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CERTIFICATE

This is to certify that Mr. Borate Akash Rajendra student of M.Sc(C.S.) Semester III at Suryadatta College of Management Information Research & Technology (SCMIRT), Pune, has successfully completed the assigned practical journal in Advanced Operating System prescribed by the Savitribai Phule Pune University during the academic year 2022-2023.

Internal Examiner **External Examiner**

HOD **Principal**

Place: Pune

Date: 12/01/2023

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1) **Create an HTML form that contain the Student Registration details and write a JavaScript to validate Student first and last name as it should not contain other than alphabets and age should be between 18 to 50.**

Ans:

Slip1.html:

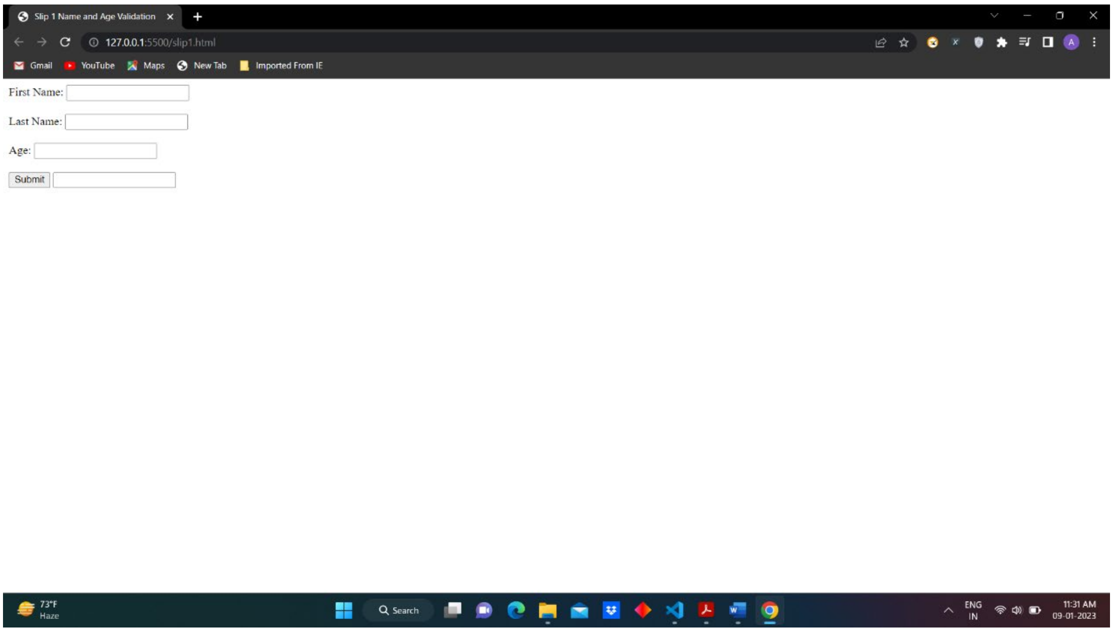
```
<!DOCTYPE html>
<html>
<head>
   <title>Slip 1 Name and Age Validation</title>
   <script src="Slip1.js"></script>
</head>
<body>
   <form> First Name:
      <input type="text" id="fname"></input></br></br> Last Name:
      <input type="text" id="lname"></input></br></br> Age:
      <input type="text" id="age"></input></br></br>
      <button type="submit" onclick="validateForm()">Submit</button>
      <input type="text" id="output1"></input>
   </form>
</body>
</html>
```

Slip1.js:

```
function validateForm() {
   var fname = document.getElementById("fname").value;
   var lname = document.getElementById("lname").value;
   var age = document.getElementById("age").value;
   var reg = /^[a-zA-Z]+$/;
   if (fname.length == 0 || lname.length == 0 || age.length == 0) {
      alert("All Fields are Mandatory");
      return false;
   }
   else if (!reg.test(fname) || !reg.test(lname)) {
      alert("Only Alphabets Allowed");
      return false;
```

```
  }
  else if (age < 18 || age > 50) {
    alert("Enter Age between 18 & 50 Only")
    return false;
  }
  else {
    document.getElementById('output1').value = age + " " + fname + " " +
lname;
    return true;
  }
}
```

Output:



2) Create an HTML form that contain the Employee Registration details and write a JavaScript to validate DOB, Joining Date, and Salary.

