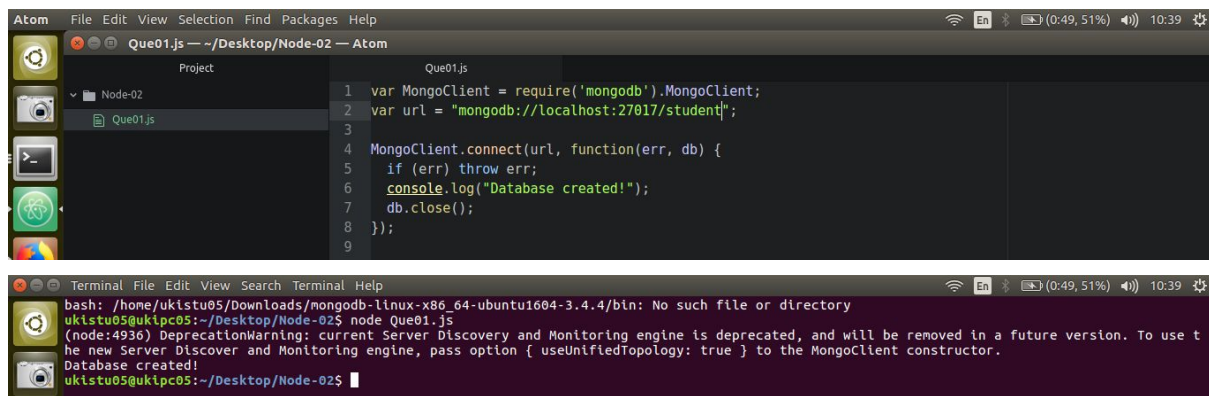


1) Create a Database called student.

```
var MongoClient = require('mongodb').MongoClient;
var url = "mongodb://localhost:27017/student";
```

```
MongoClient.connect(url, function(err, db) {
  if (err) throw err;
  console.log("Database created!");
  db.close();
});
```



The screenshot shows the Atom editor with a file named `Que01.js` containing the code to connect to a MongoDB database named 'student'. Below the editor, a terminal window shows the command `node Que01.js` being executed. The terminal output includes a deprecation warning and the message 'Database created!'.

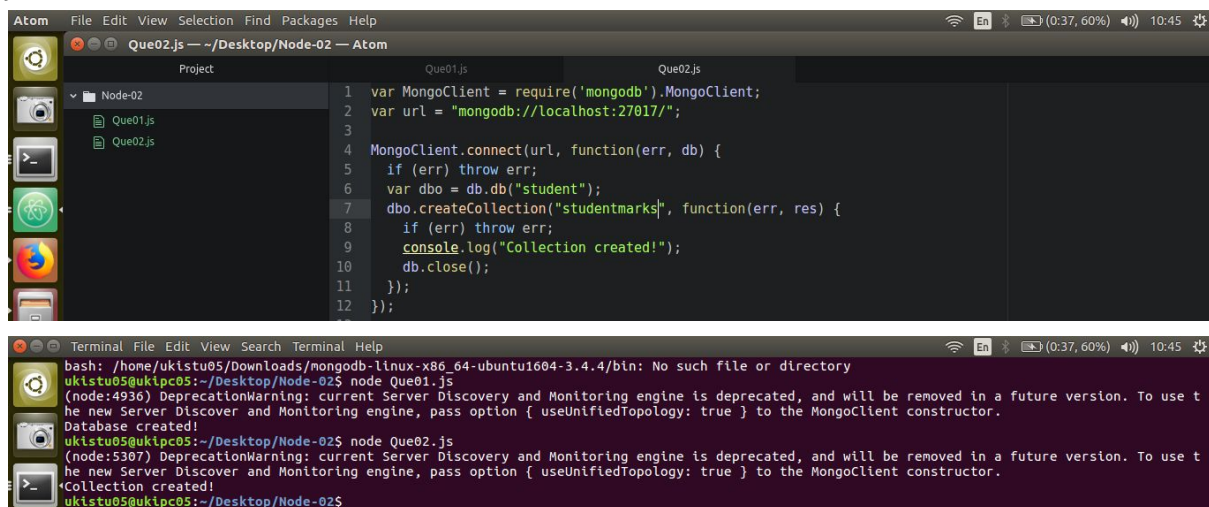
```
Atom File Edit View Selection Find Packages Help
Project: Node-02
Que01.js
1 var MongoClient = require('mongodb').MongoClient;
2 var url = "mongodb://localhost:27017/student";
3
4 MongoClient.connect(url, function(err, db) {
5   if (err) throw err;
6   console.log("Database created!");
7   db.close();
8 });
9

Terminal File Edit View Search Terminal Help
bash: /home/ukistu05/Downloads/mongodb-linux-x86_64-ubuntu1604-3.4.4/bin: No such file or directory
ukistu05@uklpc05:~/Desktop/Node-02$ node Que01.js
(node:4936) DeprecationWarning: current Server Discovery and Monitoring engine is deprecated, and will be removed in a future version. To use the new Server Discovery and Monitoring engine, pass option { useUnifiedTopology: true } to the MongoClient constructor.
Database created!
ukistu05@uklpc05:~/Desktop/Node-02$
```

2) Create a collection called studentmarks.

```
var MongoClient = require('mongodb').MongoClient;
var url = "mongodb://localhost:27017/";
```

```
MongoClient.connect(url, function(err, db) {
  if (err) throw err;
  var dbo = db.db("student");
  dbo.createCollection("studentmarks", function(err, res) {
    if (err) throw err;
    console.log("Collection created!");
    db.close();
  });
});
```



The screenshot shows the Atom editor with a file named `Que02.js` containing the code to create a collection named 'studentmarks' in the 'student' database. Below the editor, a terminal window shows the command `node Que02.js` being executed. The terminal output includes a deprecation warning and the message 'Collection created!'.

