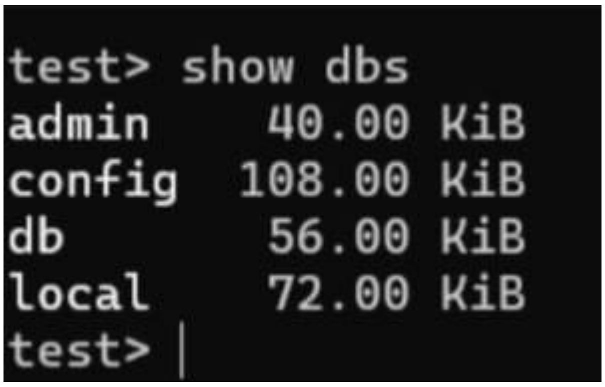
Add,Update & Delete Data:

1.To view all the data base using command

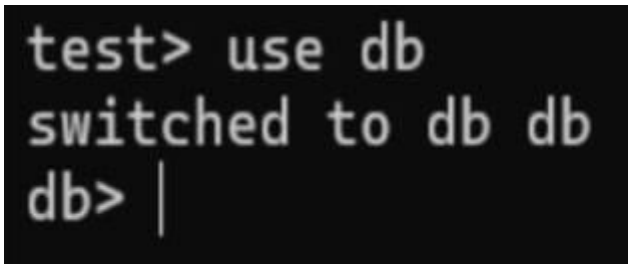
"Show dbs"



```
test> show dbs
admin     40.00 KiB
config   108.00 KiB
db        56.00 KiB
local     72.00 KiB
test> |
```

2.To create new database use command

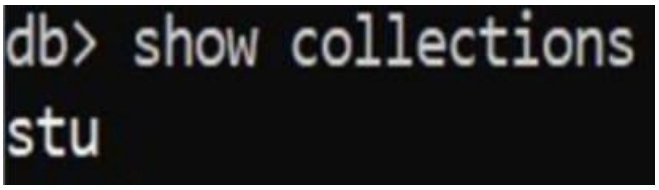
"Use db"



```
test> use db
switched to db db
db> |
```

3.To find the data in the collection,use command

"Show collection"



```
db> show collections
stu
```

4.To create stud collections:

db.create collection("stu")

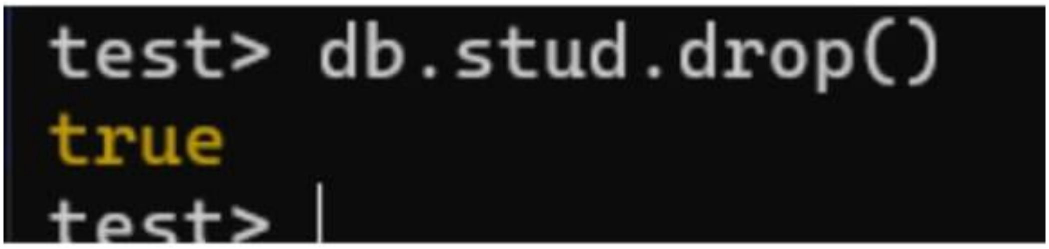
collection name is stu here

5.To insert a file to the collection:

db.stu.insert({name:"alice"})

6.To drop the stud collection:

