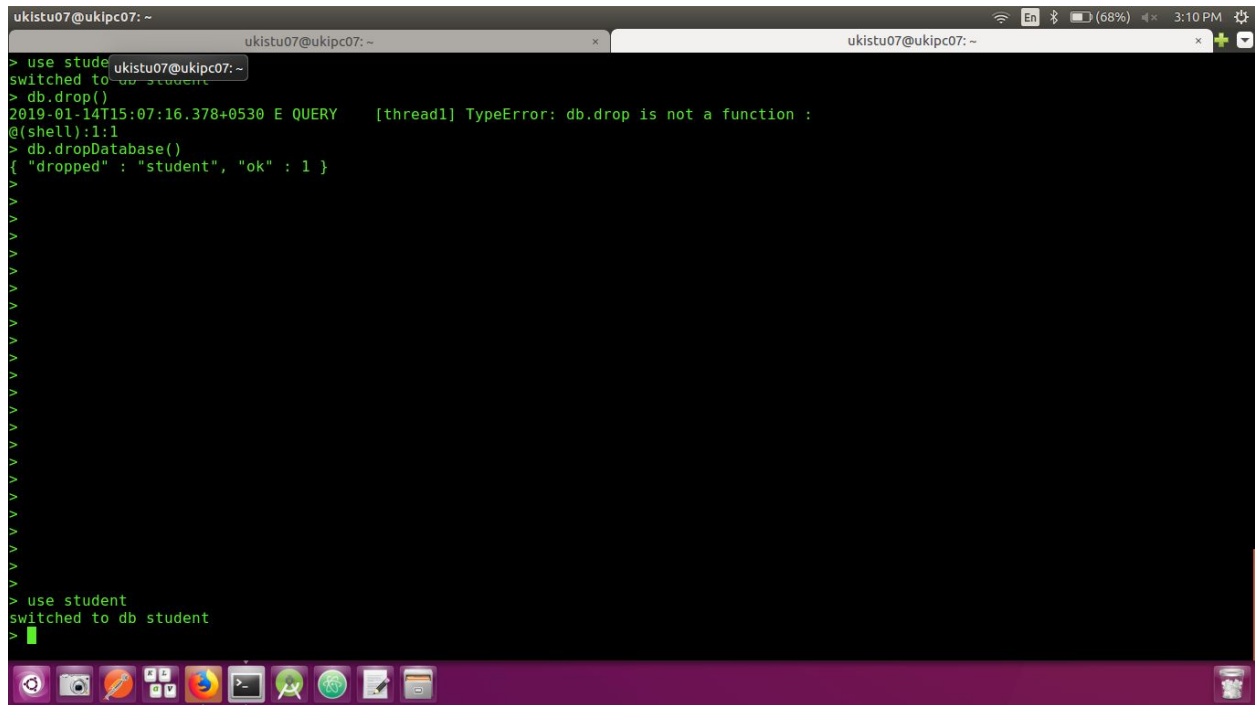


MongoDB Exercise 2

1) Create a Database called student

> use student

A screenshot of a terminal window on a Linux system. The terminal shows the following commands and output:

```
> use student
switched to db student
> db.drop()
2019-01-14T15:07:16.378+0530 E QUERY    [thread1] TypeError: db.drop is not a function :
@(_shell):1:1
> db.dropDatabase()
{ "dropped" : "student", "ok" : 1 }
```

The terminal window has a title bar with the text "ukistu07@ukipc07: ~". The background is black, and the text is green. The terminal is open on a desktop environment with a purple taskbar at the bottom containing various application icons.

2) Create a collection called studentmarks

> db.createCollection("studentmarks")

>

```
db.studentmarks.insert({"name":"Aruli","maths_marks":78,"  
english_marks":85,"science_marks":80})
```

```
WriteResult({ "nInserted" : 1 })
```

>

```
db.studentmarks.insert({"name":"Shayu","maths_marks":8  
0,"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 })
```

>

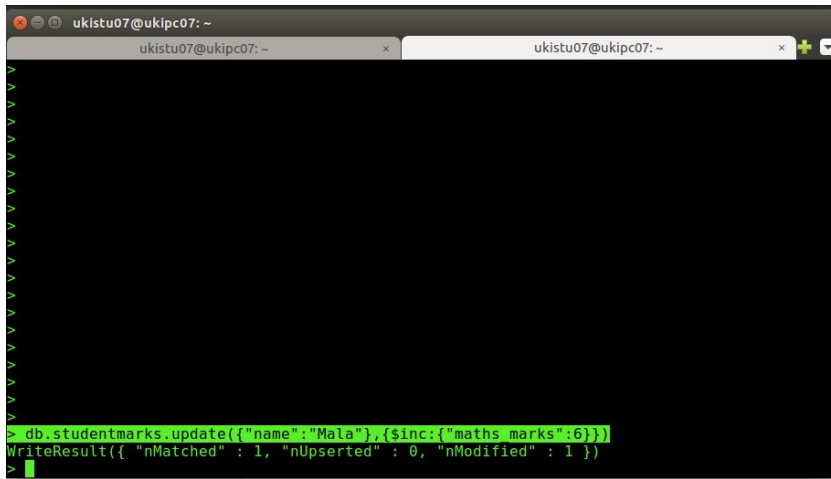
```
db.studentmarks.insert({"name":"Raam","maths_marks":4  
1,"english_marks":65,"science_marks":88})
```

```
WriteResult({ "nInserted" : 1 })
```

