Deccan Education Society's

Navinchandra Mehta Institute of Technology and Development

C E R T I F I C A T E

This is to certify that Mr. / Miss. **Nishant D. Desai** of M.C.A. Semester I with Roll No. **C23029** has completed _____ practicals of Web Technologies under my supervision in this college during the year 2022-2023.

CO	R1 (Journal)	R2 (Performance during lab session)	R3 (Implementation using different problem solving techniques)	R4 (Mock Viva)	Attendance
CO1					
CO2					
CO3					
CO4					

Practical-in-charge

Head of Department
MCA Department
(NMITD)

MCAL14 Web Technology Lab

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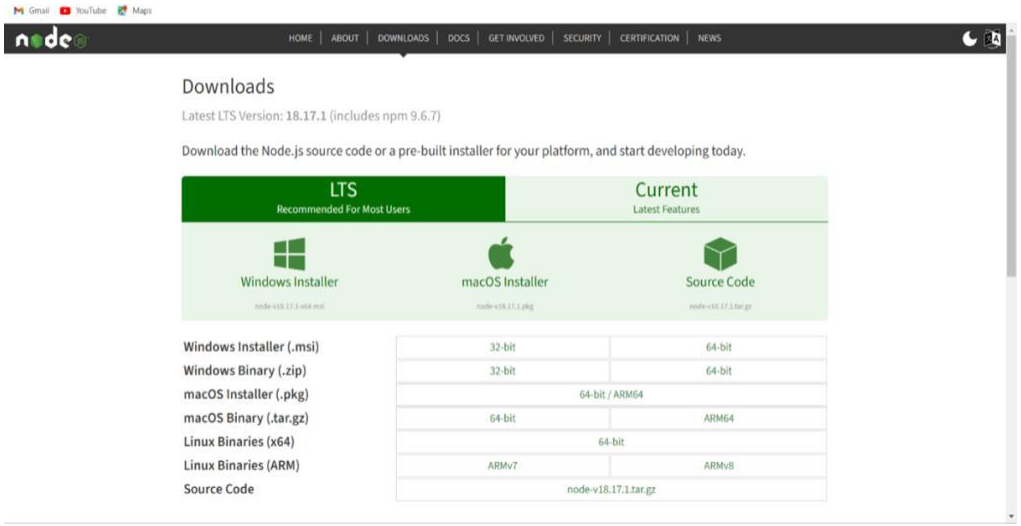
Sr.No	Topic Name	Date	CO	Sign
1	Create an application to demonstrate Node.js Modules		**CO1**	
2	Create an application to demonstrate various Node.js Events		**CO1**	
3	Create an application to demonstrate Node.js Functions		**CO1**	
4	Using File Handling demonstrate all basic file operations (Create, write, read, delete)		**CO1**	
5	Create an HTTP Server and perform operations on it		**CO1**	
6	Create an application to establish a connection with the MySQL database and perform basic database operations on it		**CO2**	
7	Create an application using Filters		**CO3**	
8	Create an application to demonstrate directives		**CO3**	
9	Demonstrate controllers in Angular.js through an application		**CO3**	
10	Demonstrate features of Angular.js forms with a program		**CO3** **CO4**	
11	Create a SPA (Single Page Application)		**CO4**	

Web Technology journal

Nishant Desai (C-23029)