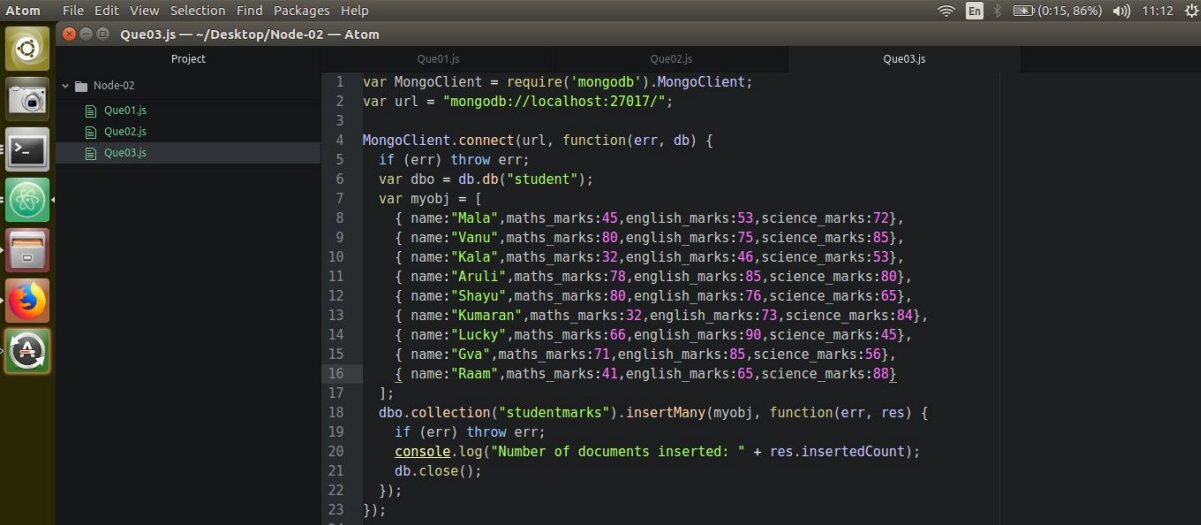
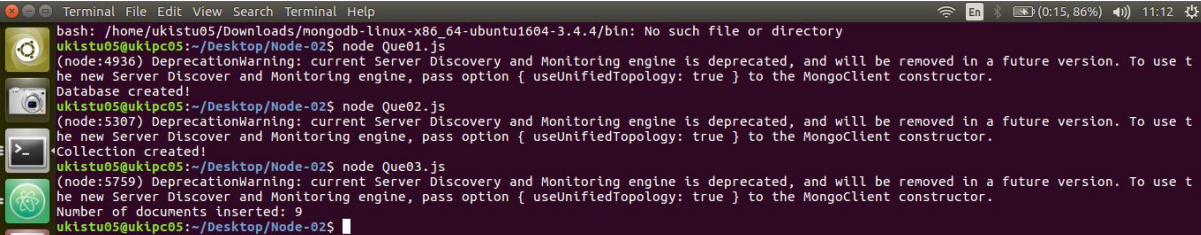
```
Atom File Edit View Selection Find Packages Help
Project: Node-02
Que01.js
Que02.js
1 var MongoClient = require('mongodb').MongoClient;
2 var url = "mongodb://localhost:27017/";
3
4 MongoClient.connect(url, function(err, db) {
5   if (err) throw err;
6   var dbo = db.db("student");
7   dbo.createCollection("studentmarks", function(err, res) {
8     if (err) throw err;
9     console.log("Collection created!");
10    db.close();
11  });
12 });

Terminal File Edit View Search Terminal Help
bash: /home/ukistu05/Downloads/mongodb-linux-x86_64-ubuntu1604-3.4.4/bin: No such file or directory
ukistu05@uklpc05:~/Desktop/Node-02$ node Que01.js
(node:4936) DeprecationWarning: current Server Discovery and Monitoring engine is deprecated, and will be removed in a future version. To use the new Server Discovery and Monitoring engine, pass option { useUnifiedTopology: true } to the MongoClient constructor.
Database created!
ukistu05@uklpc05:~/Desktop/Node-02$ node Que02.js
(node:5387) DeprecationWarning: current Server Discovery and Monitoring engine is deprecated, and will be removed in a future version. To use the new Server Discovery and Monitoring engine, pass option { useUnifiedTopology: true } to the MongoClient constructor.
Collection created!
ukistu05@uklpc05:~/Desktop/Node-02$
```

3) Create the documents listed in above table.

