}
{
        "_id" : ObjectId("5d1435b8bfb65d65ef09e750"),
        "name" : "Gva",
        "maths_marks" : 71,
        "english_marks" : 75,
        "science_marks" : 56,
        "average" : 1
}
{
        "_id" : ObjectId("5d1435b8bfb65d65ef09e751"),
        "name" : "Raam",
        "maths_marks" : 41,
        "english_marks" : 65,
        "average" : 1
}
{
        "_id" : ObjectId("5d1483e7bfb65d65ef09e754"),
        "name" : "Jhone",
        "maths_marks" : 87,
        "english_marks" : 23
}
```

Ques13
Rename the english_marks column/field for John to science_marks

```
> db.studentmarks.update({"_id" : ObjectId("5d1490c3bfb65d65ef09e755")},{$rename:{"science_marks":"english_marks"}})
WriteResult({ "nMatched" : 1, "nUpserted" : 0, "nModified" : 1 })
>
```

```
    "_id" : ObjectId("5d1435b8bfb65d65ef09e749"),
    "name" : "Mala",
    "maths_marks" : 51,
    "english_marks" : 53,
    "science_marks" : 72,
    "average" : 1

    "_id" : ObjectId("5d1435b8bfb65d65ef09e74a"),
    "name" : "Vanu",
    "maths_marks" : 80,
    "english_marks" : 75,
    "science_marks" : 85,
    "average" : 1

    "_id" : ObjectId("5d1435b8bfb65d65ef09e74b"),
    "name" : "Kala",
    "maths_marks" : 32,
    "english_marks" : 46,
    "science_marks" : 53,
    "average" : 1

    "_id" : ObjectId("5d1435b8bfb65d65ef09e74c"),
    "name" : "Aruli",
    "maths_marks" : 75,
    "english_marks" : 85,
    "science_marks" : 80,
    "average" : 1

    "_id" : ObjectId("5d1435b8bfb65d65ef09e74d"),
    "name" : "Shayu",
    "maths_marks" : 80,
    "english_marks" : 76,
    "science_marks" : 65,
    "average" : 1
```

```
}
{
        "_id" : ObjectId("5d1435b8bfb65d65ef09e74f"),
        "name" : "Lucky",
        "maths_marks" : 66,
        "english_marks" : 90,
        "science_marks" : 75,
        "average" : 1
}
{
        "_id" : ObjectId("5d1435b8bfb65d65ef09e750"),
        "name" : "Gva",
        "maths_marks" : 71,
        "english_marks" : 75,
        "science_marks" : 56,
        "average" : 1
}
{
        "_id" : ObjectId("5d1435b8bfb65d65ef09e751"),
        "name" : "Raam",
        "maths_marks" : 41,
        "english_marks" : 65,
        "average" : 1
}
```

```
{
        "_id" : ObjectId("5d1490c3bfb65d65ef09e755"),
        "name" : "Jhone",
        "maths_marks" : 87,
        "science_marks" : 23
}
```

Ques14

Remove Kumaran's document from collection

```
[ nunc . Ruun ]
> db.studentmarks.remove({name:"Kumaran"},1)
WriteResult({ "nRemoved" : 1 })
> db.studentmarks.find()
{ "_id" : ObjectId("5d1435b8bfb65d65ef09e749"), "name" : "Mala", "maths_marks" : 51, "english_marks" : 53, "science_marks" : 72, "average" : 1 }
{ "_id" : ObjectId("5d1435b8bfb65d65ef09e74a"), "name" : "Vanu", "maths_marks" : 80, "english_marks" : 75, "science_marks" : 85, "average" : 1 }
{ "_id" : ObjectId("5d1435b8bfb65d65ef09e74b"), "name" : "Kala", "maths_marks" : 32, "english_marks" : 46, "science_marks" : 53, "average" : 1 }
{ "_id" : ObjectId("5d1435b8bfb65d65ef09e74c"), "name" : "Aruli", "maths_marks" : 75, "english_marks" : 85, "science_marks" : 80, "average" : 1
}
{ "_id" : ObjectId("5d1435b8bfb65d65ef09e74d"), "name" : "Shayu", "maths_marks" : 80, "english_marks" : 76, "science_marks" : 65, "average" : 1
}
{ "_id" : ObjectId("5d1435b8bfb65d65ef09e74f"), "name" : "Lucky", "maths_marks" : 66, "english_marks" : 90, "science_marks" : 75, "average" : 1
}
{ "_id" : ObjectId("5d1435b8bfb65d65ef09e750"), "name" : "Gva", "maths_marks" : 71, "english_marks" : 75, "science_marks" : 56, "average" : 1 }
{ "_id" : ObjectId("5d1435b8bfb65d65ef09e751"), "name" : "Raam", "maths_marks" : 41, "english_marks" : 65, "average" : 1 }
>
```

Ques15

Find Kala's or Aruli's math_marks and science_marks

```
> db.studentmarks.find({$or:[{name:"Kala"},{name:"Aruli"},]},{_id:0,english_marks:0,average:0}).pretty()
{ "name" : "Kala", "maths_marks" : 32, "science_marks" : 53 }
{ "name" : "Aruli", "maths_marks" : 75, "science_marks" : 80 }
>
```