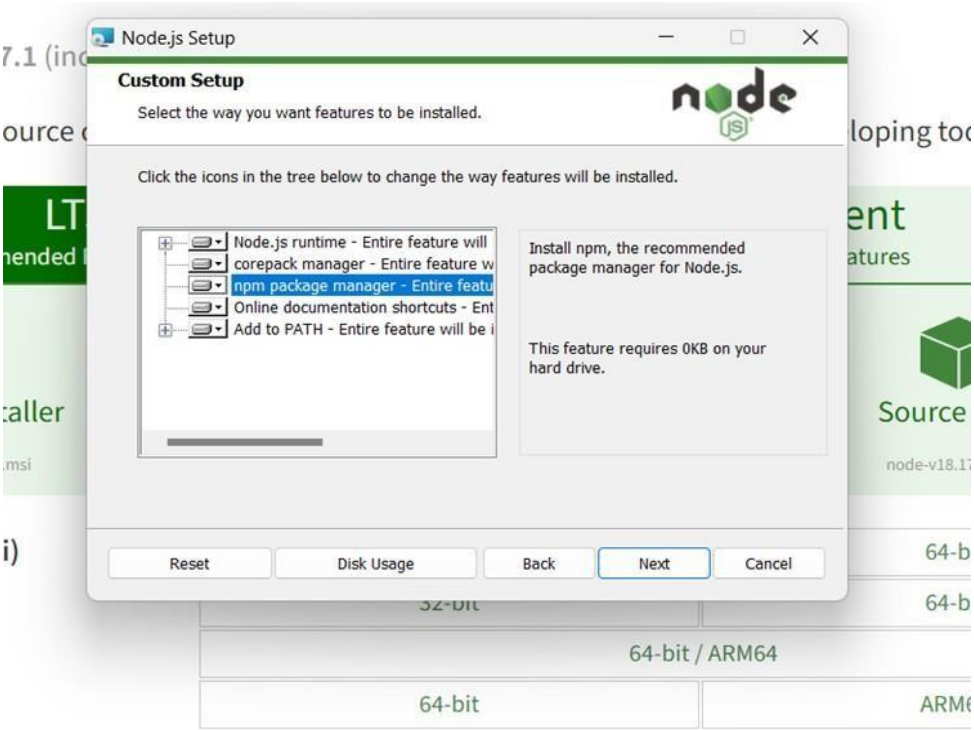
Steps to Install Node.js Application:-

1. Download Node.JS Installer for Windows.
2. Open a Web browser.
3. Go to https://nodejs.org/en/download.
4. Download node MSI for windows by clicking on 8.11.3 LTS or 10.5.0 Current button. https://nodejs.org/en/download/

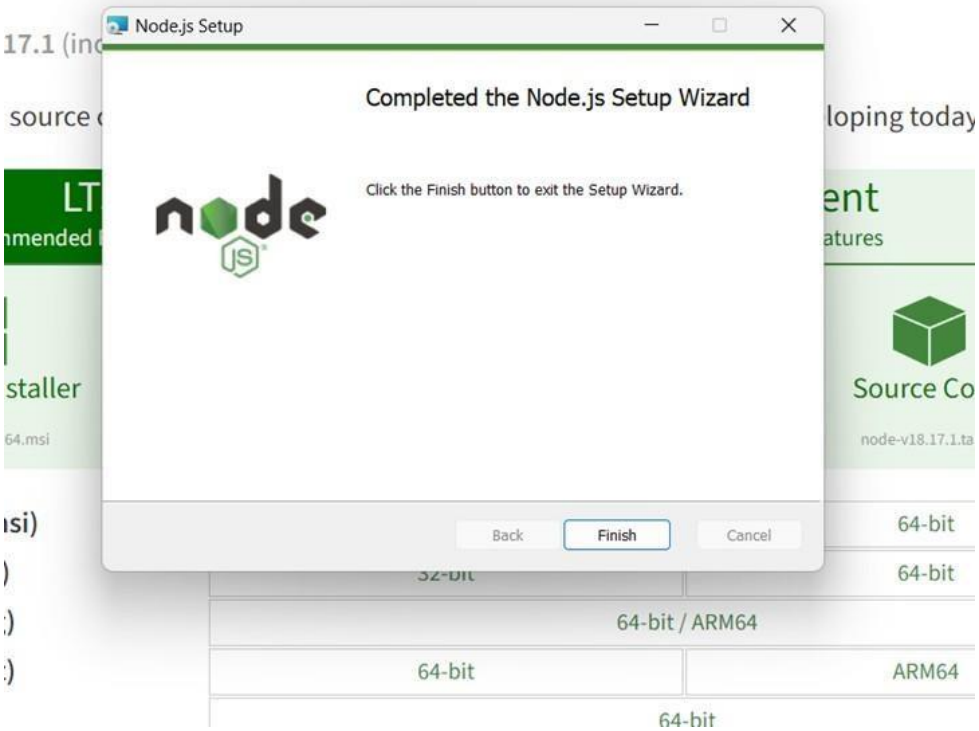


Step 2:- Click Next to read and accept the License Agreement and then click Install. It will install Node.js quickly on your computer