>

>

```
db.studentmarks.update({"name":"Mala"},{$inc:{"maths_marks":6}})
```

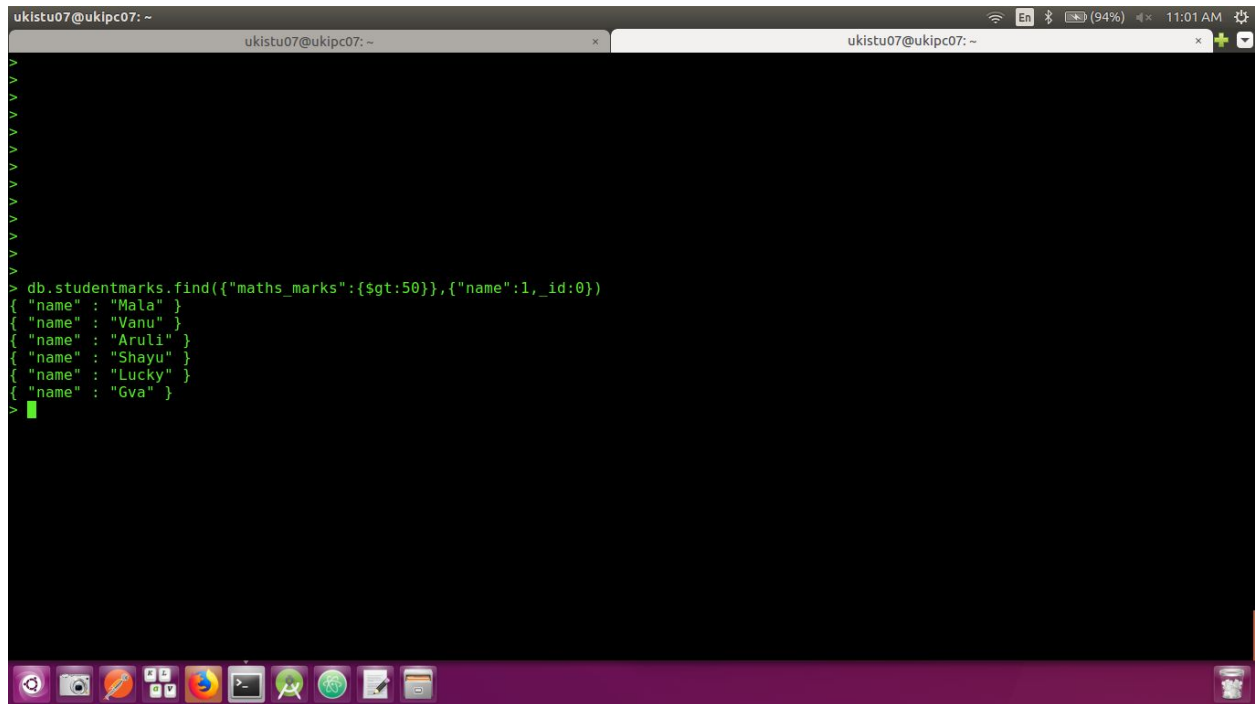
A screenshot of a terminal window with a dark background. The window title is 'ukistu07@ukipc07: ~'. The terminal shows a MongoDB update command being executed: `> db.studentmarks.update({"name":"Mala"},{$inc:{"maths_marks":6}})`. Below the command, the result is displayed: `WriteResult({ "nMatched" : 1, "nUpserted" : 0, "nModified" : 1 })`. The prompt `>` is visible at the bottom left of the terminal area.

```
ukistu07@ukipc07: ~  
> 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}},{"name":1,  
_id:0})
```