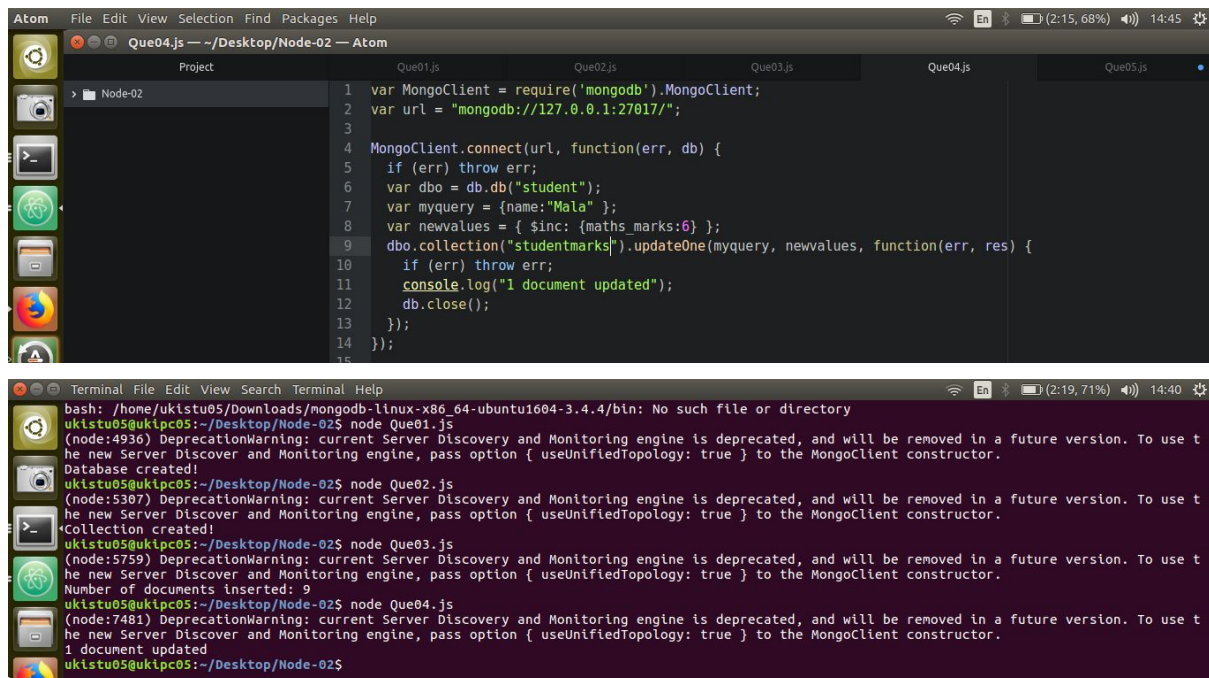
```
var MongoClient = require('mongodb').MongoClient;
var url = "mongodb://localhost:27017/";
```

```
MongoClient.connect(url, function(err, db) {
  if (err) throw err;
  var dbo = db.db("student");
  var myobj = [
    { 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,science_marks:53},
    { name:"Aruli",maths_marks:78,english_marks:85,science_marks:80},
    { name:"Shayu",maths_marks:80,english_marks:76,science_marks:65},
    { name:"Kumaran",maths_marks:32,english_marks:73,science_marks:84},
    { name:"Lucky",maths_marks:66,english_marks:90,science_marks:45},
    { name:"Gva",maths_marks:71,english_marks:85,science_marks:56},
    { name:"Raam",maths_marks:41,english_marks:65,science_marks:88}
  ];
  dbo.collection("studentmarks").insertMany(myobj, function(err, res) {
    if (err) throw err;
    console.log("Number of documents inserted: " + res.insertedCount);
    db.close();
  });
});
```

A screenshot of the Atom code editor. The left sidebar shows a file explorer with a project named 'Node-02' containing three files: 'Que01.js', 'Que02.js', and 'Que03.js'. The main editor area displays the code for 'Que03.js', which is the same code as shown in the previous block. The code is syntax-highlighted, with strings in red, comments in green, and keywords in blue. The status bar at the bottom indicates the file is 'Que03.js' and the cursor is at line 24, column 1.A screenshot of a terminal window. The prompt is 'ukistu05@uklpc05:~/Desktop/Node-02\$'. The user has run three commands: 'node Que01.js', 'node Que02.js', and 'node Que03.js'. The output shows that a database named 'student' was created, and then a collection named 'studentmarks' was created. Finally, 9 documents were inserted into the 'studentmarks' collection. The terminal also displays deprecation warnings from MongoDB regarding the Server Discovery and Monitoring engine.

4) Increase the maths marks of Mala by 6 marks  
var MongoClient = require('mongodb').MongoClient;  
var url = "mongodb://127.0.0.1:27017/";

```
MongoClient.connect(url, function(err, db) {  
  if (err) throw err;  
  var dbo = db.db("student");  
  var myquery = {name:"Mala"};  
  var newvalues = { $inc: {maths_marks:6}};  
  dbo.collection("studentmarks").updateOne(myquery, newvalues, function(err, res) {  
    if (err) throw err;  
    console.log("1 document updated");  
    db.close();  
  });  
});
```



The screenshot shows the Atom editor with a file named 'Que04.js' containing the JavaScript code for updating a document in MongoDB. The code defines a MongoClient, connects to a local MongoDB instance, and uses the updateOne method to increase the 'maths\_marks' of a student named 'Mala' by 6. Below the editor, a terminal window shows the command 'node Que04.js' being executed. The terminal output includes deprecation warnings and confirms that the database and collection were created, and that 1 document was updated.