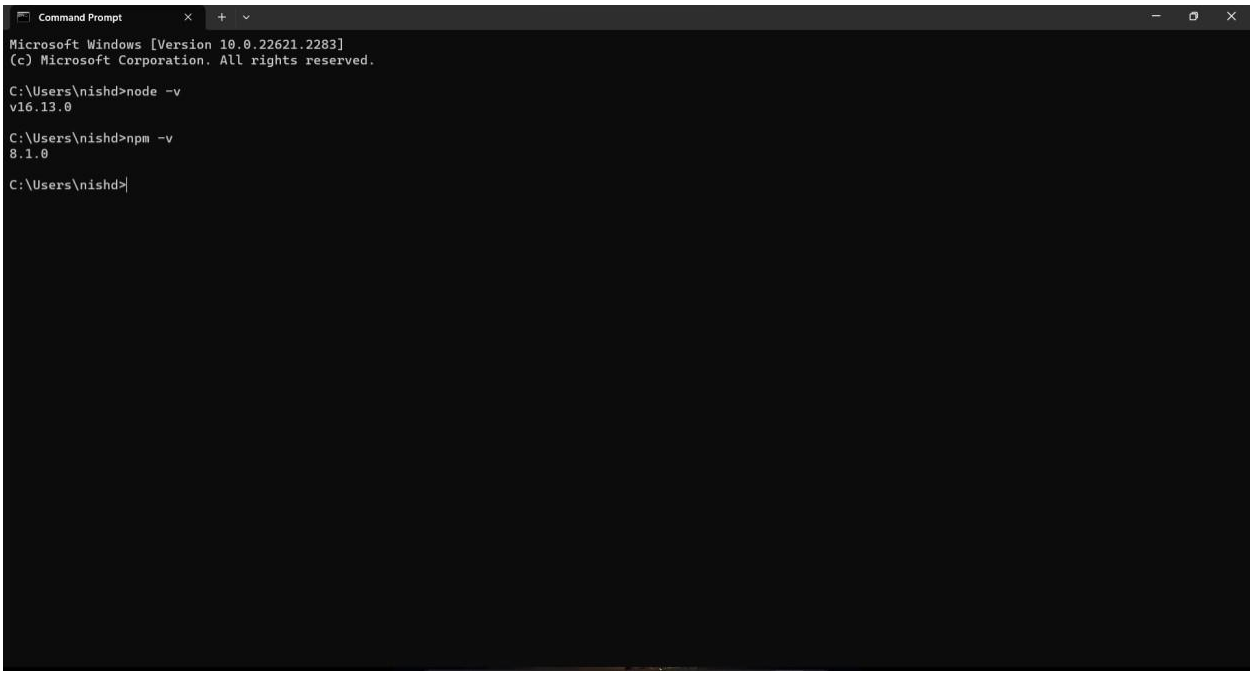
Step 3:- Install Node.js and npm package.



Step 4:- Click the Finish Button To Complete The Installation part.



Step 5:- After the installation is complete, you can verify that Node.js and npm (Node Package Manager) are installed correctly by opening a terminal or command prompt and running the following commands.


Command Prompt
Microsoft Windows [Version 10.0.22621.2283]
(c) Microsoft Corporation. All rights reserved.
C:\Users\nishd>node -v
v16.13.0
C:\Users\nishd>npm -v
8.1.0
C:\Users\nishd>

1) **Create an application to demonstrate Node.js Modules**

Modules

In Node.js, Modules are the blocks of encapsulated code that communicate with an external application on the basis of their related functionality. Modules can be a single file or a collection of multiple files/folders. The reason programmers are heavily reliant on modules is because of their reusability as well as the ability to break down a complex piece of code into manageable chunks.

Include Modules :-

To include a module, use the require() function with the name of the module: Const calculator = require('./calculator');

Example :-

Step 1

Create the Calculator Module (calculator.js): Inside the calculator.js file, define the module: This module provides basic calculator function

```
function add(a, b) {
  return a + b;
}

// Function to subtract two numbers function subtract(a, b)
function subtract(a, b) {
  return a - b;
}

// Function to multiply two numbers function multiply(a, b)
function multiply(a, b) {
  return a * b;
}

// Function to divide two numbers function divide(a, b)
function divide(a, b) {
  if (b === 0) {
```

```
throw new Error("Division by zero is not allowed") return a / b;
}
module.exports = { add, subtract, multiply, divide }
```

Export the calculator functions as a module

```
module.exports = {
add,
subtract,
 multiply,
 divide,
};
```

Step 2

Use the Calculator Module in the Main Application :

Inside the app.js file, require the calculator module and use its functions

```
Require the calculator module
 const calculator = require("./calculater");
const num1 = 100;
const num2 = 200;

console.log(`Addition: ${num1} + ${num2} = ${calculator.add(num1, num2)}`);
console.log(`Subtraction: ${num1} - ${num2} =
${calculator.subtract(num1, num2)}`);
console.log(`Multiplication: ${num1} *
${num2} = ${calculator.multiply(num1, num2)}`);
try {
  console.log(`Division: ${num1} / ${num2} = ${calculator.divide(num1, num2)}`);
} catch (error) {
  console.error(error.message);
}
```