Ans:

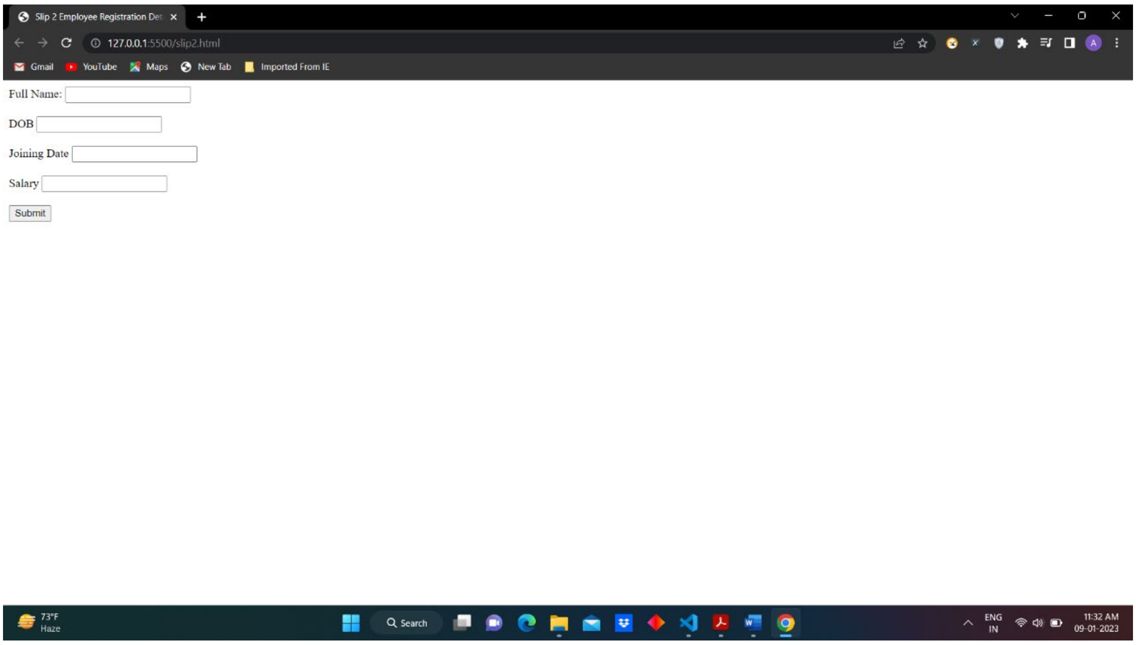
Slip2.html:

```
<!DOCTYPE html>
<html>
<head>
   <title>Slip 2 Employee Registration Details</title>
   <script src="Slip2.js"></script>
</head>
<body>
   <form> Full Name: <input type="text" id="name"></input></br></br> DOB
<input type="text" id="dob"></input></br></br>
      Joining Date <input type="text" id="jdate"></input></br></br>
      Salary <input type="text" id="sal"></input></br></br> <button
type="submit"
         onclick="validateform()">Submit</button> </form>
</body>
</html>
```

Slip.js:

```
function validateform() {
   var name = document.getElementById("name").value;
   var dob = document.getElementById("dob").value;
   var jdate = document.getElementById("jdate").value;
   var sal = document.getElementById("sal").value;
   var regName = /^[a-zA-Z0-9]+\s[a-zA-Z0-9]+$/;
   var regdate = /^[0-9]{1,2}\/[0-9]{1,2}\/[0-9]{4}$/;
   var regsal = /^[0-9]$/;
   if (name.length == 0 || dob.length == 0 || jdate.length == "" || sal.length ==
0) {
      alert("All Fields are Mandatory");
      return false;
   }
   else if (!regName.test(name)) {
        alert("Enter Name Format Correctly First Name Last Name");
        return false;
    }
    else if (!regdate.test(dob)) {
        alert("Registration Date Format DD/MM/YYYY");
        return false;
    }
    else if (!regdate.test(jdate)) {
        alert("Date of Joining Format DD/MM/YYYY");
        return false;
    }
    else if (!regsal.test(sal)) {
        alert("Enter Numerical Values only in Salary");
        return false;
    } else {
    alert("Validation Successfull")
    return true;
    }
}
```

Output:



3) Create an HTML form for Login and write a JavaScript to validate email ID using Regular Expression.

Ans:

Slip3.html:

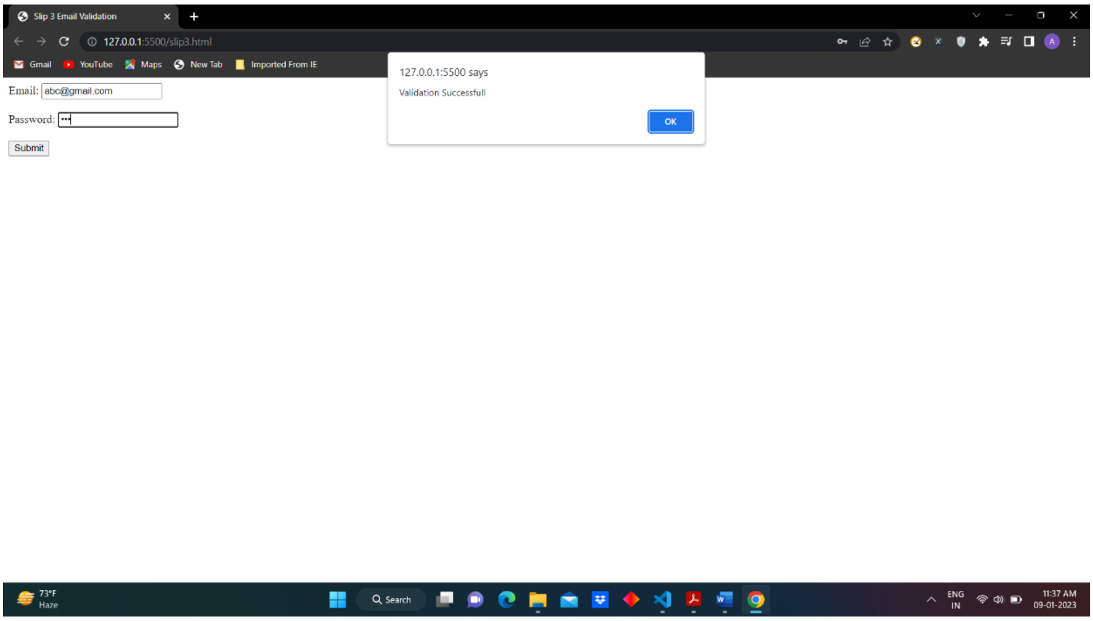
```
<!DOCTYPE html>
<html>
<head>
   <title>Slip 3 Email Validation</title>
   <script src="Slip3.js"></script>
</head>
<body>
   <form> Email: <input type="text" id="email"></input></br></br> Password:
<input type="password"
         id="pass"></input></br></br> <button type="submit"
onclick="validateform()">Submit</button></form>
</body>
</html>
```