db.stud.drop()



```
test> db.stud.drop()
true
test> |
```

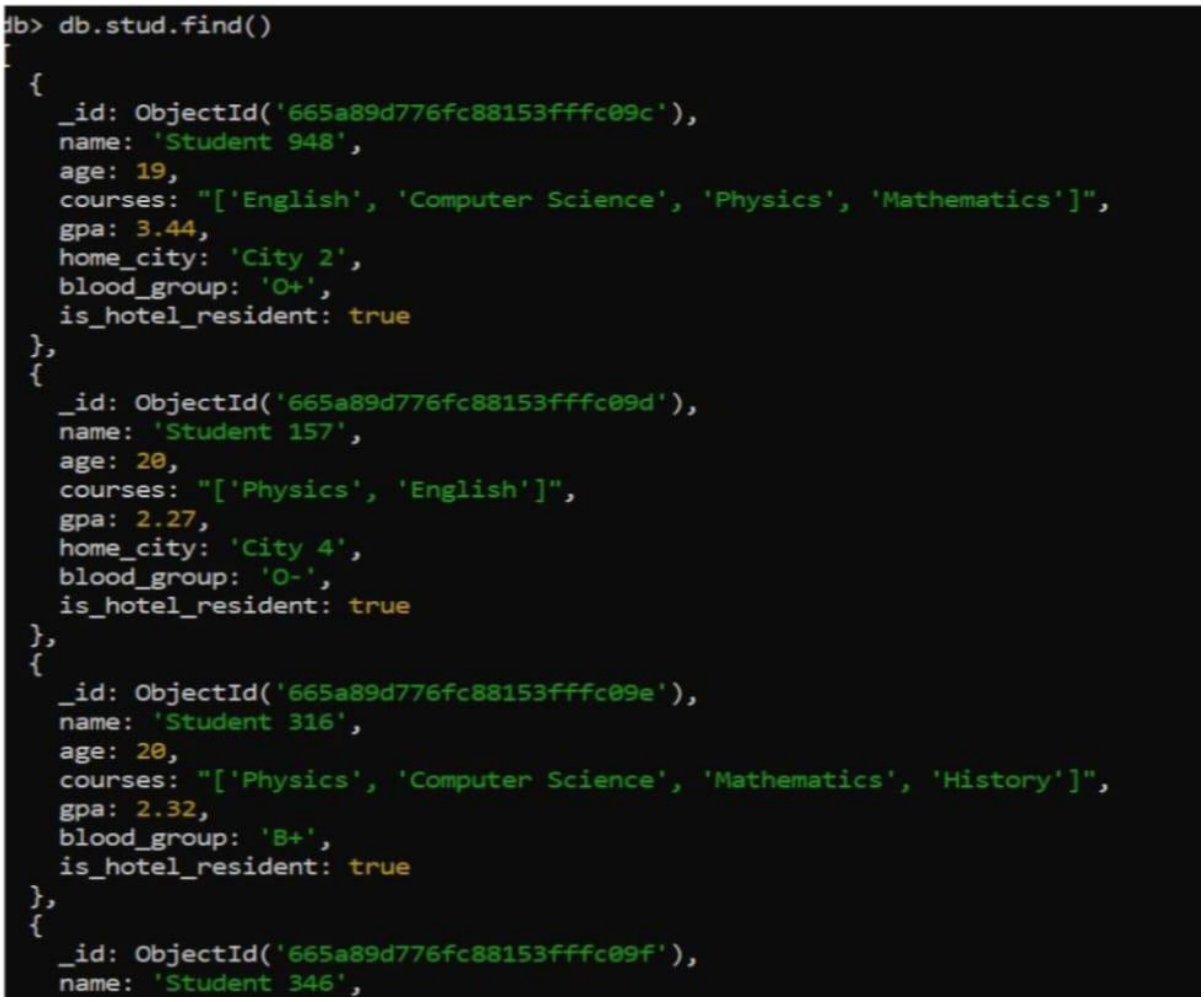
7.To find the total number of collection:

"db> db.stud.find().count()"

Total collections of students will be displayed in the database.

8.To find the data from the collection:

db.stud.find()



