

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" : "Arull",
  "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({$addFields:{avg:{$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" : 43.666666666666664 }
{ "_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" : 73.666666666666667 }
{ "_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" : 67.33333333333333 }
{ "_id" : ObjectId("5d0733a094b03d2f41ef29cc"), "name" : "Raam", "maths_marks" : 41, "english_marks" : 65, "science_marks" : 88, "average" : 64.666666666666667 }
{ "_id" : ObjectId("5d0770545a4f8e7ceeddaf68"), "name" : "Mala", "maths_marks" : 57, "english_marks" : 53, "science_marks" : 72, "average" : 60.666666666666664 }
}

```

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  
}
```