5) List the names of students who got more than 50 marks in Maths Subject.  
var MongoClient = require('mongodb').MongoClient;  
var url = "mongodb://localhost:27017/";

```
MongoClient.connect(url, function(err, db) {  
  if (err) throw err;  
  var dbo = db.db("student");  
  
  dbo.collection("studentmarks").find({"maths_marks":{$gt:50}}, {projection: {_id:0, name:1}}).toArray(function(err, result) {  
    if (err) throw err;  
    console.log(result);  
  });  
});
```

```

    db.close();
  });
});

```

The screenshot shows the Atom editor with the file 'Que05.js' open. The code in the editor is as follows:

```

1 var MongoClient = require('mongodb').MongoClient;
2 var url = "mongodb://localhost:27017/";
3
4 MongoClient.connect(url, function(err, db) {
5   if (err) throw err;
6   var dbo = db.db("student");
7   dbo.collection("studentmarks").find({"maths_marks":{"$gt:50"}},{projection:{_id:0,name:1}}).toArray(function(err, result) {
8     if (err) throw err;
9     console.log(result);
10    db.close();
11  });
12 });

```

The terminal output below the editor shows the command being executed and the resulting JSON data:

```

uk1stu05@uk1pc05: ~/Desktop/Node-02$ node Que05.js
(node:7864) DeprecationWarning: current Server Discovery and Monitoring engine is deprecated, and will be removed in a future version. To use the new Server Discovery and Monitoring engine, pass option { useUnifiedTopology: true } to the MongoClient constructor.
[ { name: 'Mala' },
  { name: 'Vanu' },
  { name: 'Arull' },
  { name: 'Shayu' },
  { name: 'Lucky' },
  { name: 'Gva' } ]
uk1stu05@uk1pc05: ~/Desktop/Node-02$

```

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

```

var MongoClient = require('mongodb').MongoClient;
var url = "mongodb://localhost:27017/";
MongoClient.connect(url, function(err, db) {
  if (err) throw err;
  var dbo = db.db("student");
  dbo.collection("studentmarks").aggregate([{"$addFields":{"average":""}}]).toArray(function(err, result) {
    if (err) throw err;
    console.log(result);
  });
  db.close();
});

```

The screenshot shows the Atom editor with the file 'Que06.js' open. The code in the editor is as follows:

```

1 var MongoClient = require('mongodb').MongoClient;
2 var url = "mongodb://localhost:27017/";
3 MongoClient.connect(url, function(err, db) {
4   if (err) throw err;
5   var dbo = db.db("student");
6   dbo.collection("studentmarks").aggregate([{"$addFields":{"average":""}}]).toArray(function(err, result) {
7     if (err) throw err;
8     console.log(result);
9   });
10  db.close();
11 });

```

```
Terminal File Edit View Search Terminal Help
ukistu05@ukipc05:~/Desktop/Node-02$ node Que06.js
(node:8105) DeprecationWarning: current Server Discovery and Monitoring engine is deprecated, and will be removed in a future version. To use the new Server Discovery and Monitoring engine, pass option { useUnifiedTopology: true } to the MongoClient constructor.
[ { _id: 5e326c98a192e5167f874c84,
  name: 'Mala',
  maths_marks: 51,
  english_marks: 53,
  science_marks: 72,
  average: '' },
  { _id: 5e326c98a192e5167f874c85,
  name: 'Vanu',
  maths_marks: 80,
  english_marks: 75,
  science_marks: 85,
  average: '' },
  { _id: 5e326c98a192e5167f874c86,
  name: 'Kala',
  maths_marks: 32,
  english_marks: 46,
  science_marks: 53,
  average: '' },
  { _id: 5e326c98a192e5167f874c87,
  name: 'Aruli',
  maths_marks: 78,
  english_marks: 85,
  science_marks: 80,
  average: '' },
  { _id: 5e326c98a192e5167f874c88,
  name: 'Shayu',
  maths_marks: 80,
  english_marks: 76,
  science_marks: 65,
  average: '' },
  { _id: 5e326c98a192e5167f874c89,
  name: 'Kumaran',
  maths_marks: 32,
  english_marks: 73,
  science_marks: 84,
  average: '' },
  { _id: 5e326c98a192e5167f874c8a,
  name: 'Lucky',
  maths_marks: 66,
  english_marks: 90,
```

7) Update Marks\_Science=75 to Lucky .

```
var MongoClient = require('mongodb').MongoClient;
var url = "mongodb://127.0.0.1:27017/";
```

```
MongoClient.connect(url, function(err, db) {
  if (err) throw err;
  var dbo = db.db("student");
  var myquery = { name:"Lucky" };
  var newvalues = { $set: {science_marks:75 } };
  dbo.collection("studentmarks").updateOne(myquery, newvalues, function(err, res) {
    if (err) throw err;
    console.log("1 document updated");
    db.close();
  });
});
```

```
Atom File Edit View Selection Find Packages Help
Que07.js -- ~/Desktop/Node-02 -- Atom
Project
  Node-02
    Que01.js
    Que02.js
    Que03.js
    Que04.js
    Que05.js
    Que06.js
    Que07.js
  Que07.js
1  var MongoClient = require('mongodb').MongoClient;
2  var url = "mongodb://127.0.0.1:27017/";
3
4  MongoClient.connect(url, function(err, db) {
5    if (err) throw err;
6    var dbo = db.db("student");
7    var myquery = { name:"Lucky" };
8    var newvalues = { $set: {science_marks:75 } };
9    dbo.collection("studentmarks").updateOne(myquery, newvalues, function(err, res) {
10     if (err) throw err;
11     console.log("1 document updated");
12     db.close();
13   });
14 });
15

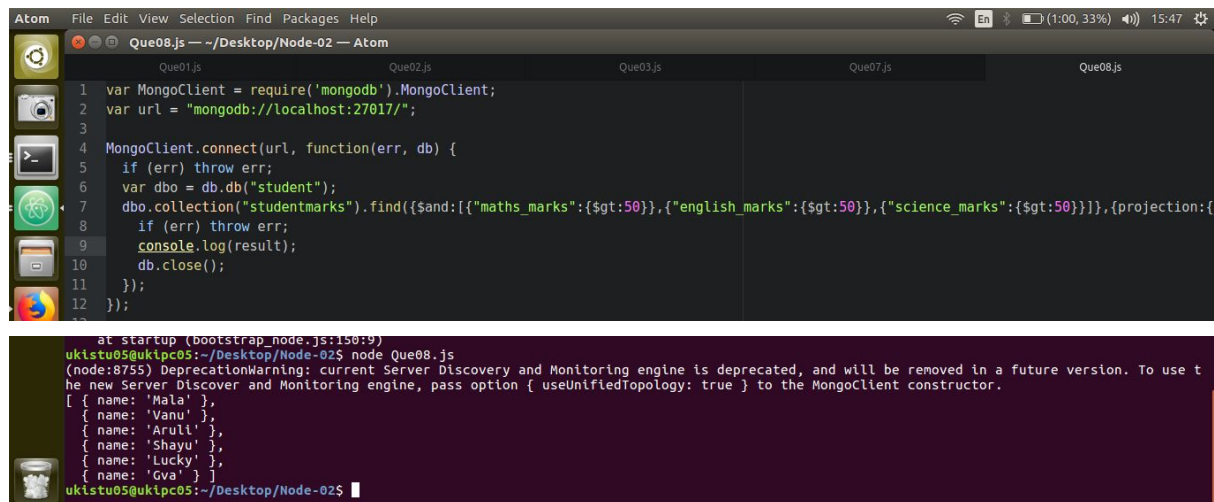
science marks: 88,
average: '' } ]
ukistu05@ukipc05:~/Desktop/Node-02$ node Que07.js
(node:8353) DeprecationWarning: current Server Discovery and Monitoring engine is deprecated, and will be removed in a future version. To use the new Server Discovery and Monitoring engine, pass option { useUnifiedTopology: true } to the MongoClient constructor.
1 document updated
ukistu05@ukipc05:~/Desktop/Node-02$
```