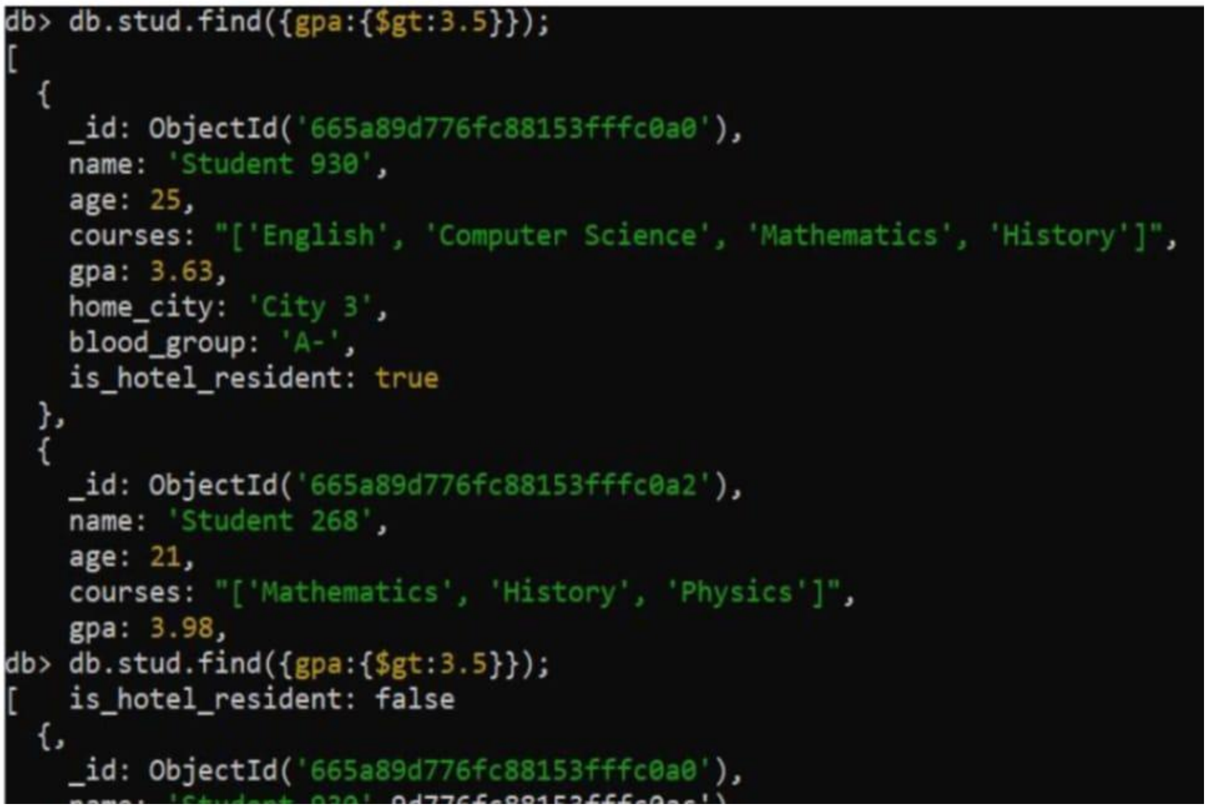
```
db> db.stud.find()
[
  {
    _id: ObjectId('665a89d776fc88153fffc09c'),
    name: 'Student 948',
    age: 19,
    courses: "['English', 'Computer Science', 'Physics', 'Mathematics']",
    gpa: 3.44,
    home_city: 'City 2',
    blood_group: 'O+',
    is_hotel_resident: true
  },
  {
    _id: ObjectId('665a89d776fc88153fffc09d'),
    name: 'Student 157',
    age: 20,
    courses: "['Physics', 'English']",
    gpa: 2.27,
    home_city: 'City 4',
    blood_group: 'O-',
    is_hotel_resident: true
  },
  {
    _id: ObjectId('665a89d776fc88153fffc09e'),
    name: 'Student 316',
    age: 20,
    courses: "['Physics', 'Computer Science', 'Mathematics', 'History']",
    gpa: 2.32,
    blood_group: 'B+',
    is_hotel_resident: true
  },
  {
    _id: ObjectId('665a89d776fc88153fffc09f'),
    name: 'Student 346',
```

WHERE, AND, OR & CRUD:

WHERE-

The `$where` operator in MongoDB allows you to filter documents based on a JavaScript expression or function. It offers more flexibility for complex queries but comes with some drawbacks.

Given a collection you want to filter a subset based on condition that is the place "WHERE" is used.

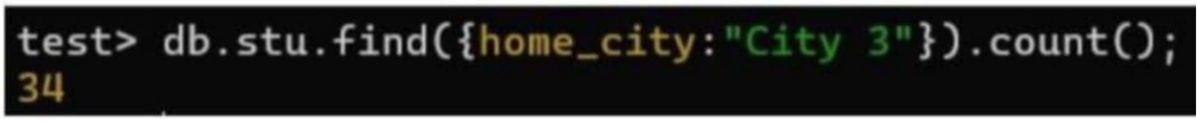


```
db> db.stud.find({gpa:{$gt:3.5}});
[
  {
    _id: ObjectId('665a89d776fc88153fffc0a0'),
    name: 'Student 930',
    age: 25,
    courses: "['English', 'Computer Science', 'Mathematics', 'History']",
    gpa: 3.63,
    home_city: 'City 3',
    blood_group: 'A-',
    is_hotel_resident: true
  },
  {
    _id: ObjectId('665a89d776fc88153fffc0a2'),
    name: 'Student 268',
    age: 21,
    courses: "['Mathematics', 'History', 'Physics']",
    gpa: 3.98,
db> db.stud.find({gpa:{$gt:3.5}});
[   is_hotel_resident: false
  {,
    _id: ObjectId('665a89d776fc88153fffc0a0'),
```