The screenshot shows a terminal window with a dark background. At the top, there are two browser tabs, both labeled 'ukistu07@ukipc07: ~'. The terminal displays a MongoDB query and its output. The query is `db.studentmarks.find({"maths_marks":{"$gt:50"}},{"name":1,_id:0})`. The output is a JSON array of six objects, each representing a student's record with their name and math marks. The students are Mala, Vanu, Aruli, Shayu, Lucky, and Gva. The terminal has a green cursor at the bottom left. The bottom of the screen shows a Linux desktop environment with a purple taskbar containing various application icons.

```
ukistu07@ukipc07: ~  
ukistu07@ukipc07: ~  
ukistu07@ukipc07: ~  
> 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.

>

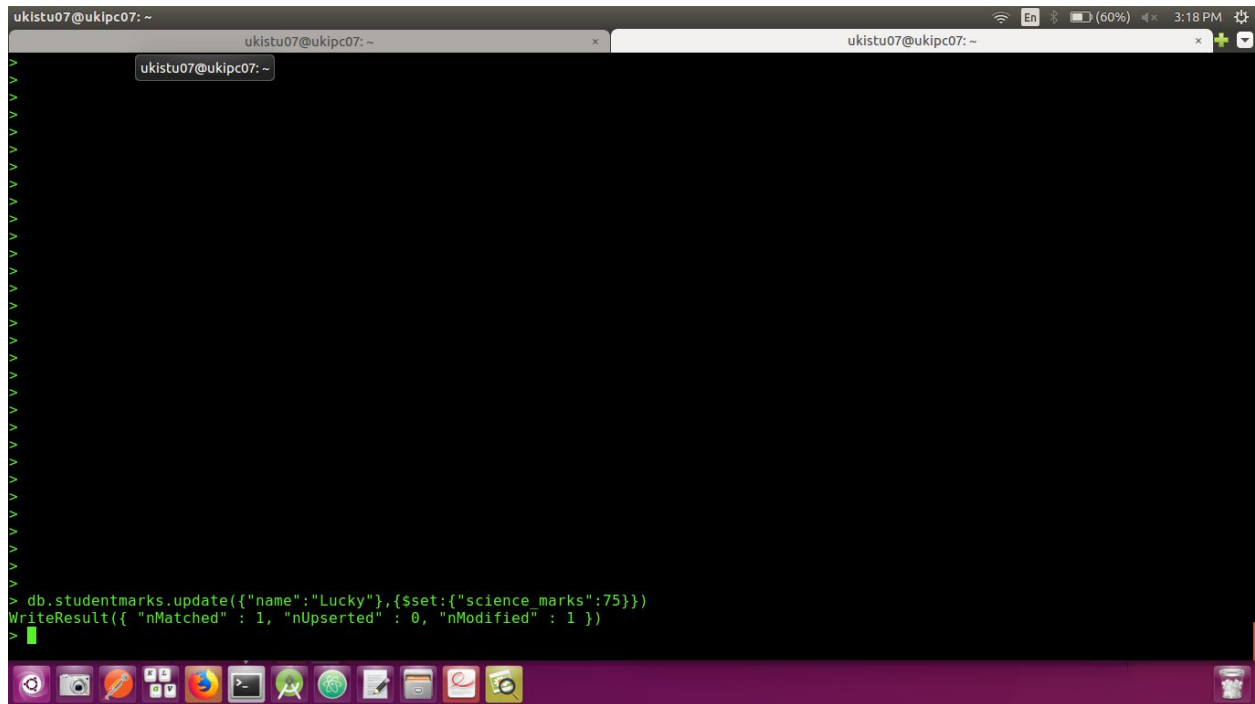
```
db.studentmarks.aggregate({$addFields:{"Average":""}}).pretty()
```