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

```
var MongoClient = require('mongodb').MongoClient;
var url = "mongodb://localhost:27017/";
```

```
MongoClient.connect(url, function(err, db) {
  if (err) throw err;
  var dbo = db.db("student");
```

```
  dbo.collection("studentmarks").find({$and:[{"maths_marks":{$gt:50}},{"english_marks":{$gt:50}},{"science_marks":{$gt:50}}},{projection:{_id:0,name:1}}).toArray(function(err, result){
    if (err) throw err;
    console.log(result);
    db.close();
  });
});
```

The screenshot shows the Atom text editor with a file named 'Que08.js' open. The code in the editor matches the code provided in the previous blocks. Below the editor, a terminal window shows the output of running the script. It displays a deprecation warning from MongoDB and then a JSON array of student names: [{ name: 'Mala' }, { name: 'Vanu' }, { name: 'Aruli' }, { name: 'Shayu' }, { name: 'Lucky' }, { name: 'Gva' }].

```
Atom
File Edit View Selection Find Packages Help
Que08.js -- ~/Desktop/Node-02 -- Atom
1 var MongoClient = require('mongodb').MongoClient;
2 var url = "mongodb://localhost:27017/";
3
4 MongoClient.connect(url, function(err, db) {
5   if (err) throw err;
6   var dbo = db.db("student");
7   dbo.collection("studentmarks").find({$and:[{"maths_marks":{$gt:50}},{"english_marks":{$gt:50}},{"science_marks":{$gt:50}}},{projection:{
8     if (err) throw err;
9     console.log(result);
10    db.close();
11  });
12 });
13
at startup (bootstrap_node.js:150:9)
ukistu05@uklpc05:~/Desktop/Node-02$ node Que08.js
(node:8755) DeprecationWarning: current Server Discovery and Monitoring engine is deprecated, and will be removed in a future version. To use t
he new Server Discover and Monitoring engine, pass option { useUnifiedTopology: true } to the MongoClient constructor.
[ { name: 'Mala' },
  { name: 'Vanu' },
  { name: 'Aruli' },
  { name: 'Shayu' },
  { name: 'Lucky' },
  { name: 'Gva' } ]
ukistu05@uklpc05:~/Desktop/Node-02$
```

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

```
var MongoClient = require('mongodb').MongoClient;
var url = "mongodb://localhost:27017/";
```

```
MongoClient.connect(url, function(err, db) {
  if (err) throw err;
  var dbo = db.db("student");
```

```
  dbo.collection("studentmarks").find({$and:[{"maths_marks":{$lt:50}},{"english_marks":{$gt:50}}},{projection:{_id:0,name:1}}).toArray(function(err, result){
    if (err) throw err;
    console.log(result);
    db.close();
  });
});
```

The screenshot shows the Atom editor with a file named `Que09.js` open. The code in the editor is as follows:

```

1 var MongoClient = require('mongodb').MongoClient;
2 var url = "mongodb://localhost:27017/";
3
4 MongoClient.connect(url, function(err, db) {
5   if (err) throw err;
6   var dbo = db.db("student");
7   dbo.collection("studentmarks").find({$and:[{"maths_marks":{$lt:50}}, {"english_marks":{$gt:50}}], {projection: {_id:0, name:1}}).toArray(function(err, result) {
8     if (err) throw err;
9     console.log(result);
10    db.close();
11  });
12 });
13

