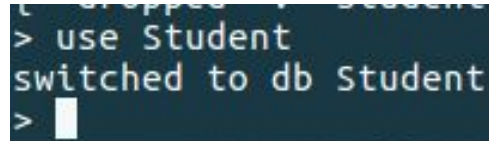


1) Create a Database called student

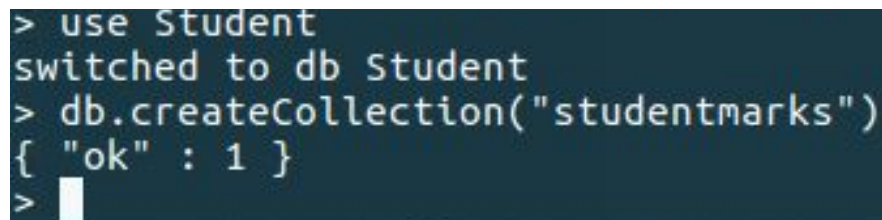
```
use Student  
switched to db Student
```



```
> use Student  
switched to db Student  
>
```

2) Create a collection called studentmarks

```
db.createCollection("studentmarks")  
{ "ok" : 1 }
```



```
> use Student  
switched to db Student  
> db.createCollection("studentmarks")  
{ "ok" : 1 }  
>
```

3) Create the documents listed in above table.

```
>  
db.studentmarks.insert({"name":"Mala","maths_marks":45,"english_marks":53,"science_marks":  
72})  
WriteResult({ "nInserted" : 1 })  
>  
db.studentmarks.insert({"name":"Vanu","maths_marks":80,"english_marks":75,"science_marks":  
85})  
WriteResult({ "nInserted" : 1 })  
>  
db.studentmarks.insert({"name":"Kala","maths_marks":32,"english_marks":46,"science_marks":  
53})  
WriteResult({ "nInserted" : 1 })  
>  
db.studentmarks.insert({"name":"Aruli","maths_marks":78,"english_marks":85,"science_marks":  
80})  
WriteResult({ "nInserted" : 1 })  
>  
db.studentmarks.insert({"name":"Shayu","maths_marks":80,"english_marks":76,"science_marks  
":65})  
WriteResult({ "nInserted" : 1 })
```

```

>
db.studentmarks.insert({"name":"Kumaran","maths_marks":32,"english_marks":73,"science_marks":84})
WriteResult({ "nInserted" : 1 })
>
db.studentmarks.insert({"name":"Lucky","maths_marks":66,"english_marks":90,"science_marks":45})
WriteResult({ "nInserted" : 1 })
>
db.studentmarks.insert({"name":"Gva","maths_marks":71,"english_marks":75,"science_marks":56})
WriteResult({ "nInserted" : 1 })
>
db.studentmarks.insert({"name":"Raam","maths_marks":41,"english_marks":65,"science_marks":88})
WriteResult({ "nInserted" : 1 })
>

```

```

> db.studentmarks.insert({"name":"Vanu","maths_marks":80,"english_marks":75,"science_marks":85})
WriteResult({ "nInserted" : 1 })
> db.studentmarks.insert({"name":"Kala","maths_marks":32,"english_marks":46,"science_marks":53})
WriteResult({ "nInserted" : 1 })
> db.studentmarks.insert({"name":"Aruli","maths_marks":78,"english_marks":85,"science_marks":80})
WriteResult({ "nInserted" : 1 })
> db.studentmarks.insert({"name":"Shayu","maths_marks":80,"english_marks":76,"science_marks":65})
WriteResult({ "nInserted" : 1 })
> db.studentmarks.insert({"name":"Kumaran","maths_marks":32,"english_marks":73,"science_marks":84})
WriteResult({ "nInserted" : 1 })
> db.studentmarks.insert({"name":"Lucky","maths_marks":66,"english_marks":90,"science_marks":45})
WriteResult({ "nInserted" : 1 })
> db.studentmarks.insert({"name":"Gva","maths_marks":71,"english_marks":75,"science_marks":56})
WriteResult({ "nInserted" : 1 })
> db.studentmarks.insert({"name":"Raam","maths_marks":41,"english_marks":65,"science_marks":88})
WriteResult({ "nInserted" : 1 })
>

