MongoDB Exercise 2

1) Create a Database called student

```
> use student
switched to db student
> show dbs
admin   0.000GB
config  0.000GB
local   0.000GB
music   0.000GB
uki     0.000GB
>
```

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, "sc
ience_marks" : 53}, {"name" : "Aruli", "maths_marks" : 78, "english_marks" : 85, "sci
ence_marks" : 80},{"name" : "Shayu", "maths_marks" : 80, "english_marks" : 76, "scien
ce_marks" : 65},{"name" : "Kumaran", "maths_marks" : 32, "english_marks" : 73, "scien
ce_marks" : 84}, {"name" : "Lucky", "maths_marks" : 66, "english_marks" : 90, "scienc
e_marks" : 45}, {"name" : "Gva", "maths_marks" : 71, "english_marks" : 75, "science_m
arks" : 56}, {"name" : "Raam", "maths_marks" : 41, "english_marks" : 65, "science_mar
ks" : 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.updateOne({"name" : "Mala"}, {$inc : {"maths_marks" : 6}})
{ "acknowledged" : true, "matchedCount" : 1, "modifiedCount" : 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("62930e9ed38b570343dbaa4b"),
        "name" : "Mala",
        "maths_marks" : 51,
        "english_marks" : 53,
        "science_marks" : 72
}
{
        "_id" : ObjectId("62930e9ed38b570343dbaa4c"),
        "name" : "Vanu",
        "maths_marks" : 80,
        "english_marks" : 75,
        "science_marks" : 85
}
{
        "_id" : ObjectId("62930e9ed38b570343dbaa4e"),
        "name" : "Aruli",
        "maths_marks" : 78,
        "english_marks" : 85,
        "science_marks" : 80
}
{
        "_id" : ObjectId("62930e9ed38b570343dbaa4f"),
        "name" : "Shayu",
        "maths_marks" : 80,
        "english_marks" : 76,
        "science_marks" : 65
}
{
        "_id" : ObjectId("62930e9ed38b570343dbaa51"),
        "name" : "Lucky",
        "maths_marks" : 66,
        "english_marks" : 90,
        "science_marks" : 45
}
{
        "_id" : ObjectId("62930e9ed38b570343dbaa52"),
        "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}}, false, true)
WriteResult({ "nMatched" : 9, "nUpserted" : 0, "nModified" : 9 })
>
```

7) Update Marks_Science=75 to Lucky .

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

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

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

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

```
> db.studentmarks.find({$and:[{"maths_marks" : {$lt : 40}},{"science_marks"
: {$lt : 40}}]},{"name" : 1, "_id" : 0})
>
```

11) Remove Science column/field for Raam

```
> db.getCollection('studentmarks').update({"name" : "Raam"}, {$unset:
 {science_marks: 1}})
WriteResult({ "nMatched" : 1, "nUpserted" : 0, "nModified" : 1 })
>
```

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

```
> db.getCollection('studentmarks').update({"name" : "John"}, {$set:
{"maths_marks": 87, "english_marks" : 23}}, {upsert : true})
WriteResult({
        "nMatched" : 0,
        "nUpserted" : 1,
        "nModified" : 0,
        "_id" : ObjectId("629dd3a426ccc9fdc5e30302")
})
>
```

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

```
> db.getCollection('studentmarks').update({"name" : "John"}, {$ren
ame: {"english_marks": "science_marks"}})
WriteResult({ "nMatched" : 1, "nUpserted" : 0, "nModified" : 1 })
>
```

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

```
> db.studentmarks.find({$or:[{"name" : "Mala"}, {"name" : "Shayu"
}]}, {"_id" : 0, "maths_marks" : 1, "english_marks" : 1})
{ "maths_marks" : 51, "english_marks" : 53 }
{ "maths_marks" : 80, "english_marks" : 76 }
>
```