Slip3.js:

```
function validateform() {
   var email = document.getElementById("email").value;
   var pass = document.getElementById("pass").value;
   var regEmail = /^([a-zA-Z0-9\._]+)@([a-z]+)(.[a-z]+)?$/;
   if (email.length == 0) {
      alert("All Fields are Mandatory");
      return false;
   }
   else if (pass.length == 0) {
      alert("All Fields are Mandatory");
      return false;
   }
   else if (!regEmail.test(email)) {
      alert("Enter Name Format Correctly First Name Last Name");
      return false;
   }
   else {
      alert("Validation Successfull");
      return true;
```

```
    }
}
```

Output:



127.0.0.1:5500 says

Validation Successfull

Email: abc@gmail.com

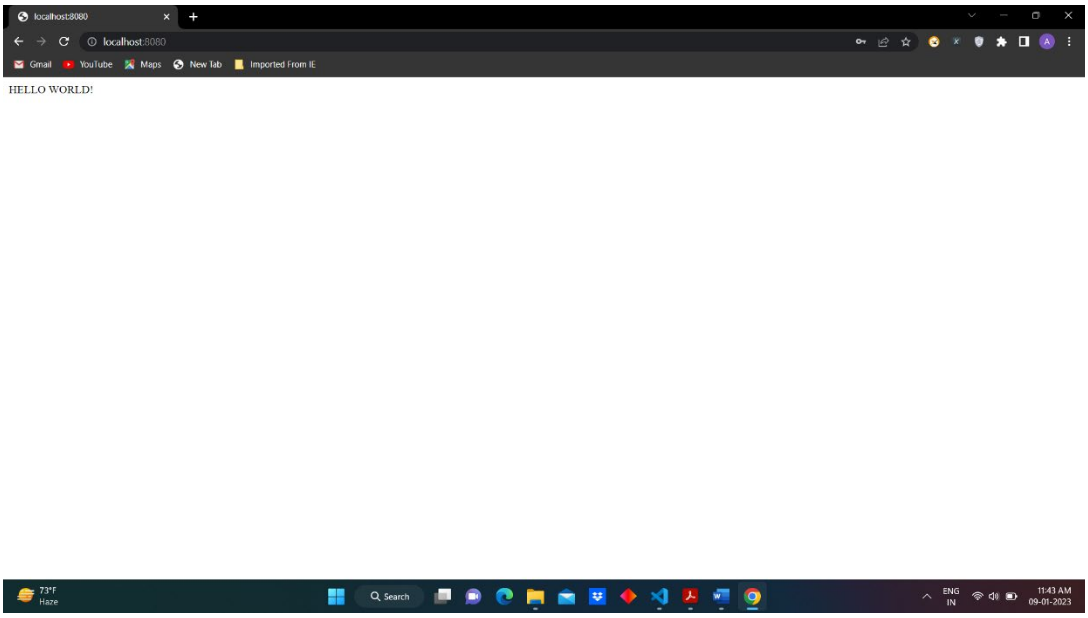
Password: •••

4) Create a Node.js file that will convert the output "Hello World!" into upper-case letters:

Ans:

```
var http = require('http');
var uc = require('upper-case');
http.createServer(function (req, res) {
  res.writeHead(200, {'Content-Type': 'text/html'});
  /*Use our upper-case module to upper case a string:*/
  res.write(uc.upperCase("Hello World!"));
  res.end();
}).listen(8080);
```

Output:



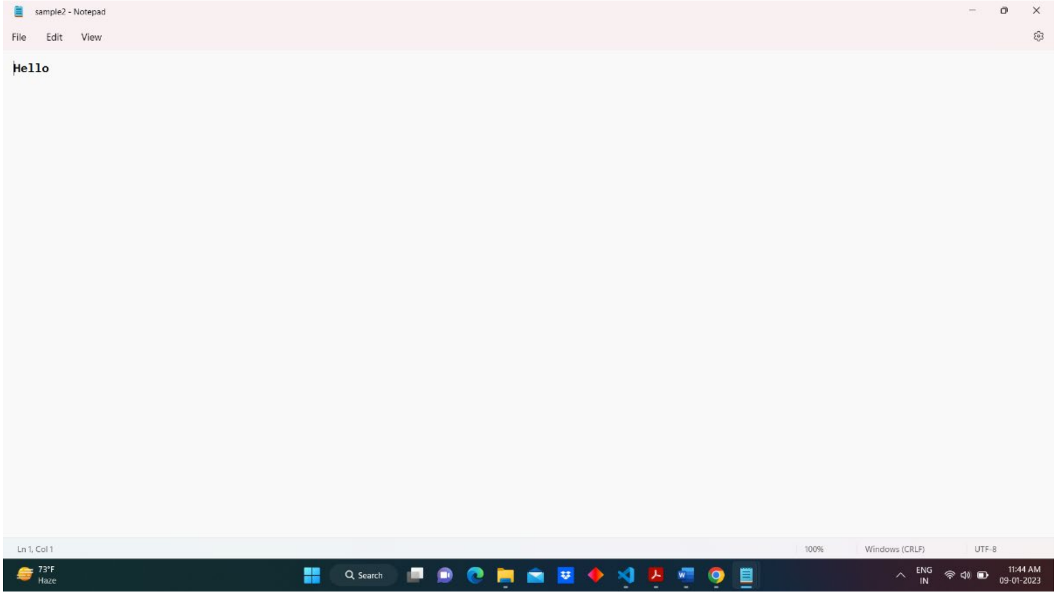
```
HELLO WORLD!
```

5) Using nodejs create a web page to read two file names from user and append contents of first file into second file

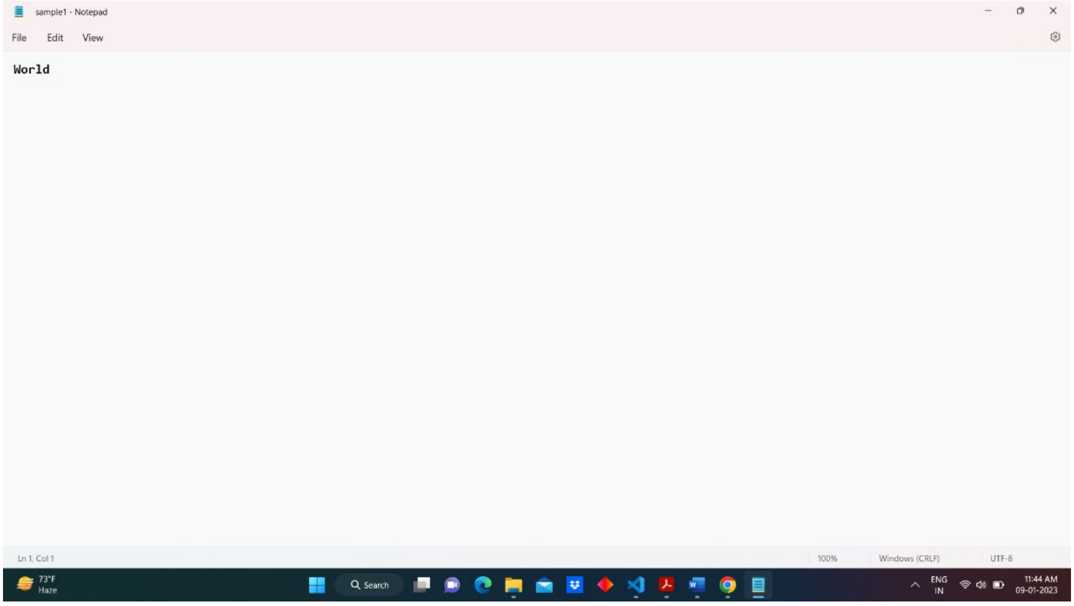
Ans:

```
var fs = require('fs');
var path = require('path')
var data = fs.readFileSync("Sample1.txt", "utf8");
fs.appendFile("Sample2.txt", data, (err) => {
   if (err) {
      console.log(err);
   }
   else {
      console.log("File Content after appending: ",
fs.readFileSync("Sample2.txt", "utf8"));
   }
});
```