```

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 })

```

```

> db.studentmarks.update({"name":"Mala"},{$inc:{"maths_marks":6}})
WriteResult({ "nMatched" : 1, "nUpserted" : 0, "nModified" : 1 })
>

```

```

ukistu11@ukipc11: ~
ukistu11@ukipc11: ~
WriteResult({ "nMatched" : 1, "nUpserted" : 0, "nModified" : 1 })
> db.studentmarks.find().pretty()
{
  "_id" : ObjectId("5c3c5d95b92a404be2515a4e"),
  "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}},{"name":1,_id:0})
{ "name" : "Mala" }
{ "name" : "Vanu" }
{ "name" : "Aruli" }
{ "name" : "Shayu" }
{ "name" : "Lucky" }
{ "name" : "Gva" }

```

```

> db.studentmarks.find({"maths_marks":{$gt:50}},{"name":1,_id:0})
{ "name" : "Mala" }
{ "name" : "Vanu" }
{ "name" : "Aruli" }
{ "name" : "Shayu" }
{ "name" : "Lucky" }
{ "name" : "Gva" }
>

```

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

```
ukistu11@ukipc11: ~
ukistu11@ukipc11: ~
ukistu11@ukipc11: ~
{ "name" : "Gva" }
> db.studentmarks.update({},{$set: {"Average":"null"}},{multi: true});
WriteResult({ "nMatched" : 9, "nUpserted" : 0, "nModified" : 9 })
>
> db.studentmarks.find().pretty()
{
  "_id" : ObjectId("5c3c5d95b92a404be2515a4e"),
  "name" : "Mala",
  "maths_marks" : 51,
  "english_marks" : 53,
  "science_marks" : 72,
  "Average" : "null"
}
{
  "_id" : ObjectId("5c3c5e9fb92a404be2515a4f"),
  "name" : "Vanu",
  "maths_marks" : 80,
  "english_marks" : 75,
  "science_marks" : 85,
  "Average" : "null"
}
{
  "_id" : ObjectId("5c3c5f0bb92a404be2515a50"),
  "name" : "Kala",
  "maths_marks" : 32,
  "english_marks" : 46,
  "science_marks" : 53,
  "Average" : "null"
}
{
  "_id" : ObjectId("5c3c5f47b92a404be2515a51"),
  "name" : "Arull",
  "maths_marks" : 78,
  "english_marks" : 85,
  "science_marks" : 80,
  "Average" : "null"
}
```

```
ukistu11@ukipc11: ~
ukistu11@ukipc11: ~
ukistu11@ukipc11: ~
"maths_marks" : 78,
"english_marks" : 85,
"science_marks" : 80,
"Average" : "null"
}
{
  "_id" : ObjectId("5c3c5f96b92a404be2515a52"),
  "name" : "Shayu",
  "maths_marks" : 80,
  "english_marks" : 76,
  "science_marks" : 65,
  "Average" : "null"
}
{
  "_id" : ObjectId("5c3c5fd7b92a404be2515a53"),
  "name" : "Kumaran",
  "maths_marks" : 32,
  "english_marks" : 73,
  "science_marks" : 84,
  "Average" : "null"
}
{
  "_id" : ObjectId("5c3c600b92a404be2515a54"),
  "name" : "Lucky",
  "maths_marks" : 66,
  "english_marks" : 90,
  "science_marks" : 45,
  "Average" : "null"
}
{
  "_id" : ObjectId("5c3c602bb92a404be2515a55"),
  "name" : "Gva",
  "maths_marks" : 71,
  "english_marks" : 75,
  "science_marks" : 56,
  "Average" : "null"
}
{
  "_id" : ObjectId("5c3c6067b92a404be2515a56"),
  "name" : "Gva",
  "maths_marks" : 71,
  "english_marks" : 75,
  "science_marks" : 56,
  "Average" : "null"
}
```

7) Update Marks_Science=75 to Lucky .

