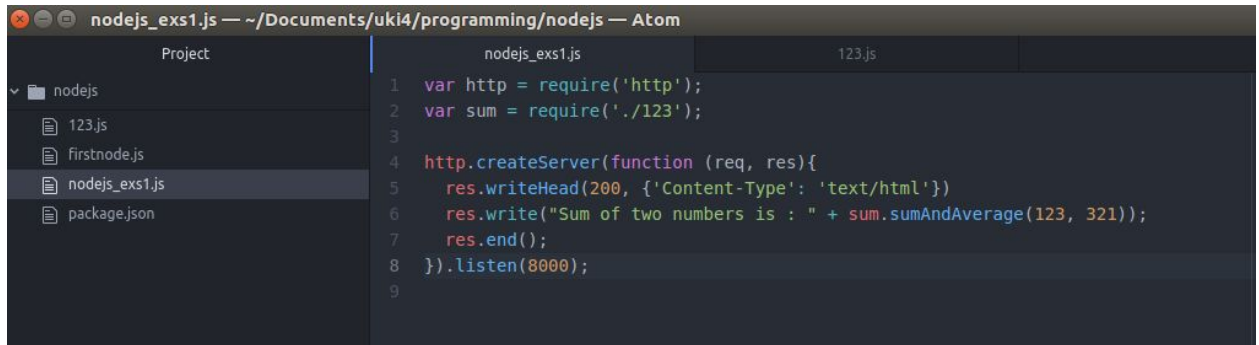


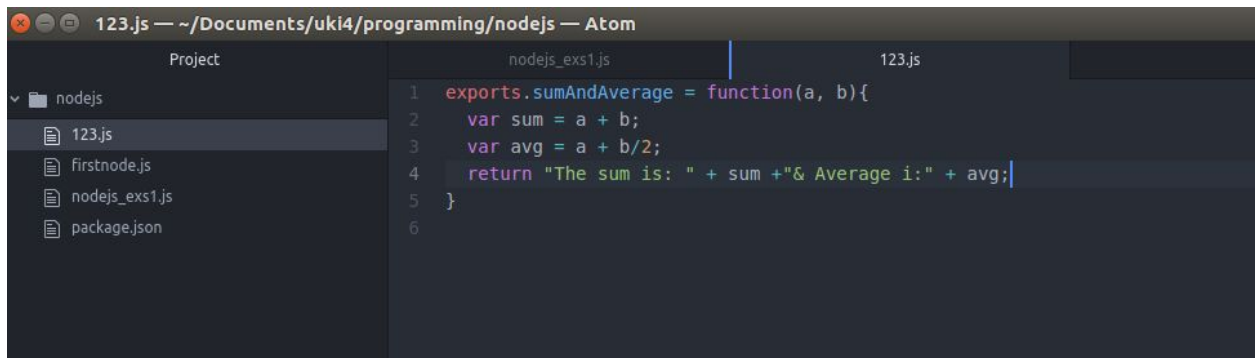
Node.js Exercise 1

1. Create a custom module which returns the sum and average of any two numbers passed into it. Require the module and run the server by passing 123 and 321 so that the server prints out the sum and average.



The screenshot shows the Atom editor with a project named 'nodejs'. The file 'nodejs_exs1.js' is open and contains the following code:

```
1 var http = require('http');
2 var sum = require('./123');
3
4 http.createServer(function (req, res){
5   res.writeHead(200, {'Content-Type': 'text/html'})
6   res.write("Sum of two numbers is : " + sum.sumAndAverage(123, 321));
7   res.end();
8 }).listen(8000);
9
```



The screenshot shows the Atom editor with a project named 'nodejs'. The file '123.js' is open and contains the following code:

```
1 exports.sumAndAverage = function(a, b){
2   var sum = a + b;
3   var avg = a + b/2;
4   return "The sum is: " + sum + "& Average i:" + avg;
5 }
6
```



Sum of two numbers is : The sum is: 444& Average i:283.5

2. Create a simple http server and print "Welcome to Uki. I am **yourname**" when a request is sent to your server via the port 8000. (Note - Change different port numbers and check)



The screenshot shows the Atom editor with a project named 'nodejs'. The file 'myname.js' is open and contains the following code:

```
1 var http = require('http');
2 http.createServer(function (req, res) {
3   res.writeHead(200, {'Content-Type': 'text/html'});
4   res.write("Welcome to Uki. I am Kabi");
5   res.end();
6 }).listen(8000);
7
```

← → ↻ ⓘ localhost:8000

Welcome to Uki. I am Kabi

3. Using the file system module create a new file called ukinode.txt

3.1 Write a paragraph about Uki into that file

nodejs_exs1.js	nodename.js	ukinode.txt
<pre>1 var fs = require("fs"); 2 fs.appendFile('ukinode.txt', 'Hey Uki ', 3 function (err) { 4 if (err) throw err; 5 console.log('Saved!'); 6 }); 7</pre>		

3.2 Serve that file to the client (Read File) over your server

nodejs_exs1.js	nodename.js	ukinode.txt
<pre>1 var http = require('http'); 2 var fs= require("fs") 3 http.createServer(function(req, res){ 4 fs.readFile('ukinode.txt',function(err,data){ 5 res.writeHead(200, {'Content-Type': 'text/html'}); 6 res.write("Welcome to Uki. I am kabi"); 7 res.write(data); 8 res.end(); 9 }); 10 }).listen(8000); 11</pre>		