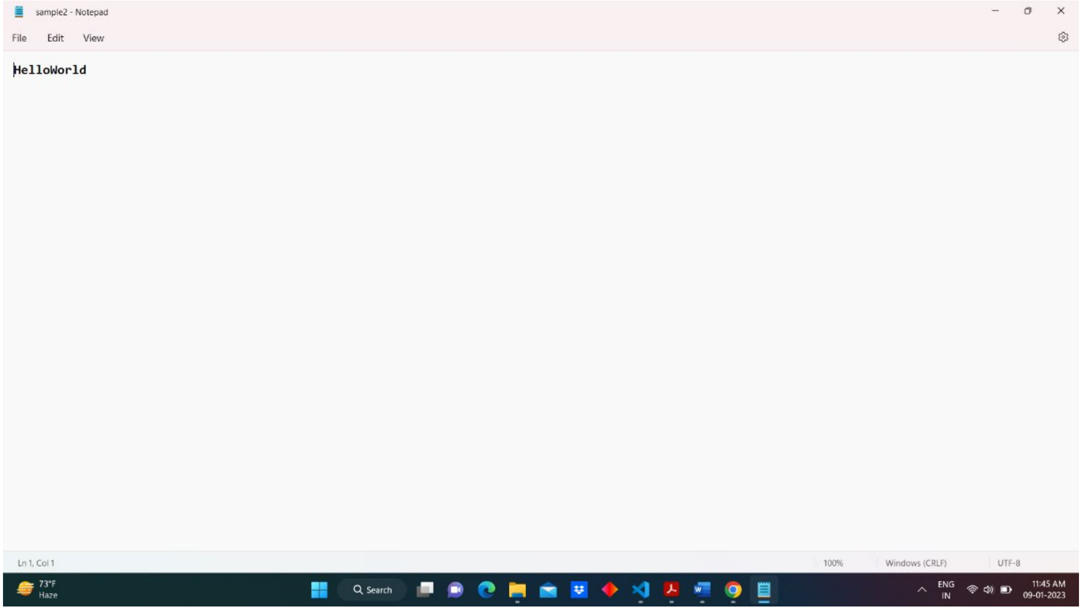
Output:



```
Hello
```



```
World
```



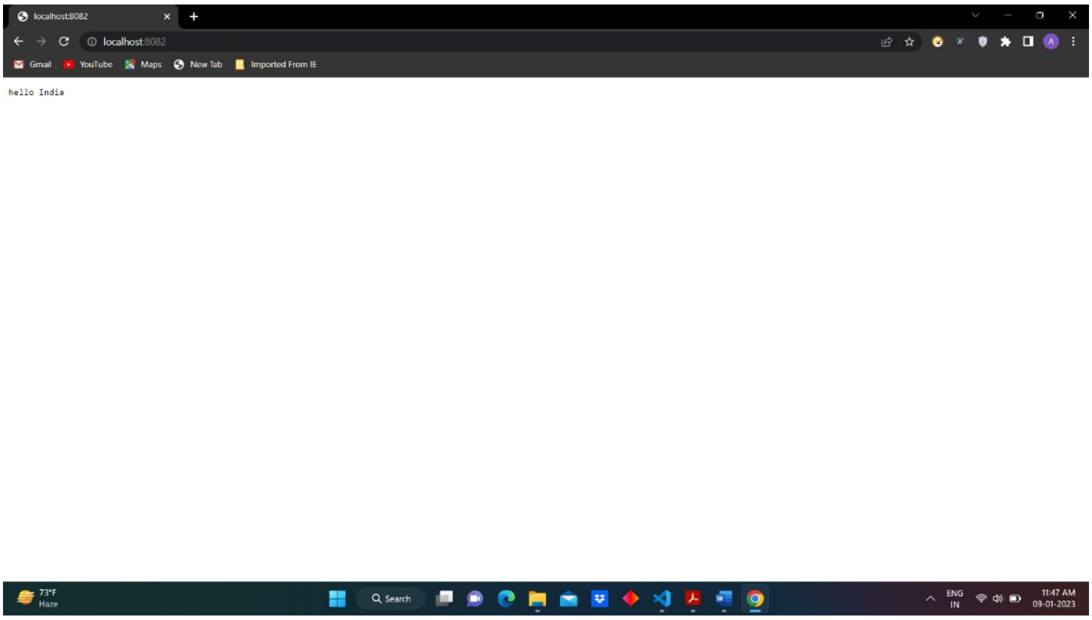
```
HelloWorld
```

6) **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**

Ans:

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

var server = http.createServer(function (req, res) {

   fs.open('Sample.txt', 'r', function (err, fd) {

      if (err) {

         res.writeHead(404, { 'Content-Type': 'text/html' });

         return res.end("404 File Not Found");

      }

      else {

         console.log("File Open Successfully");

         fs.readFile('Sample.txt', function (err, data) {

            if (!err) {

               console.log('File Read Successfully'); res.end(data); fs.close(fd);

            }

            else {

               console.log('Read File is not possible');

            }

         });

      }

   });