```
ukistu07@ukipc07: ~  
@ (shell):1:1  
> db.studentmarks.aggregate({$addFields:{"Average":""}}).pretty()  
{  
  "id" : ObjectId("5c3c63bca351c036173eeda6"),  
  "name" : "Mala",  
  "maths_marks" : 51,  
  "english_marks" : 45,  
  "science_marks" : 72,  
  "Average" : ""  
}  
{  
  "id" : ObjectId("5c3c649aa351c036173eedaa"),  
  "name" : "Shayu",  
  "maths_marks" : 45,  
  "english_marks" : 45,  
  "science_marks" : 72,  
  "Average" : ""  
}  
{  
  "id" : ObjectId("5c3ebf69ce94780904ef2d6d"),  
  "name" : "Mala",  
  "maths_marks" : 45,  
  "english_marks" : 53,  
  "science_marks" : 72,  
  "Average" : ""  
}  
{  
  "id" : ObjectId("5c3ebf6fce94780904ef2d6e"),  
  "name" : "Vanu",  
  "maths_marks" : 80,  
  "english_marks" : 75,  
  "science_marks" : 85,  
  "Average" : ""  
}
```

7) Update Marks_Science=75 to Lucky .

>

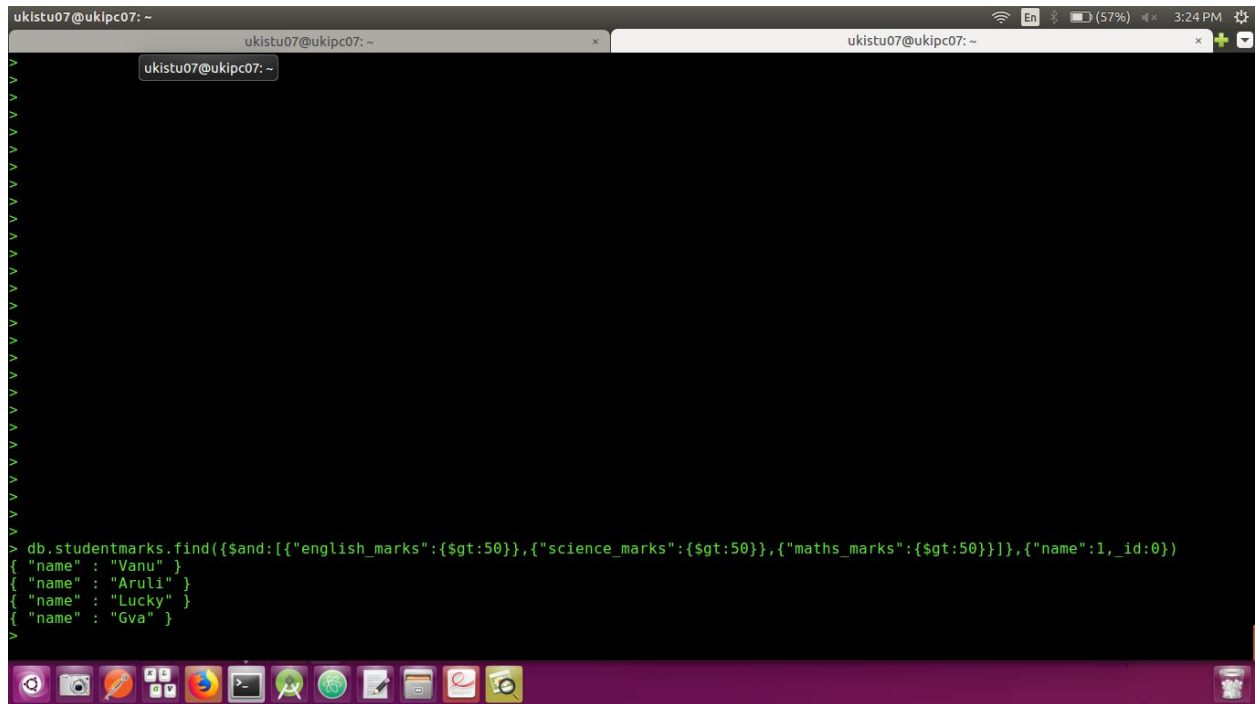
```
db.studentmarks.update({"name":"Lucky"},{$set:{"science_
marks":75}})
```



```
ukistu07@ukipc07: ~  
ukistu07@ukipc07: ~  
ukistu07@ukipc07: ~  
  
> 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.