Output:-

```
PROBLEMS 10   OUTPUT   DEBUG CONSOLE   TERMINAL   PORTS   COMMENTS                    powershell

PS C:\Users\nishd\Desktop\Assingment1> node module.js
Addition: 100 + 200 = 300
Subtraction: 100 - 200 =
-100
Multiplication: 100 *
200 = 20000
Division: 100 / 200 = 0.5
PS C:\Users\nishd\Desktop\Assingment1>
```

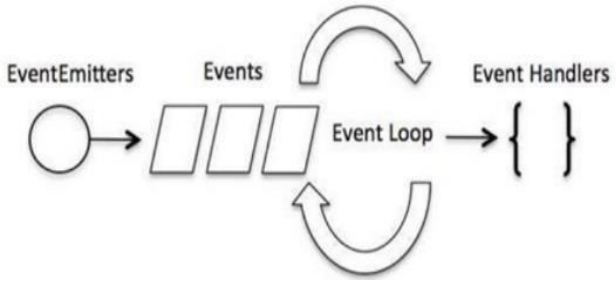
2) Create an application to demonstrate Node.js Events

Node.js Events

In Node.js applications, Events and Callbacks concepts are used to provide concurrency. As Node.js applications are single threaded and every API of Node js are asynchronous. So it uses async function to maintain the concurrency. Node uses observer pattern. Node thread keeps an event loop and after the completion of any task, it fires the corresponding event which signals the event listener function to get executed.

Event Driven Programming

Node.js uses event driven programming. It means as soon as Node starts its server, it simply initiates its variables, declares functions and then simply waits for event to occur. It is the one of the reason why Node.js is pretty fast compared to other similar technologies. There is a main loop in the event driven application that listens for events, and then triggers a callback function when one of those events is detected.



Node.js Event Example

Step 1

Initialize a Node.js Project: Open your terminal and create a new directory for your project. Navigate to that directory and run the following commands to initialize a Node.js project and install the necessary dependencies

1. mkdir nodejs-events-demo
2. cd nodejs-events-demo
3. npm init -y
4. npm install events

Step 2

Creating a JavaScript file by any name in my project directory.

Step 3

Write the Node.js Applicatio// Import the events module

```
const EventEmitter = require("events");

// Create an instance of EventEmitter

const emitter = new EventEmitter();

// Define event listeners
emitter.on("customEvent", (message) => {
console.log(`Listener 1: ${message}`);
});

emitter.on("customEvent", (message) => {
console.log(`Listener 2: ${message}`);
} );

// Emit the custom event
emitter.emit("customEvent", "Heyy Nishant");

// Remove one of the event listeners
emitter.removeListener("customEvent", (message) => {
console.log(`Listener 2 removed: ${message}`);
});

// Example of using once to listen for an event only once emitter.once('onceEvent', () => {
console.log("This event will only trigger once.");

emitter.emit("onceEvent");
emitter.emit("onceEvent"); // This won't trigger the listener again
// Example of using the listenerCount method
const listenerCount = EventEmitter.listenerCount(emitter, "customEvent");
console.log(`Total customEvent listeners: ${listenerCount}`);
```

Output:-

3)Create an application to demonstrate Node.js Functions.

Functions in Node.js

i) A function is the core of NodeJS, NodeJS uses functions everywhere such as for standard operations, as an arrow function, or as a callback function.

ii) The function is the key fundamental of programming languages, it is used to combine different expressions and instruct them to perform certain operations.

iii) A function makes the overall structure of the program better by providing a feature to group certain expressions and operations, which also helps in reducing duplicate code.

How to Define a Function in NodeJS?

Function Definition means defining the function behaviour, functionality, name, parameters, and the value it returns. In other words, before using a function it is required to create that function, and creating a function is called the function definition.