```

Below the editor is a terminal window showing the command `node Que09.js` being executed. The output shows a deprecation warning and the result of the query:

```

uklstu05@uklpc05:~/Desktop/Node-02$ node Que09.js
(node:8902) DeprecationWarning: current Server Discovery and Monitoring engine is deprecated, and will be removed in a future version. To use the new Server Discovery and Monitoring engine, pass option { useUnifiedTopology: true } to the MongoClient constructor.
[ { name: 'Kumaran' }, { name: 'Raam' } ]
uklstu05@uklpc05:~/Desktop/Node-02$

```

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

```

var MongoClient = require('mongodb').MongoClient;
var url = "mongodb://localhost:27017/";

```

```

MongoClient.connect(url, function(err, db) {
  if (err) throw err;
  var dbo = db.db("student");

```

```

  dbo.collection("studentmarks").find({$and:[{"maths_marks":{$lt:40}}, {"science_marks":{$lt:40}}], {projection: {_id:0, name:1}}).toArray(function(err, result) {
    if (err) throw err;
    console.log(result);
    db.close();
  });
});

```

The screenshot shows the Atom editor with a file named `Que10.js` open. The code in the editor is as follows:

```

1 var MongoClient = require('mongodb').MongoClient;
2 var url = "mongodb://localhost:27017/";
3
4 MongoClient.connect(url, function(err, db) {
5   if (err) throw err;
6   var dbo = db.db("student");
7   dbo.collection("studentmarks").find({$and:[{"maths_marks":{$lt:40}}, {"science_marks":{$lt:40}}], {projection: {_id:0, name:1}}).toArray(function(err, result) {
8     if (err) throw err;
9     console.log(result);
10    db.close();
11  });
12 });
13

```

Below the editor is a terminal window showing the command `node Que10.js` being executed. The output shows a deprecation warning and an empty array:

```

uklstu05@uklpc05:~/Desktop/Node-02$ node Que10.js
(node:9082) DeprecationWarning: current Server Discovery and Monitoring engine is deprecated, and will be removed in a future version. To use the new Server Discovery and Monitoring engine, pass option { useUnifiedTopology: true } to the MongoClient constructor.
[]
uklstu05@uklpc05:~/Desktop/Node-02$

```

11) Remove Science column/field for Raam

```

var MongoClient = require('mongodb').MongoClient;
var url = "mongodb://127.0.0.1:27017/";

```

```

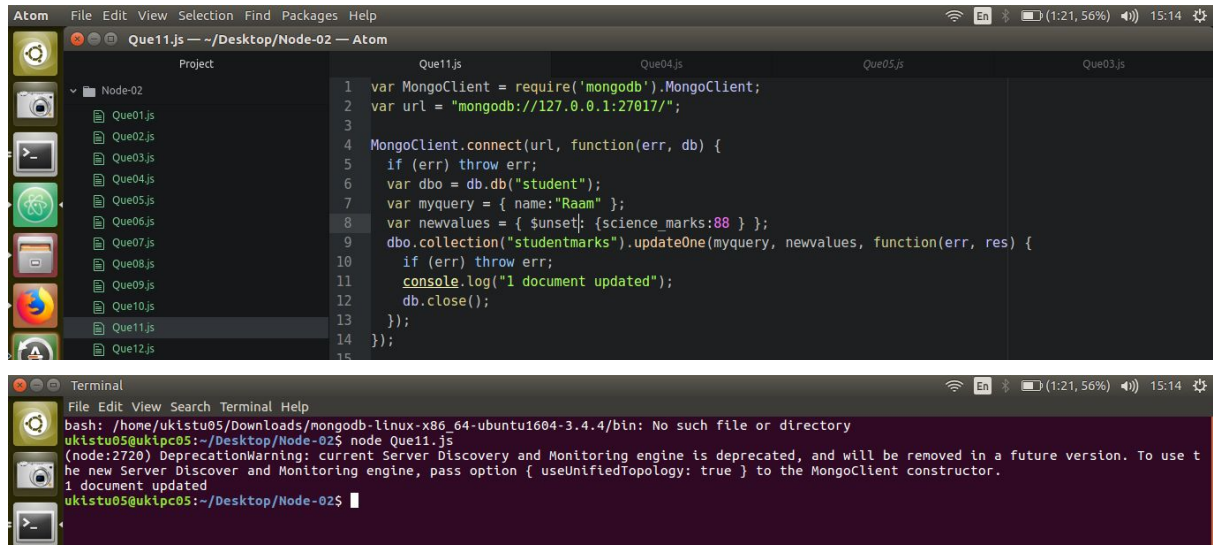
MongoClient.connect(url, function(err, db) {
  if (err) throw err;
  var dbo = db.db("student");
  var myquery = { name:"Raam" };

```

```

var newvalues = { $unset: {science_marks:88 } };
dbo.collection("studentmarks").updateOne(myquery, newvalues, function(err, res) {
    if (err) throw err;
    console.log("1 document updated");
    db.close();
});
});

