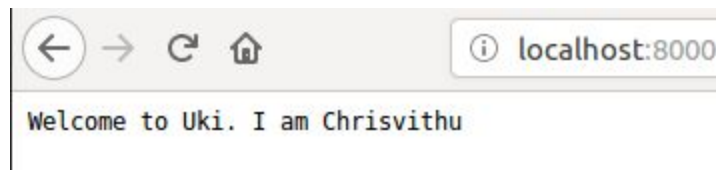1. Create a custom module which returns the sum and average of any two numbers passed into it. Require the module and run the server by passing 123 and 321 so that the server prints out the sum and average.

```
1   var http = require('http');
2   var dt = require('./myfird');
3
4   http.createServer(function (req, res) {
5       res.writeHead(200, {'Content-Type': 'text/html'});
6       res.write("Average: " + dt.ave(123,321));
7       res.end();
8   }).listen(8080);
9
```

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)

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

← → C ⌂   ⓘ localhost:8000

Welcome to Uki. I am Chrisvithu

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

```
1   var fs = require('fs');
2
3   //create a file named mynewfile1.txt:
4   fs.appendFile('ukinode.txt', 'paragrph', function (err) {
5     if (err) throw err;
6     console.log('Saved!');
7   });
8   |
```

qu1.js   qu2.js   qu3.js   ukinode.txt

3.1 Write a paragraph about Uki into that file

```
var fs = require('fs');

//create a file named mynewfile1.txt:
fs.appendFile('ukinode.txt', 'paragrph Here |', function (err) {
  if (err) throw err;
  console.log('Saved!');
});
```

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

```
1   var http = require('http');
2   var fs = require('fs');
3   http.createServer(function (req, res) {
4      //Open a file on the server and return it's content:
5      fs.readFile('ukinode.txt', function(err, data) {
6         res.writeHead(200, {'Content-Type': 'text/html'});
7         res.write(data);
8         return res.end();
9      });
0   }).listen(8080);
1
```
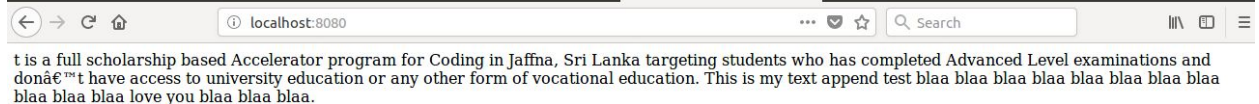
3.3 Append another paragraph about Uki and now serve the new file

```
1   var fs = require('fs');
2
3   //append content at the end of the file:
4   fs.appendFile('ukinode.txt', ' This is my text append test blaa blaa blaa blaa blaa blaa
5      if (err) throw err;
6      console.log('Updated!');
7   });
8   |
```

← → C ⌂   ⓘ localhost:8080   ••• ♥ ☆ 🔍 Search ||\ ▭ ≡

t is a full scholarship based Accelerator program for Coding in Jaffna, Sri Lanka targeting students who has completed Advanced Level examinations and donâ€™t have access to university education or any other form of vocational education. This is my text append test blaa blaa blaa blaa blaa blaa blaa blaa blaa blaa blaa love you blaa blaa blaa.

3.4 Rename the file as ukinodejsexercise1.txt

```
1  var fs = require('fs');
2
3  //Rename the file "mynewfile1.txt" into "myrenamedfile.txt":
4  fs.rename('ukinode.txt', 'ukinodejsexercise1.txt', function (err) {
5    if (err) throw err;
6    console.log('File Renamed!');
7  });
8
```

qu2second.js   qu3.js   rename.js   ukinodejsexercise1.
                                                          txt

3.5 Delete the file you created

```
1  var fs = require('fs');
2
3  //Delete the file mynewfile2.txt:
4  fs.unlink('ukinodejsexercise1.txt', function (err) {
5    if (err) throw err;
6    console.log('File deleted!');
7  });
8  |
```

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.