To find the students based on gpa more than 3.5 with query

db.stud.find({gpa:{$gt:3.5}});

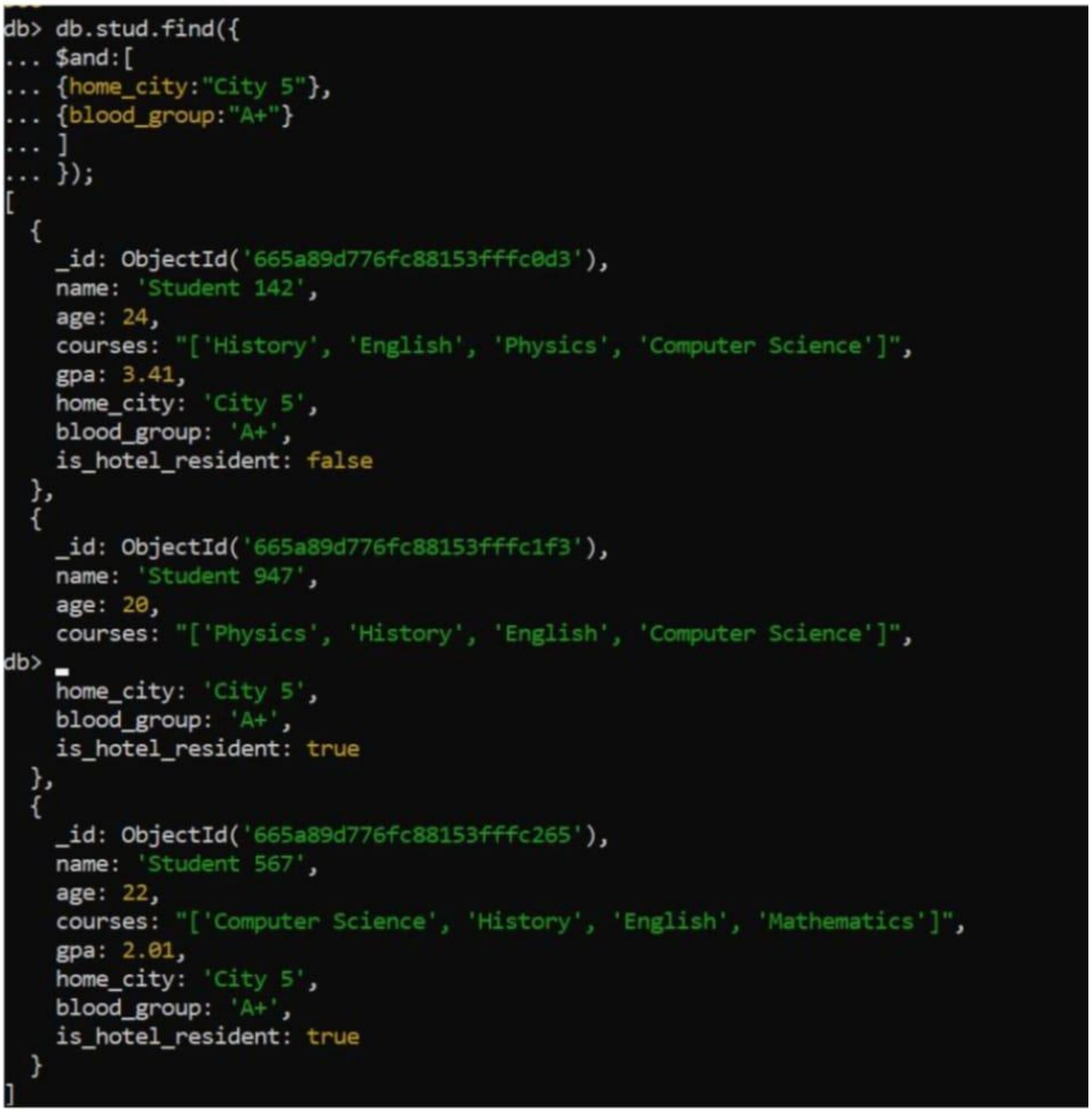
or



```
test> db.stu.find({home_city:"City 3"}).count();
34
```