}).listen(8081);
```

Output:



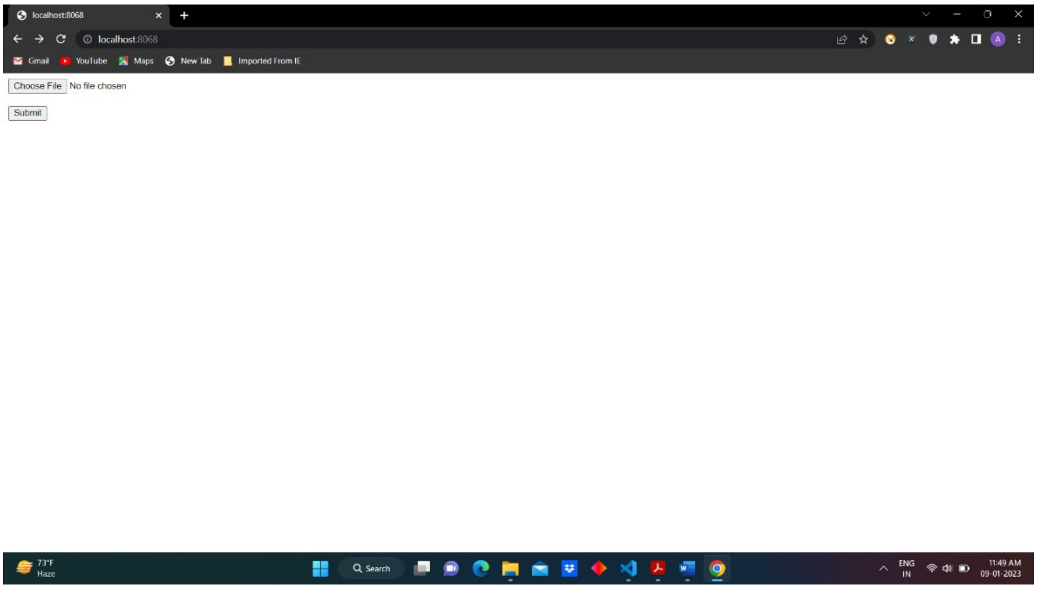
```
hello India
```

7) Create a Node.js file that writes an HTML form, with an upload field

Ans:

```
var http = require('http');
var formidable = require('formidable');
http.createServer(function (req, res) {
  var form = new formidable.IncomingForm();
  form.parse(req, function (err, fields, files) {
    if (req.url == '/fileupload') {
      console.log(files);
      res.write('File Uploaded');
      res.end();
    }
    else {
      res.writeHead(200, { 'Content-Type': 'text/html' });
      res.write('<form action = "fileupload" method = "get" enctype =
"multipart/form_data">');
      res.write('<input type = "file" name="fileuploaded"><br><br>');
      res.write('<input type = "submit">');
      res.write('</form>'); return res.end();
    }
  });
}).listen(8068);
```

Output:

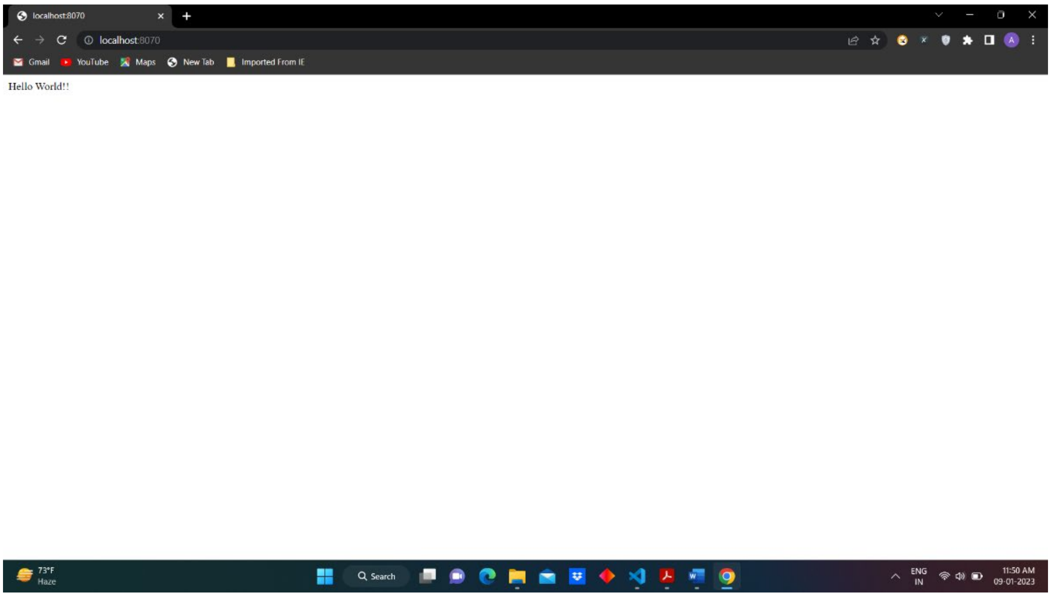


8) Create a Simple Web Server using node js

Ans:

```
var http = require('http');
http.createServer(function(req,res){
   res.writeHead(200, {'Content-Type':'text/html'});
   res.write("Hello World!!");
   res.end();
}).listen(8070);
```

Output:



```
Hello World!!
```

9) Using node js create a User Login System

Ans:

Index.html:

```
<html>
   <head>
      <title>Welcome Home</title>
   </head>
   <body>
      <a href="http://localhost:3000/login">Please Login Here!</a>
   </body>
</html>
```

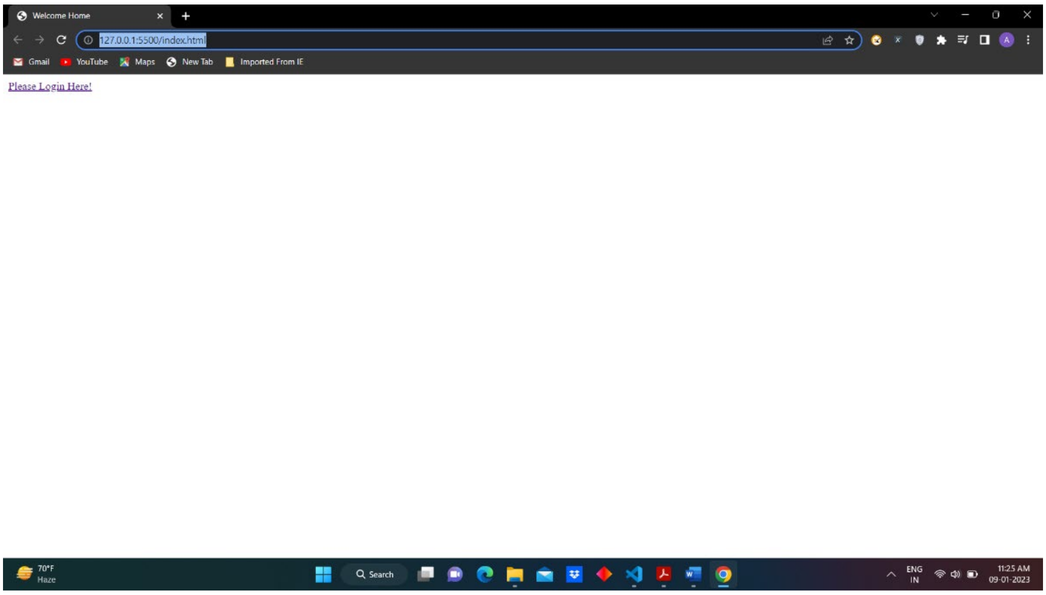
Login.html:

```
<html>
<head>
   <title>LOGIN FORM</title>
</head>
<body>
   <form action="http://localhost:3000/login" method="post"> Username:
<br> <input type="text" name="usrname" required>
      <br><br> Password: <br> <input type="password" name="pass" required>
<br><br>
      <input type="submit" value="LOGIN">
   </form>
</body>
</html>
```

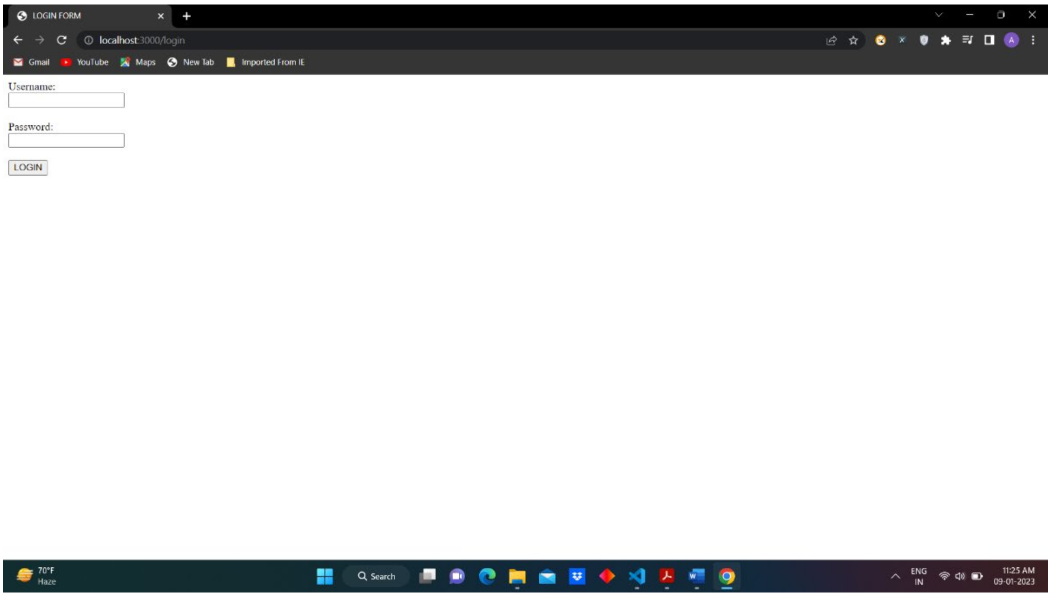
Login.js:

```
var express = require('express');
var bodyParser = require('body-parser');
var app = express(); app.use(bodyParser.urlencoded({ extended: false }));
app.get('/', function (req, res) { res.sendFile(__dirname + '/index.html'); });
app.get('/login', function (req, res) { res.sendFile(__dirname + '/login.html'); });
app.post('/login', function (req, res) {
    person = { username: req.body.usrname, password: req.body.pass };
    res.end("Logged in Successfully " + JSON.stringify(person));
});
var server = app.listen(3000, function () {
    console.log("Server is Running");
});
```

Output:



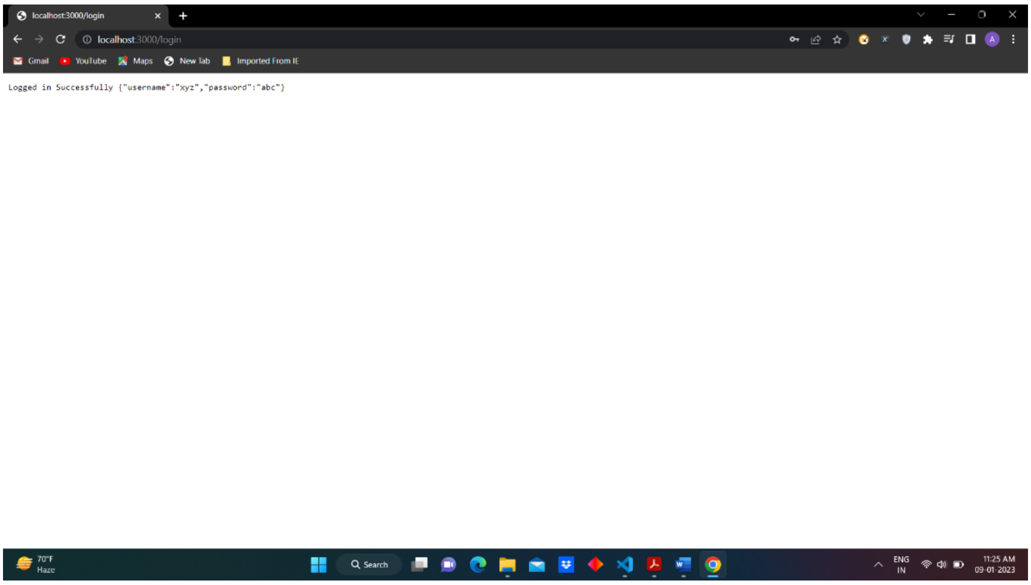
Please Login Here!



Username:

Password:

LOGIN



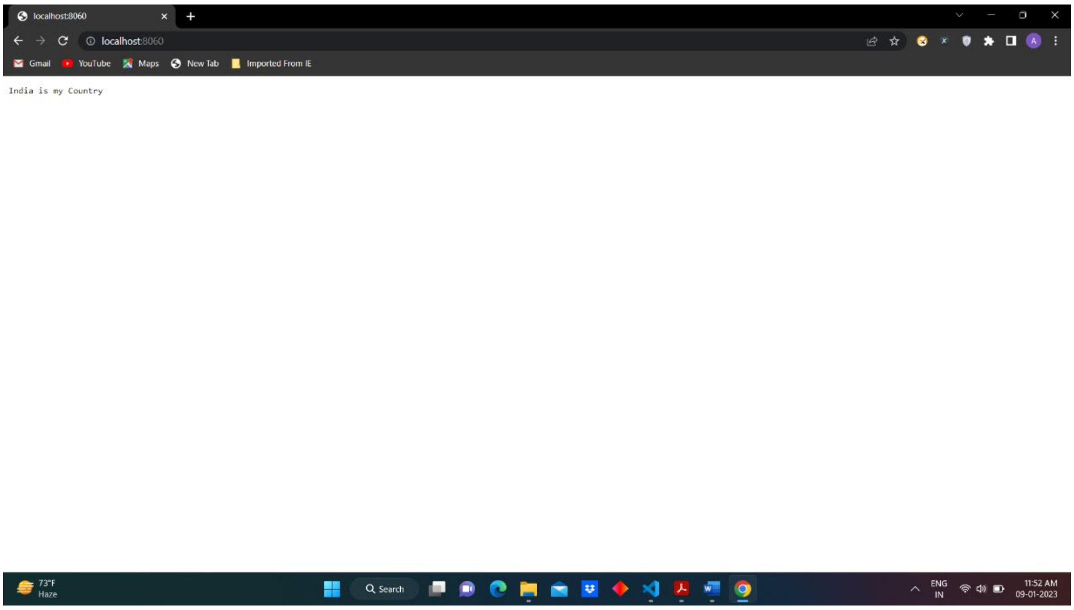
```
Logged in Successfully {"username":"xyz","password":"abc"}
```

10) write node js script to interact with the filesystem, and serve a web page from a file

Ans:

```
var http = require('http');
var fs = require('fs');
var server = http.createServer(function (req, res) {
  //fs.open( filename, , mode[r = read & r+ = readwrite], callback )
  fs.open('Sample.txt', 'r', function (err, fd) {
    fs.readFile('Sample.txt', function (err, data) {
      if (!err) {
        console.log('File Read Successfully');
        res.end(data);
        fs.close(fd);
      }
      else {
        console.log('Read File is not possible');
      }
    });
  });
}).listen(8060);
```

Output:



```
India is my Country
```