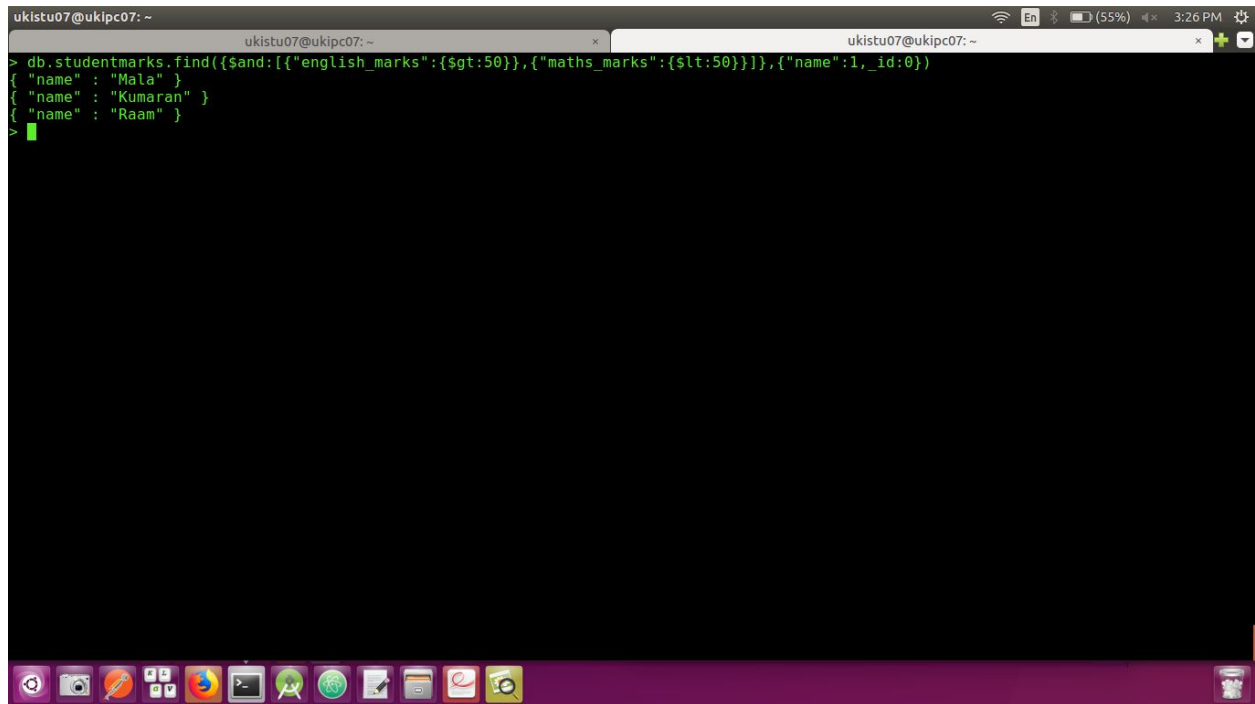
```
db.studentmarks.find({$and:[{"english_marks":{$gt:50}},{"science_marks":{$gt:50}},{"maths_marks":{$gt:50}}]},{"name":1,_id:0})
```

```
ukistu07@ukipc07: ~  
ukistu07@ukipc07: ~  
ukistu07@ukipc07: ~  
> db.studentmarks.find({'$and':{'english_marks':{'$gt:50}},{'science_marks':{'$gt:50}},{'maths_marks':{'$gt:50'}}},{'name':1,_id:0})  
{ "name" : "Vanu" }  
{ "name" : "Aruli" }  
{ "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})
```



The screenshot shows a terminal window with a dark background. At the top, there are three tabs, all labeled 'ukistu07@ukipc07: ~'. The active tab shows a MongoDB query: `db.studentmarks.find({'$and':[{"english_marks":{"$gt:50}}, {"maths_marks":{"$lt:50"}}]}, {"name":1, _id:0})`. Below the query, the results are displayed as JSON objects: `{ "name" : "Mala" }`, `{ "name" : "Kumaran" }`, and `{ "name" : "Raam" }`. The terminal has a green cursor on the line following the last result. The top status bar shows 'En', a battery icon at 55%, and the time '3:26 PM'. The bottom dock contains various application icons.

```
ukistu07@ukipc07: ~
ukistu07@ukipc07: ~
ukistu07@ukipc07: ~
> db.studentmarks.find({'$and':[{"english_marks":{"$gt:50}}, {"maths_marks":{"$lt:50"}}]}, {"name":1, _id:0})
{ "name" : "Mala" }
{ "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})
```

```
ukistu07@ukipc07: ~  
ukistu07@ukipc07: ~  
ukistu07@ukipc07: ~  
  
> db.studentmarks.find({$or:[{"maths_marks":{"<:40"}}, {"science_marks":{"<:40"}}], {"name":1, id:0})  
2019-01-16T15:27:20.839+0530 E QUERY [thread1] SyntaxError: illegal character @(shell):1:28  
> db.studentmarks.find({$or:[{"maths_marks":{"<:40"}}, {"science_marks":{"<:40"}}], {"name":1, id:0})  
2019-01-16T15:28:38.390+0530 E QUERY [thread1] SyntaxError: illegal character @(shell):1:28  
> db.studentmarks.find({$or:[{"maths_marks":{"<:40"}}, {"science_marks":{"<:40"}}], {"name":1, id:0})  
2019-01-16T15:29:10.356+0530 E QUERY [thread1] SyntaxError: illegal character @(shell):1:28  
> db.studentmarks.find({$or:[{"maths_marks":{"<:40"}}, {"science_marks":{"<:40"}}], {"name":1, id:0})  
{ "name" : "Kala" }  
{ "name" : "Kumaran" }  
>
```