AND-

Given a collection you want to filter a subset based on multiple condition. That is the place AND is used.



```
db> db.stud.find({
... $and:[
... {home_city:"City 5"},
... {blood_group:"A+"}
... ]
... });
[
  {
    _id: ObjectId('665a89d776fc88153fffc0d3'),
    name: 'Student 142',
    age: 24,
    courses: "['History', 'English', 'Physics', 'Computer Science']",
    gpa: 3.41,
    home_city: 'City 5',
    blood_group: 'A+',
    is_hotel_resident: false
  },
  {
    _id: ObjectId('665a89d776fc88153fffc1f3'),
    name: 'Student 947',
    age: 20,
    courses: "['Physics', 'History', 'English', 'Computer Science']",
db> _
    home_city: 'City 5',
    blood_group: 'A+',
    is_hotel_resident: true
  },
  {
    _id: ObjectId('665a89d776fc88153fffc265'),
    name: 'Student 567',
    age: 22,
    courses: "['Computer Science', 'History', 'English', 'Mathematics']",
    gpa: 2.01,
    home_city: 'City 5',
    blood_group: 'A+',
    is_hotel_resident: true
  }
]
```

db.students.find({

$and:[

(home_city:"city b")

{blood group: "A+")

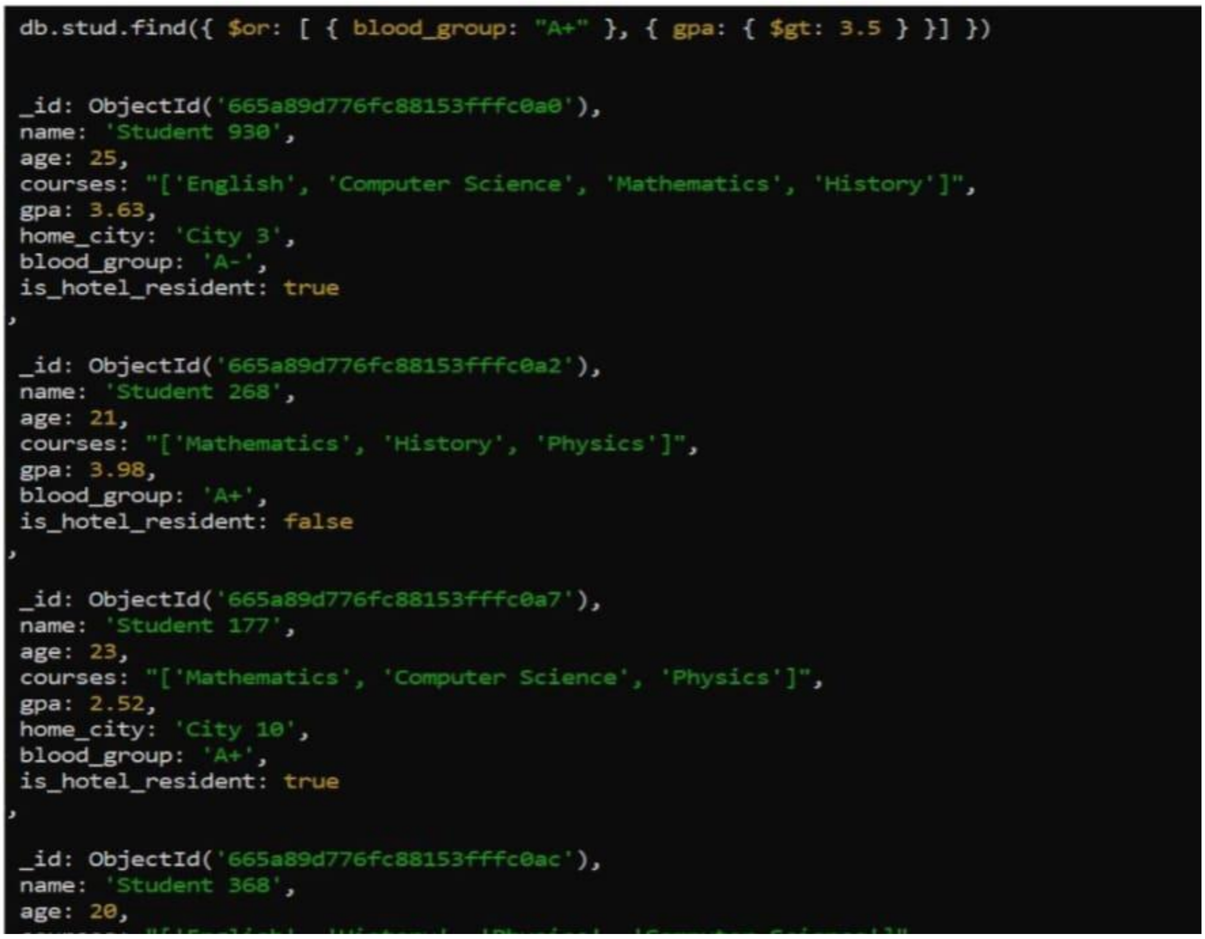
]

});

OR-

The `$or` operator in MongoDB performs a logical OR operation on an array of expressions within a query. It retrieves documents that satisfy at least one of the conditions specified in the `$or` array.