If you have followed the correct steps you should see two different results when
opening these two addresses:

http://localhost:8080/head.html - > You have got head

http://localhost:8080/tail.html -> You have got tail

```
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': 'text/html'});
11           return res.end("404 Not Found");
12        }
13        res.writeHead(200, {'Content-Type': 'text/html'});
14        res.write(data);
15        return res.end();
16      });
17   }).listen(8080);
18
```
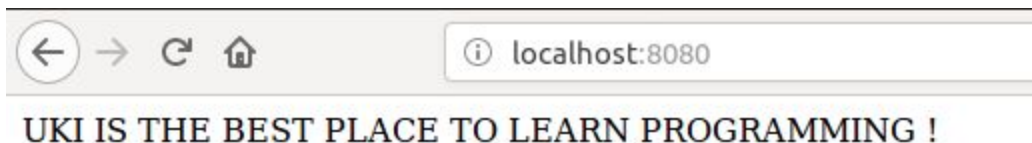
← → C ⌂   ⓘ localhost:8080/tail.html

you have got tail

← → C ⌂   ⓘ localhost:8080/head.html

you have got head

← → C ⌂   ⓘ localhost:8080/hs.html

404 Not Found

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

```
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(8080);
9
```

← → C ⌂   ⓘ localhost:8080

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.
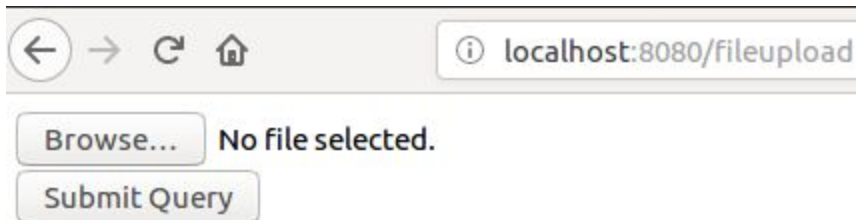
```
1   var events = require('events');
2   var eventEmitter = new events.EventEmitter();
3
4   //Create an event handler:
5   var myEventHandler = function () {
6     console.log('i bark when I see strangers !');
7   }
8
9   //Assign the eventhandler to an event:
0   eventEmitter.on('bark', myEventHandler);
1
2   //Fire the 'scream' event:
3   eventEmitter.emit('bark');
```

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

```
1   var http = require('http');
2
3   http.createServer(function (req, res) {
4       res.writeHead(200, {'Content-Type': 'text/html'});
5       res.write('<form action="fileupload" method="post" enctype="multipart/form-data">');
6       res.write('<input type="file" name="filetoupload"><br>');
7       res.write('<input type="submit">');
8       res.write('</form>');
9       return res.end();
10  }).listen(8080);
```

← → C ⌂   ⓘ localhost:8080/fileupload

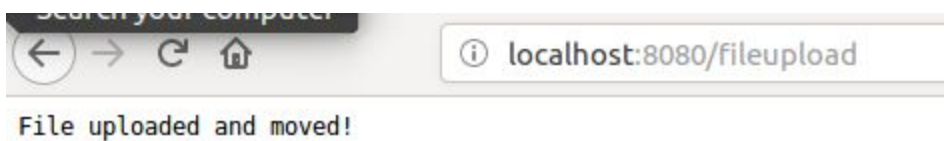Browse... No file selected.

Submit Query

7.1 Save that uploaded file into your Documents directory.

```
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.filetoupload.path;
10        var newpath = '/home/chris/Documents/uki2/coding/node' + files.filetoupload.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="filetoupload"><br>');
21      res.write('<input type="submit">');
22      res.write('</form>');
23      return res.end();
24    }
25  }).listen(8080);
26
```

← → C ⌂   ⓘ localhost:8080/fileupload

File uploaded and moved!

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 !"

```
1   var nodemailer = require('nodemailer');
2
3   var transporter = nodemailer.createTransport({
4     service: 'gmail',
5     auth: {
6       user: 'trendnews35@gmail.com',
7       pass: 'betterlucknexttime:)'
8     }
9   });
10
11  var mailOptions = {
12    from: 'trendnews35@gmail.com',
13    to: 'info@uki.life',
14    subject: 'Testing my nodemailer module',
15    text: 'That 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
```

8.1 Now instead of text send a basic html formatted mail

```javascript
var transporter = nodemailer.createTransport({
  service: 'gmail',
  auth: {
    user: 'trendnews35@gmail.com',
    pass: 'betterlucknexttime:)'
  }
});

var mailOptions = {
  from: 'trendnews35@gmail.com',
  to: 'info@uki.life',
  subject: 'Testing my nodemailer module',
  text: 'That is easy!'
  html: '<h1>Welcome</h1><p>That was easy!</p>'

};

transporter.sendMail(mailOptions, function(error, info){
  if (error) {
    console.log(error);
  } else {
    console.log('Email sent: ' + info.response);
  }
});
```