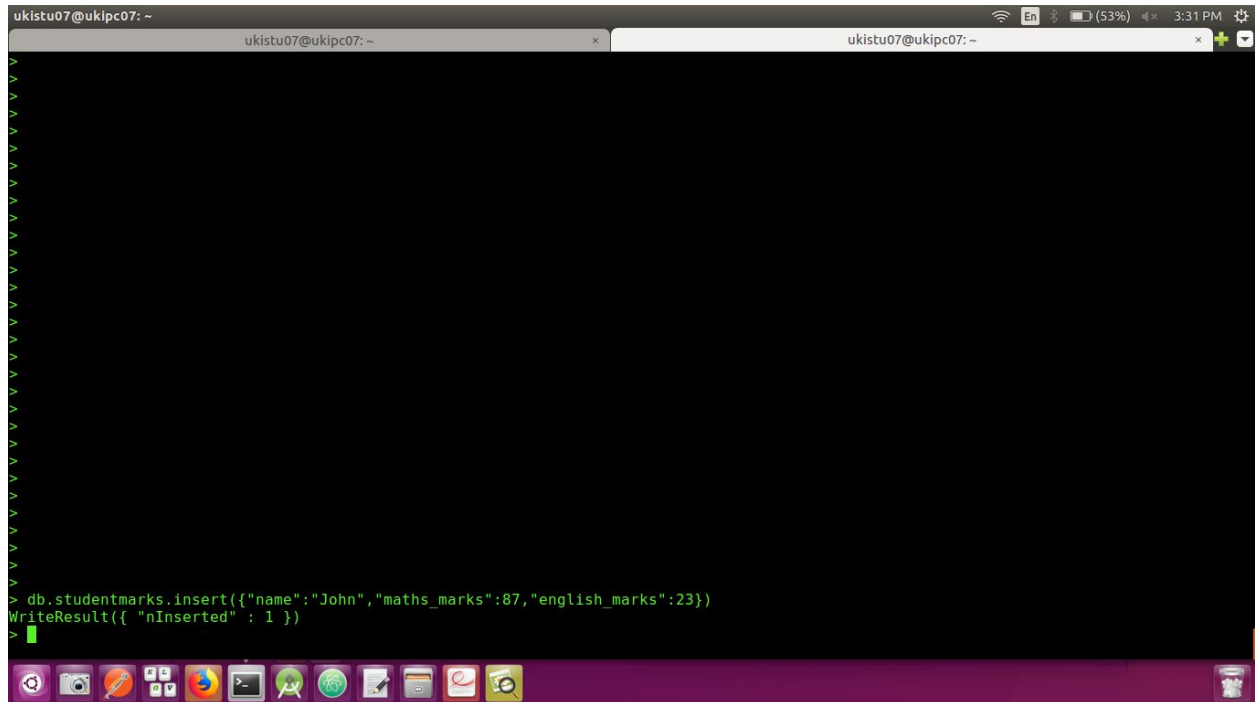
11) Remove Science column/field for Raam

```
db.studentmarks.update({"name":"Raam"},{$unset:{"science_marks":88}})
```

```
ukistu07@ukipc07: ~  
ukistu07@ukipc07: ~  
ukistu07@ukipc07: ~  
  
> db.studentmarks.insert({"name":"John", "maths_marks":87, "english_marks":23})  
WriteResult({ "nInserted" : 1 })  
>
```

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

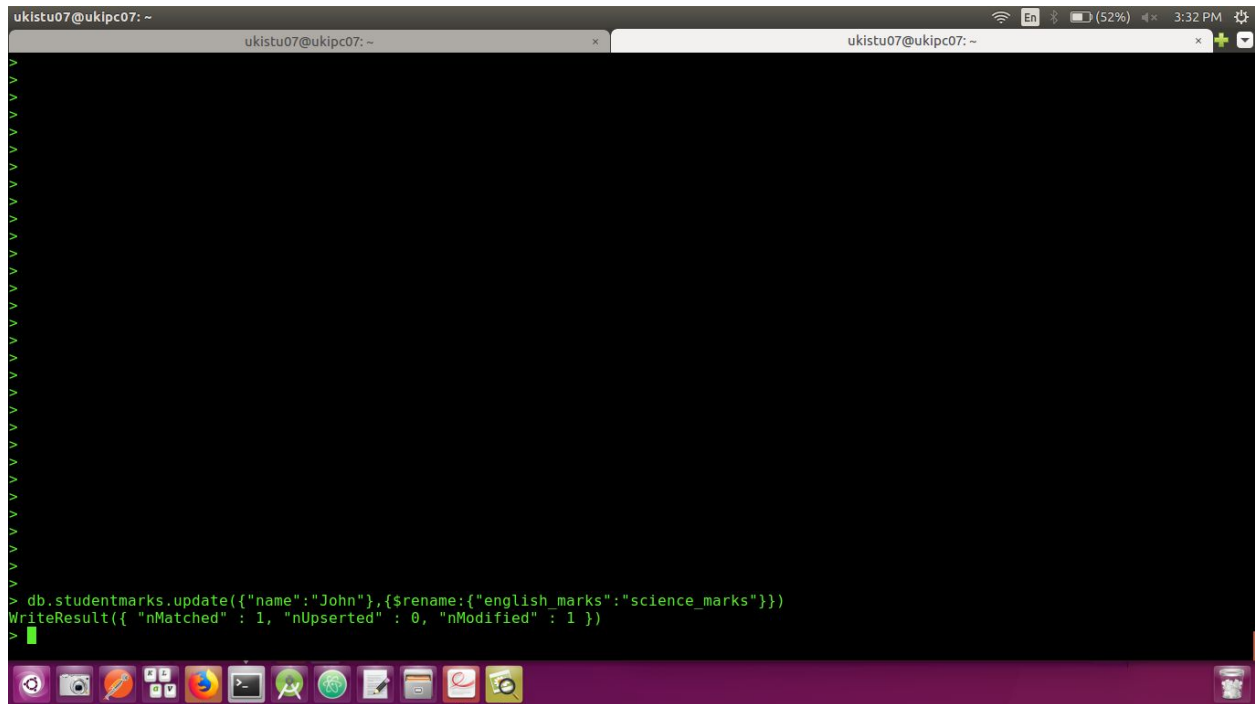
```
db.studentmarks.insert({"name":"John","maths_marks":87,"english_marks":23})
```