Given a collection you want to filter a subset based on multiple conditions but any one is sufficient.



```
db.stud.find({ $or: [ { blood_group: "A+" }, { gpa: { $gt: 3.5 } }] })


 _id: ObjectId('665a89d776fc88153fffc0a0'),
 name: 'Student 930',
 age: 25,
 courses: "['English', 'Computer Science', 'Mathematics', 'History']",
 gpa: 3.63,
 home_city: 'City 3',
 blood_group: 'A-',
 is_hotel_resident: true
,

 _id: ObjectId('665a89d776fc88153fffc0a2'),
 name: 'Student 268',
 age: 21,
 courses: "['Mathematics', 'History', 'Physics']",
 gpa: 3.98,
 blood_group: 'A+',
 is_hotel_resident: false
,

 _id: ObjectId('665a89d776fc88153fffc0a7'),
 name: 'Student 177',
 age: 23,
 courses: "['Mathematics', 'Computer Science', 'Physics']",
 gpa: 2.52,
 home_city: 'City 10',
 blood_group: 'A+',
 is_hotel_resident: true
,

 _id: ObjectId('665a89d776fc88153fffc0ac'),
 name: 'Student 368',
 age: 20,
```

Above example is to find students belongs to "city 5" AND blood group "A+"

CRUD-

- C - Create / Insert
- R - Remove
- U - update
- D – Delete

Create/Insert:

The insert function in MongoDB is used to add documents to a collection. In the context of MongoDB ,a document is a set of key-value pairs ,and a collection is a group of documents.