```
db.studentmarks.update({"name":"Lucky"},{$set:{"science_marks":75}})
WriteResult({ "nMatched" : 1, "nUpserted" : 0, "nModified" : 1 })
>
```

```
ukistu11@ukipc11: ~
ukistu11@ukipc11: ~
}
> db.studentmarks.update({"name":"Lucky"},{$set:{"science_marks":75}})
WriteResult({ "nMatched" : 1, "nUpserted" : 0, "nModified" : 1 })
> db.studentmarks.find().pretty()
{
  "_id" : ObjectId("5c3c6000b92a404be2515a54"),
  "name" : "Lucky",
  "maths_marks" : 66,
  "english_marks" : 90,
  "science_marks" : 75,
  "Average" : "null"
}
```

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

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

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

```
> db.studentmarks.find({$and: [{"english_marks": {$gt:50}}, {"maths_marks": {$lt: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({$or: [{"maths_marks": {$lt:40}}, {"science_marks":  
{$lt:40}}]}, {"name":1, _id:0})  
{ "name" : "Kala" }  
{ "name" : "Kumaran" }
```

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

11) Remove Science column/field for Raam

```
db.studentmarks.update({"name":"Raam"}, {$unset: {"science_marks":88}})  
WriteResult({ "nMatched" : 1, "nUpserted" : 0, "nModified" : 1 })
```

```
> db.studentmarks.update({"name":"Raam"}, {$unset: {"science_marks":88}})  
WriteResult({ "nMatched" : 1, "nUpserted" : 0, "nModified" : 1 })  
>
```

```
{  
  "_id" : ObjectId("5c3c6067b92a404be2515a56"),  
  "name" : "Raam",  
  "maths_marks" : 41,  
  "english_marks" : 65,  
  "Average" : "null"  
}
```

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

```
db.studentmarks.update({ name: "John" }, {"name":"John", "maths_marks": 87,  
"english_marks": 23}, { upsert: true })  
WriteResult({  
  "nMatched" : 0,  
  "nUpserted" : 1,  
  "nModified" : 0,
```



```
"_id" : ObjectId("5c3eea9fd07457c37012814b")
```

```
}  
> db.studentmarks.update({ name: "John" }, {"name":"John", "maths_marks": 87, "english_marks": 23}, { upsert: true })  
WriteResult({  
  "nMatched" : 0,  
  "nUpserted" : 1,  
  "nModified" : 0,  
  "_id" : ObjectId("5c3eea9fd07457c37012814b")  
})  
>
```

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

```
db.studentmarks.update({"_id" :  
ObjectId("5c3eea9fd07457c37012814b")},{ $rename:{"english_marks":"science_marks"}})  
WriteResult({ "nMatched" : 1, "nUpserted" : 0, "nModified" : 1 })
```

```
}  
> db.studentmarks.update({"_id" : ObjectId("5c3eea9fd07457c37012814b")},{ $rename:{"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 })
```

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

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

```
db.studentmarks.find({"name":"Kala"},{"maths_marks":1,"science_marks":1,_id:0})  
{ "maths_marks" : 32, "science_marks" : 53 }  
> db.studentmarks.find({"name":"Aruli"},{"maths_marks":1,"science_marks":1,_id:0})  
{ "maths_marks" : 78, "science_marks" : 80 }
```

```
> db.studentmarks.find({"name":"Kala"},{"maths_marks":1,"science_marks":1,_id:0})  
{ "maths_marks" : 32, "science_marks" : 53 }  
> db.studentmarks.find({"name":"Aruli"},{"maths_marks":1,"science_marks":1,_id:0})  
{ "maths_marks" : 78, "science_marks" : 80 }  
>
```