A screenshot of a terminal window on a Linux system. The terminal has a dark background with green text. The prompt is 'ukistu07@ukipc07: ~'. The command entered is 'db.studentmarks.insert({"name":"John","maths_marks":87,"english_marks":23})'. The output is 'WriteResult({ "nInserted" : 1 })'. The terminal window is part of a desktop environment with a taskbar at the bottom showing various application icons. The system status bar at the top right shows the time as 3:31 PM and battery level at 53%.

```
ukistu07@ukipc07: ~  
> db.studentmarks.insert({"name":"John","maths_marks":87,"english_marks":23})  
WriteResult({ "nInserted" : 1 })  
>
```

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

```
db.studentmarks.update({"name":"John"},{$rename:{"english_marks":"science_marks"}})
```

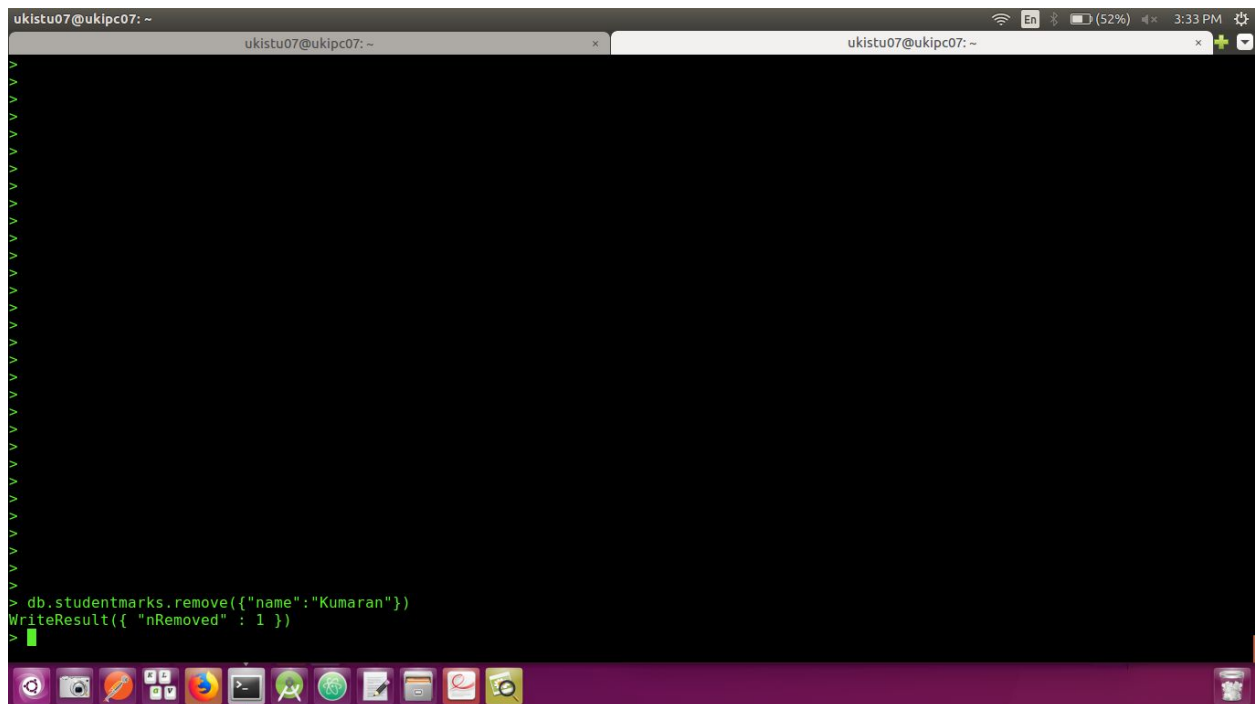


A terminal window with a dark background and green text. The prompt is 'ukistu07@ukipc07: ~'. The command entered is 'db.studentmarks.update({"name":"John"},{\$rename:{"english_marks":"science_marks"}})'. The output is 'WriteResult({ "nMatched" : 1, "nUpserted" : 0, "nModified" : 1 })'. The terminal has a taskbar at the bottom with various application icons.

```
ukistu07@ukipc07: ~  
> db.studentmarks.update({"name":"John"},{$rename:{"english_marks":"science_marks"}})  
WriteResult({ "nMatched" : 1, "nUpserted" : 0, "nModified" : 1 })  
>
```