Const studentsData={

“name”:“Alice Smith”,

“age”:12,,

“coueses”:[“Mathematics”,“computer science”,“ English”],

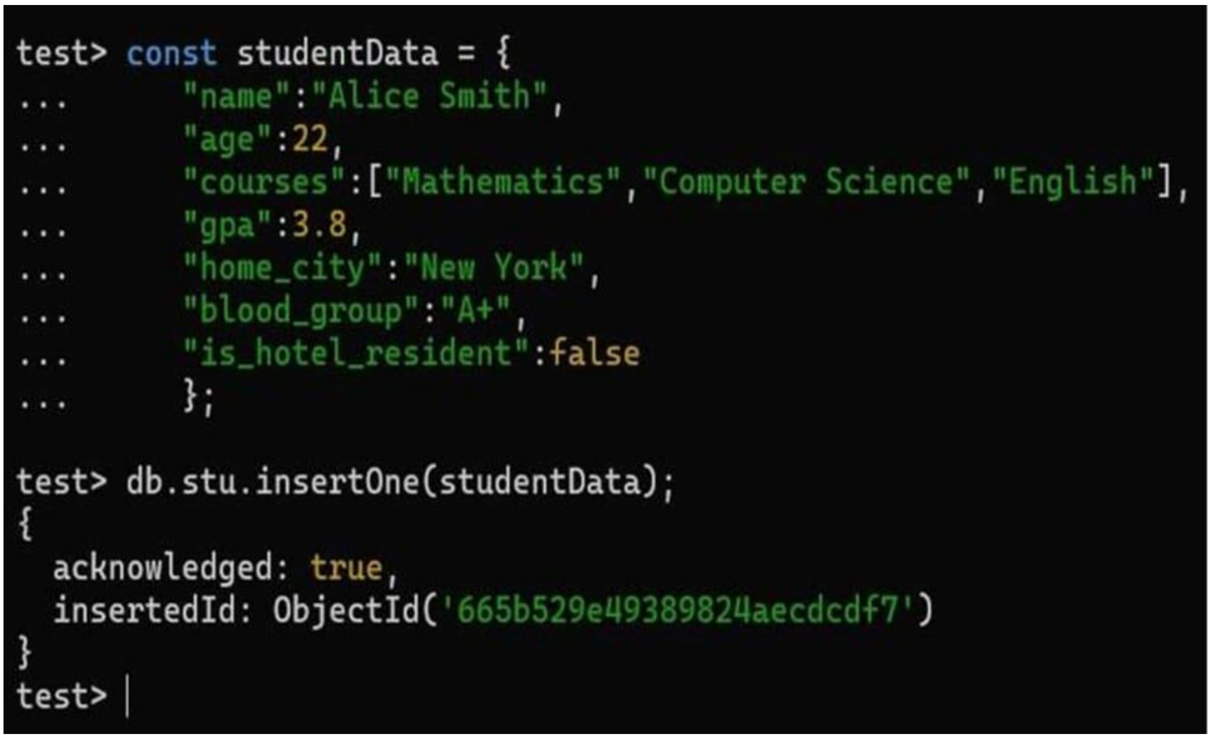
“gpa”:3.5

“home_city”:“New York”,

“blood_group”:“A+”,

“is_hotel_resident”:false

};

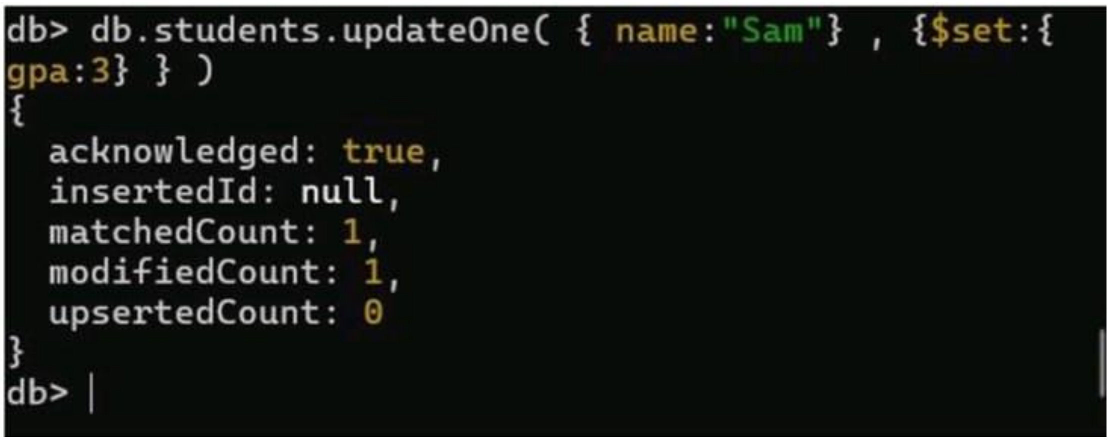


```
test> const studentData = {
...       "name":"Alice Smith",
...       "age":22,
...       "courses":["Mathematics","Computer Science","English"],
...       "gpa":3.8,
...       "home_city":"New York",
...       "blood_group":"A+",
...       "is_hotel_resident":false
...       };

test> db.stu.insertOne(studentData);
{
  acknowledged: true,
  insertedId: ObjectId('665b529e49389824aecdcdf7')
}
test> |
```

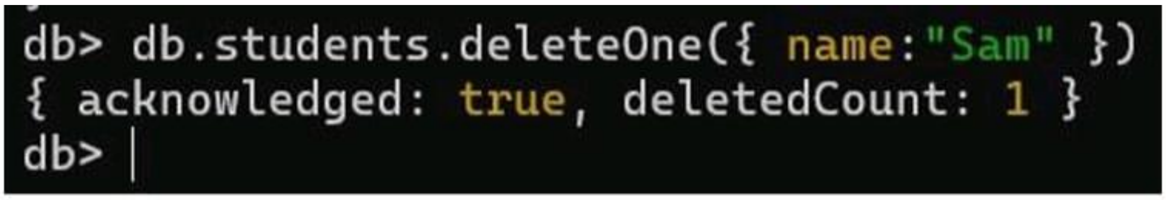
UPDATE:

db.students.updateOne({ name: “Sam”} , {$set: {gpa:3.5} })