```



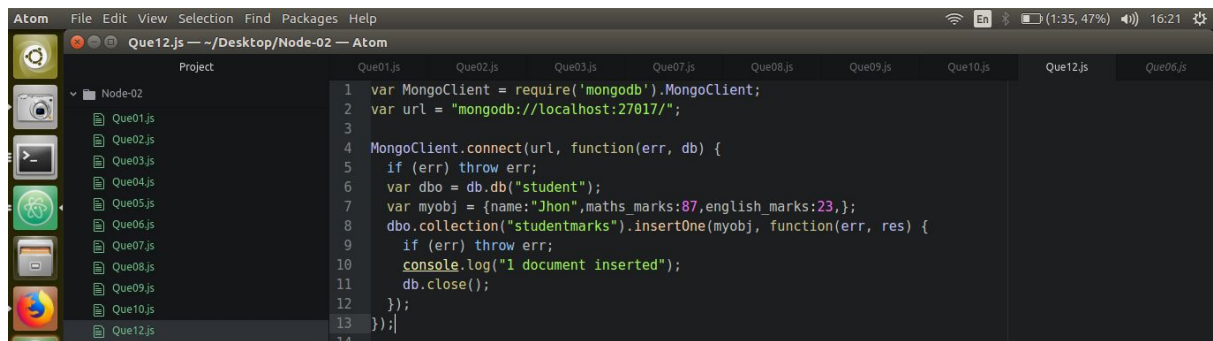
12) Update John's Math mark as 87 and English mark as 23, if john not available upsert.

```

var MongoClient = require('mongodb').MongoClient;
var url = "mongodb://localhost:27017/";

MongoClient.connect(url, function(err, db) {
    if (err) throw err;
    var dbo = db.db("student");
    var myobj = {name:"Jhon",maths_marks:87,english_marks:23,};
    dbo.collection("studentmarks").insertOne(myobj, function(err, res) {
        if (err) throw err;
        console.log("1 document inserted");
        db.close();
    });
});

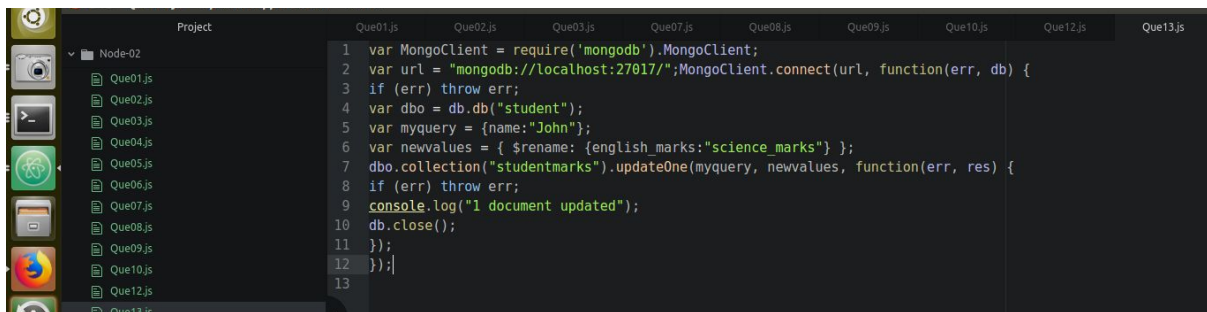
```



```
ukistu05@uklpc05:~/Desktop/Node-02$ node Que12.js
(node:9404) DeprecationWarning: current Server Discovery and Monitoring engine is deprecated, and will be removed in a future version. To use t
he new Server Discover and Monitoring engine, pass option { useUnifiedTopology: true } to the MongoClient constructor.
1 document inserted
ukistu05@uklpc05:~/Desktop/Node-02$
```

13) Rename the english\_marks column/field for John to science\_marks

```
var MongoClient = require('mongodb').MongoClient;
var url = "mongodb://localhost:27017/";MongoClient.connect(url, function(err, db) {
if (err) throw err;
var dbo = db.db("student");
var myquery = {name:"John"};
var newvalues = { $rename: {english_marks:"science_marks"} };
dbo.collection("studentmarks").updateOne(myquery, newvalues, function(err, res) {
if (err) throw err;
console.log("1 document updated");
db.close();
});
});
```

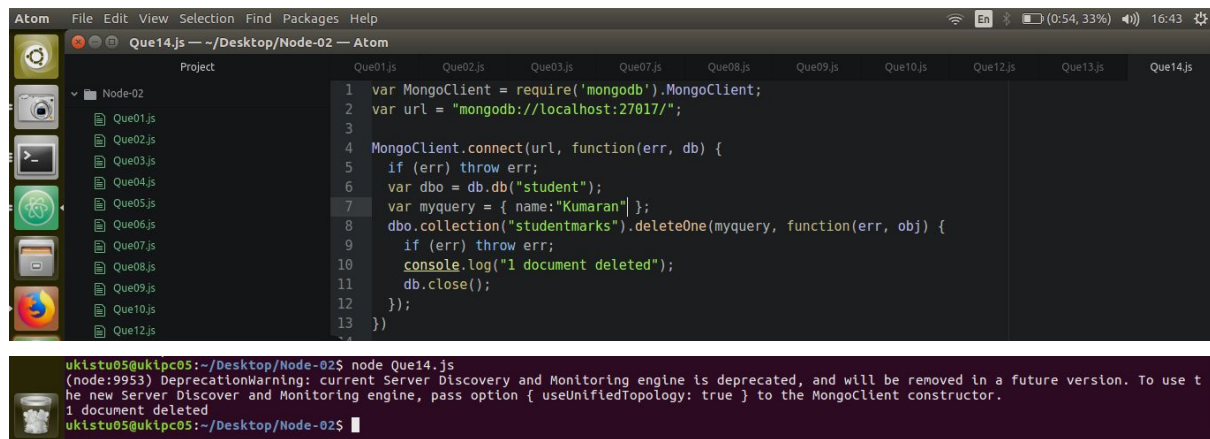


```
ukistu05@uklpc05:~/Desktop/Node-02$ node Que13.js
(node:9724) DeprecationWarning: current Server Discovery and Monitoring engine is deprecated, and will be removed in a future version. To use t
he new Server Discover and Monitoring engine, pass option { useUnifiedTopology: true } to the MongoClient constructor.
1 document updated
ukistu05@uklpc05:~/Desktop/Node-02$
```