14) Remove Kumaran's document from collection

`db.studentmarks.remove({"name":"Kumaran"})`

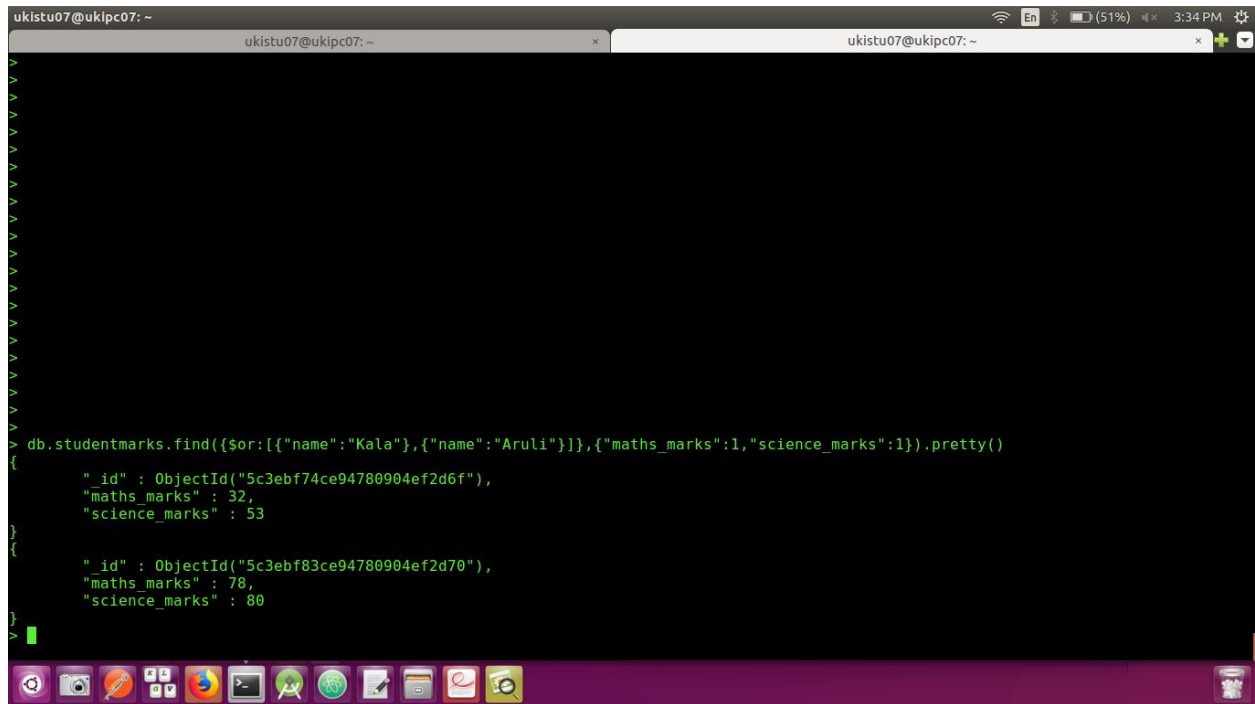


A terminal window with a dark background and green text. The prompt is 'ukistu07@ukipc07: ~'. The command entered is 'db.studentmarks.remove({"name":"Kumaran"})'. The output is 'WriteResult({ "nRemoved" : 1 })'. The terminal has a taskbar at the bottom with various application icons.

```
ukistu07@ukipc07: ~  
> 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":"Kala"}, {"name":"Aruli"}]}, {"maths_marks":1, "science_marks":1}).pretty()
```



```
ukistu07@ukipc07: ~  
ukistu07@ukipc07: ~  
> db.studentmarks.find({$or:[{"name":"Kala"}, {"name":"Aruli"}]}, {"maths_marks":1, "science_marks":1}).pretty()  
{  
  "id" : ObjectId("5c3ebf74ce94780904ef2d6f"),  
  "maths_marks" : 32,  
  "science_marks" : 53  
}  
{  
  "id" : ObjectId("5c3ebf83ce94780904ef2d70"),  
  "maths_marks" : 78,  
  "science_marks" : 80  
}
```