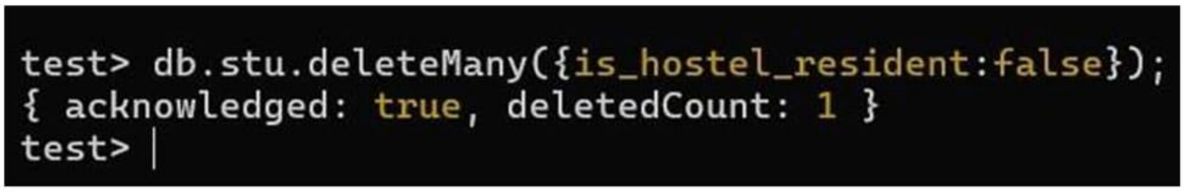
```
db> db.students.updateOne( { name:"Sam"} , {$set:{
gpa:3} } )
{
  acknowledged: true,
  insertedId: null,
  matchedCount: 1,
  modifiedCount: 1,
  upsertedCount: 0
}
db> |
```

DELETE:



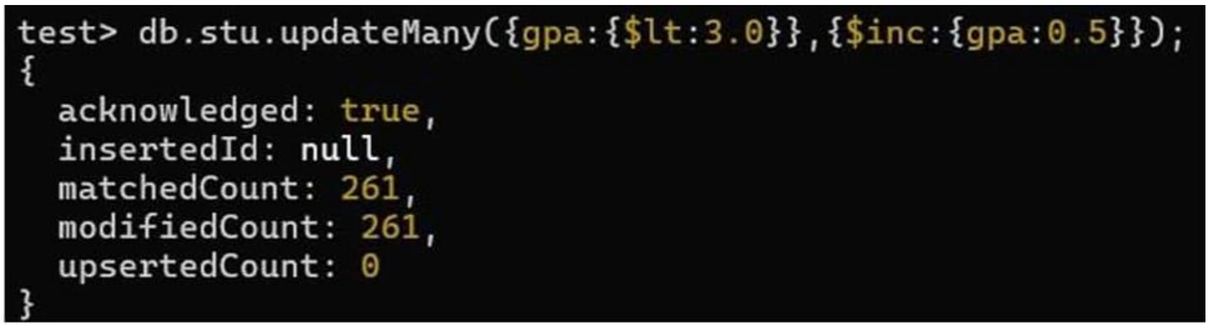
```
db> db.students.deleteOne({ name:"Sam" })
{ acknowledged: true, deletedCount: 1 }
db> |
```

DELETE MANY:



```
test> db.stu.deleteMany({is_hostel_resident:false});
{ acknowledged: true, deletedCount: 1 }
test> |
```

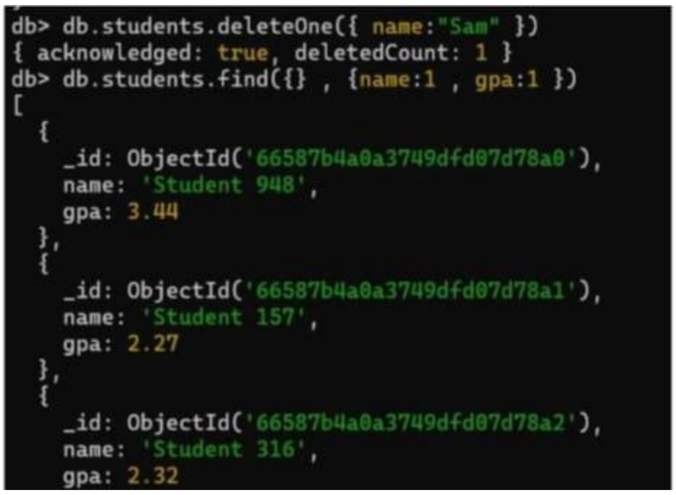
Update Many:



```
test> db.stu.updateMany({gpa:{$lt:3.0}},{$inc:{gpa:0.5}});
{
  acknowledged: true,
  insertedId: null,
  matchedCount: 261,
  modifiedCount: 261,
  upsertedCount: 0
}
```

PROJECTION:

This is used when we don’t need all columns/attributes



```
db> db.students.deleteOne({ name:"Sam" })
{ acknowledged: true, deletedCount: 1 }
db> db.students.find({} , {name:1 , gpa:1 })
[
  {
    _id: ObjectId('66587b4a0a3749dfd07d78a0'),
    name: 'Student 948',
    gpa: 3.44
  },
  {
    _id: ObjectId('66587b4a0a3749dfd07d78a1'),
    name: 'Student 157',
    gpa: 2.27
  },
  {
    _id: ObjectId('66587b4a0a3749dfd07d78a2'),
    name: 'Student 316',
    gpa: 2.32
```