14) Remove Kumaran's document from collection.

```
var MongoClient = require('mongodb').MongoClient;
var url = "mongodb://localhost:27017/";

MongoClient.connect(url, function(err, db) {
if (err) throw err;
var dbo = db.db("student");
var myquery = { name:"Kumaran" };
dbo.collection("studentmarks").deleteOne(myquery, function(err, obj) {
if (err) throw err;
console.log("1 document deleted");
db.close();
});
})
```

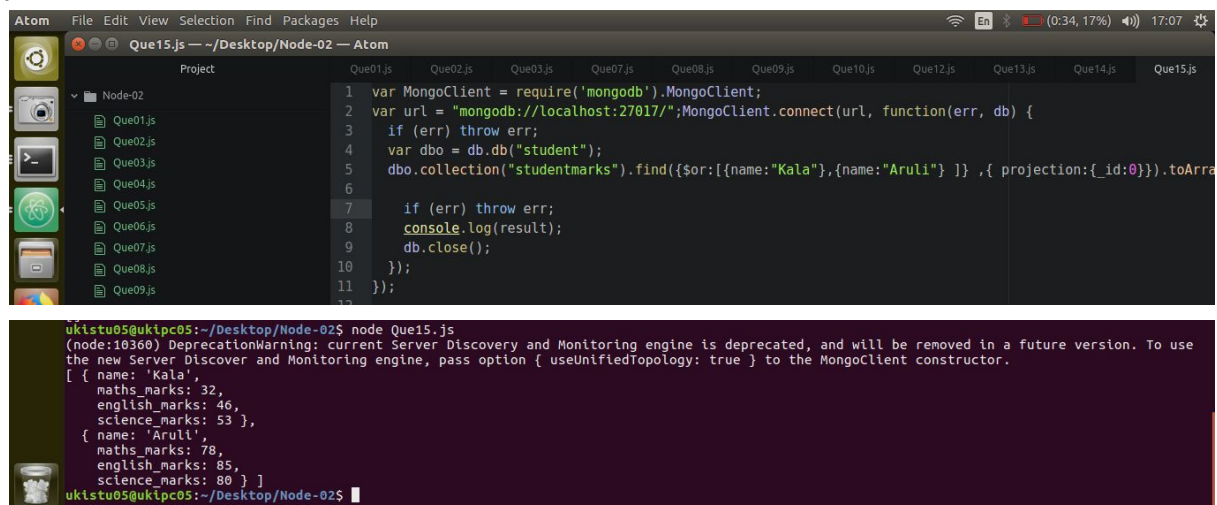


```
Atom File Edit View Selection Find Packages Help
Que14.js ~/Desktop/Node-02 Atom
Project
Node-02
  Que01.js
  Que02.js
  Que03.js
  Que04.js
  Que05.js
  Que06.js
  Que07.js
  Que08.js
  Que09.js
  Que10.js
  Que12.js
  Que13.js
  Que14.js
1 var MongoClient = require('mongodb').MongoClient;
2 var url = "mongodb://localhost:27017/";
3
4 MongoClient.connect(url, function(err, db) {
5   if (err) throw err;
6   var dbo = db.db("student");
7   var myquery = { name:"Kumaran"};
8   dbo.collection("studentmarks").deleteOne(myquery, function(err, obj) {
9     if (err) throw err;
10    console.log("1 document deleted");
11    db.close();
12  });
13 })
14
uklstu05@uklpc05:~/Desktop/Node-02$ node Que14.js
(node:9953) DeprecationWarning: current Server Discovery and Monitoring engine is deprecated, and will be removed in a future version. To use the new Server Discovery and Monitoring engine, pass option { useUnifiedTopology: true } to the MongoClient constructor.
1 document deleted
uklstu05@uklpc05:~/Desktop/Node-02$
```

15) Find Kala's or Aruli's math\_marks and science\_marks

```
var MongoClient = require('mongodb').MongoClient;
var url = "mongodb://localhost:27017/";MongoClient.connect(url, function(err, db) {
  if (err) throw err;
  var dbo = db.db("student");
  dbo.collection("studentmarks").find({$or:[{name:"Kala"},{name:"Aruli"} ]} ,{
    projection:{_id:0}}).toArray(function(err, result){
```

```
  if (err) throw err;
  console.log(result);
  db.close();
});
});
```



```
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Project
Node-02
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  Que09.js
  Que10.js
  Que12.js
  Que13.js
  Que14.js
  Que15.js
1 var MongoClient = require('mongodb').MongoClient;
2 var url = "mongodb://localhost:27017/";MongoClient.connect(url, function(err, db) {
3   if (err) throw err;
4   var dbo = db.db("student");
5   dbo.collection("studentmarks").find({$or:[{name:"Kala"},{name:"Aruli"} ]} ,{ projection:{_id:0}}).toArre
6
7   if (err) throw err;
8   console.log(result);
9   db.close();
10  });
11 });
12
uklstu05@uklpc05:~/Desktop/Node-02$ node Que15.js
(node:10360) DeprecationWarning: current Server Discovery and Monitoring engine is deprecated, and will be removed in a future version. To use the new Server Discover and Monitoring engine, pass option { useUnifiedTopology: true } to the MongoClient constructor.
[ { name: 'Kala',
  maths_marks: 32,
  english_marks: 46,
  science_marks: 53 },
  { name: 'Aruli',
  maths_marks: 78,
  english_marks: 85,
  science_marks: 80 } ]
uklstu05@uklpc05:~/Desktop/Node-02$
```