3.3 Append another paragraph about Uki and now serve the new file

nodejs_exs1.js	nodename.js	ukinode.txt
<pre>1 var fs = require('fs'); 2 fs.appendFile('ukino.txt', ' I am mass!', function(err){ 3 if(err)throw err; 4 console.log('Saved!'); 5 }); 6</pre>		

3.4 Rename the file as ukinodejsexercise1.txt

```
nodejs_exs1.js | noderename.js | ukinode.txt
1  var fs= require('fs');
2  fs.rename('ukinode.txt','ukinodejsexercise1.txt', function(err){
3    if(err)throw err;
4    console.log('File Renamed!');
5  });
6
```

3.5 Delete the file you created

```
nodejs_exs1.js | noderename.js | ukinode.txt
1  var fs= require('fs');
2  fs.unlink('ukinodejsexercise1.txt', function(err){
3    if(err)throw err;
4    console.log('File Renamed!');
5  });
6
```

4. Create two html files called head.html which is a web page which says 'you have got head' and tail.html which is a web page which says 'you have got tail' and save them in the same folder as your node.js files. Create a Node.js file that opens the requested file and returns the content to the client. If anything goes wrong, throw a 404 error.

```
ext07.js | nodername.js
1  var http = require('http');
2  var url = require('url');
3  var fs = require('fs');
4
5  http.createServer(function (req, res) {
6    var q = url.parse(req.url, true);
7    var filename = "." + q.pathname;
8    fs.readFile(filename, function(err, data) {
9      if (err) {
10        res.writeHead(404, {'Content-Type': 'head.html'});
11        return res.end("404 Not Found");
12      }
13      res.writeHead(200, {'Content-Type': 'tail.html'});
14      res.write(data);
15      return res.end();
16    });
17  }).listen(8000);
18
```

← → ↻ ⓘ localhost:8000/tail.html

You have got tail

← → ↻ ⓘ localhost:8000/head.html

You have got head

5. Install the package “upper-case” using NPM and create a Node.js file that will convert the output "Uki is the best place to learn programming !" into upper-case letters.

```
nodejs_exs1.js  nodename.js  ext05.js  head.html
1  var http = require('http');
2  var uc = require('upper-case');
3  http.createServer(function (req, res) {
4    res.writeHead(200, {'Content-Type': 'text/html'});
5    /*Use our upper-case module to upper case a string:*/
6    res.write(uc("Uki is the best place to learn programming !"));
7    res.end();
8  }).listen(8000);
9
```

← → ↻ ⓘ localhost:8000

UKI IS THE BEST PLACE TO LEARN PROGRAMMING !

6. Create an event handler function that will say “I bark when I see strangers !” when a "bark" event is fired.

```
nodejs_exs1.js  nodename.js  ext05.js  ext06.js  head.html
1  var events = require('events');
2  var EventEmitter = new events.EventEmitter();
3
4  //Create an event handler:
5  var myEventHandler = function () {
6    console.log('I bark when I see strangers !');
7  }
8
9  //Assign the event handler to an event:
10 EventEmitter.on('bark', myEventHandler);
11
12 //Fire the 'scream' event:
13 EventEmitter.emit('bark');
14
```

7. Install “formidable” module using npm and make a web page in Node.js that lets the user upload files to your computer.

7.1 Save that uploaded file into your Documents directory.

```
ext07.js      nodename.js
1  var http = require('http');
2  var formidable = require('formidable');
3  var fs = require('fs');
4
5  http.createServer(function (req, res) {
6    if (req.url == '/fileupload') {
7      var form = new formidable.IncomingForm();
8      form.parse(req, function (err, fields, files) {
9        var oldpath = files.fileupload.path;
10       var newpath = '/home/ukistu09/Documents/uki4/programming/nodejs/' + files.fileupload.name;
11       fs.rename(oldpath, newpath, function (err) {
12         if (err) throw err;
13         res.write('File uploaded and moved!');
14         res.end();
15       });
16     }
17   } else {
18     res.writeHead(200, {'Content-Type': 'text/html'});
19     res.write('<form action="fileupload" method="post" enctype="multipart/form-data">');
20     res.write('<input type="file" name="fileupload"><br>');
21     res.write('<input type="submit">');
22     res.write('</form>');
23     return res.end();
24   }
25 }).listen(8000);
26
```

← → ↻ ⓘ localhost:8000

Choose File Screenshot f...0-55-26.png

Submit

8. Using the Nodemailer module create a server and send a mail to info@uki.life with the subject : “Testing my nodemailer module” , text: “This is easy !”

8.1 Now instead of text send a basic html formatted mail.

ext07.js

ext08.js

```
1  var nodemailer = require('nodemailer');
2
3  var transporter = nodemailer.createTransport({
4    service: 'gmail',
5    auth: {
6      user: 'kabimass97@gmail.com',
7      pass: '#####'
8    }
9  });
10
11 var mailOptions = {
12   from: 'kabimass97@gmail.com',
13   to: 'maryannminerva@gmail.com',
14   subject: 'Testing my nodemailer module',
15   text: 'This is easy !'
16 };
17
18 transporter.sendMail(mailOptions, function(error, info){
19   if (error) {
20     console.log(error);
21   } else {
22     console.log('Email sent: ' + info.response);
23   }
24 });
25
```