Step 1

create a basic Node.js application that calculates the factorial of a number using a custom function.

```
// Function to calculate the factorial of a number
 function factorial(num)
{
 if (num === 0 || num === 1) { return 1;
}
 else {
 return num * factorial(num - 1);
}}
// Example usage of the factorial function
const number = 20;
const result = factorial(number);
console.log(`The factorial of ${number} is ${result}`);
```

Output :-

```
PROBLEMS 5   OUTPUT   DEBUG CONSOLE   TERMINAL   PORTS   COMMENTS        Filter (e.g. text, !exclude)
C:\Program Files\nodejs\node.exe .\factorial.js
The factorial of 20 is 2432902008176640000                                                factorial.js:12
```

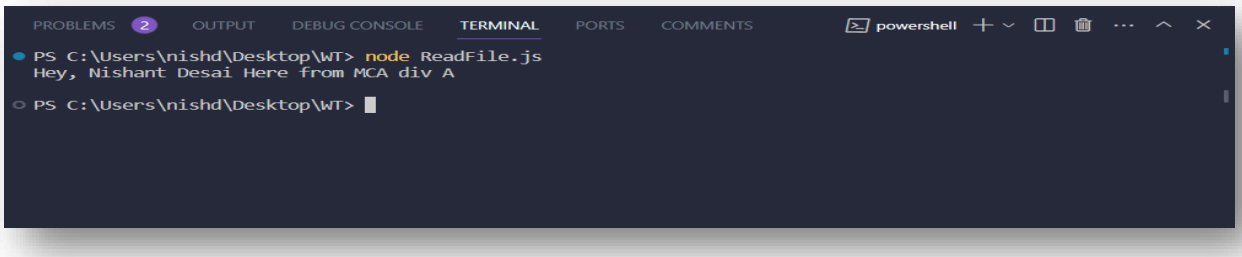
4) Using file Handling demonstrate all basic file operations (Create, Write,read,delete)

ReadFile.js:

Code:

```
var fs = require("fs");
fs.readFile("input.txt", function (err, data) {
 if (err) throw err;
console.log(data.toString());
});
```

Output:



WriteFlie.js

Code:

```
var fs = require("fs");
fs.writeFile("test.txt", "Hello World hi 123!", function (err) {
if (err) console.log(err);
else console.log("Write operation complete.");
});
```

Output:

AppendFlie.js

Code:

```
var fs = require("fs");
fs.appendFile("input.txt", "hiii ", function (err) {
 if (err) throw err;
  console.log("Saved!");
});
```

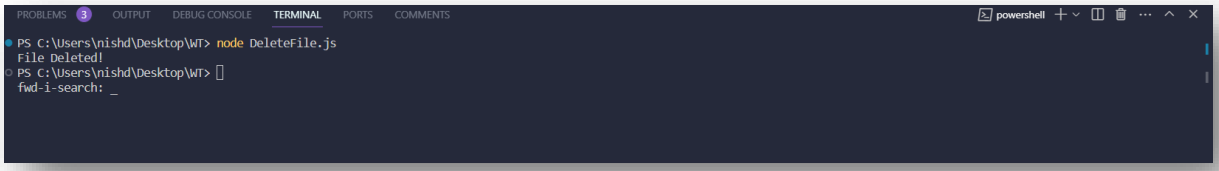
Output:

DeleteFlie.js

Code:

```
var fs = require("fs");
fs.unlink("input.txt",  function () {
console.log("File  Deleted!");
});
```

Output:

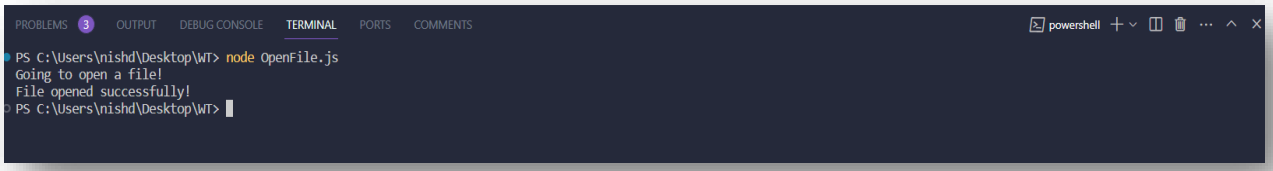


OpenFlie.js

Code:

```
var fs=require('fs');
console.log("Going to open a
file!");
fs.open('input.txt','r+',function(err
,fd){if (err){return
console.error(err);}
console.log("File opened successfully!"); });
```

Output:

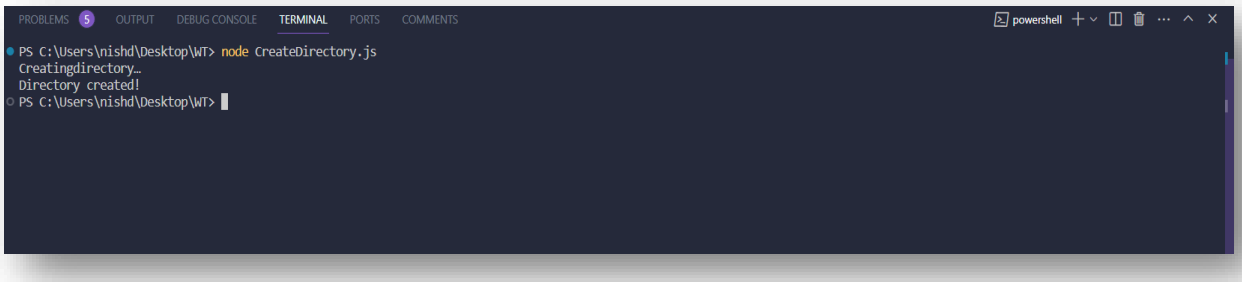


CreateDirectory.js

Code:

```
var fs=require('fs');
console.log("Creatingdirectory….”
);
fs.mkdir('./newdir',function(e
   rr){if(err){
      return console.error(err);
   }
   console.log("Directory created!");
});
```

Output:

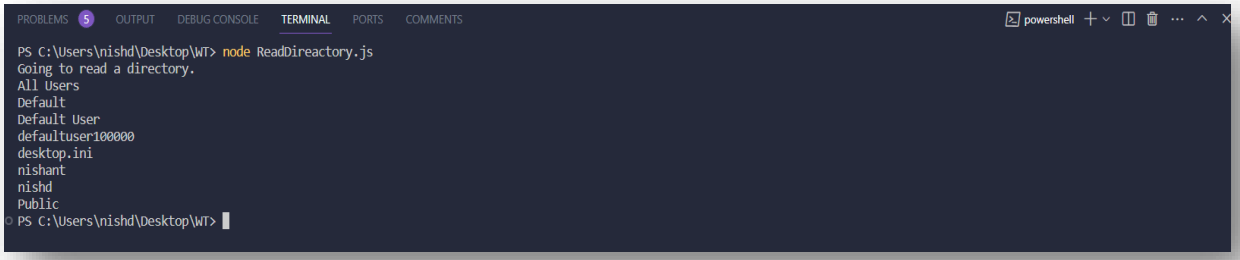


ReadDireactory.js

Code:

```
var fs=require('fs');
console.log("Going to read a directory.       ");
fs.readdir('/Users',function(err,files){
   if(err){
      return console.error(err);
   }
   files.forEach(function(file
      ){console.log(file);
   });
});
```

Output:



GetFileInformation.js

Code:

```
var fs=require('fs');
console.log("Going to get file
info!");
fs.stat('input.txt','r+',function(err,st
   ats){if (err){
      return console.error(err);
   }
   console.log(stats);
   console.log("Got file info successfully!");
   console.log("Is it a file?",+stats.isFile());
   console.log("Is it a
   directory?",+stats.isDirectory());
});
```

Output:

```
PROBLEMS 5   OUTPUT   DEBUG CONSOLE   TERMINAL   PORTS   COMMENTS                    powershell

PS C:\Users\nishd\Desktop\WT> node GetFileInformation.js
Going to get file info!
Stats {
  dev: 3026361455,
  mode: 33206,
  nlink: 1,
  uid: 0,
  gid: 0,
  rdev: 0,
  blksize: 4096,
  ino: 33214047251949680,
  size: 22,
  blocks: 0,
  atimeMs: 1700850490236.6428,
  mtimeMs: 1700850490047.0283,
  ctimeMs: 1700850490047.0283,
  birthtimeMs: 1700850478910.9836,
  atime: 2023-11-24T18:28:10.237Z,
  mtime: 2023-11-24T18:28:10.047Z,
  ctime: 2023-11-24T18:28:10.047Z,
  birthtime: 2023-11-24T18:27:58.911Z
}
Got file info successfully!
Is it a file? 1
Is it a directory? 0
PS C:\Users\nishd\Desktop\WT>
```

5)Create an HTTP Server and perform operations on it Node.jsWeb Server

In this section, we will learn how to create a simple Node.js web server and handle HTTP requests. To access web pages of any web application,you need a web server. The web server will handle all the http requests for the web application e.g IIS is a web server for ASP.NET web
applications and Apache is a web server for PHP or Java web applications. Node.js provides capabilities to create your own web server
which will handle HTTP requests asynchronously. You can use IISor Apache torun Node.js web application but it is recommended to useNode.js web server.

Handle HTTP Request

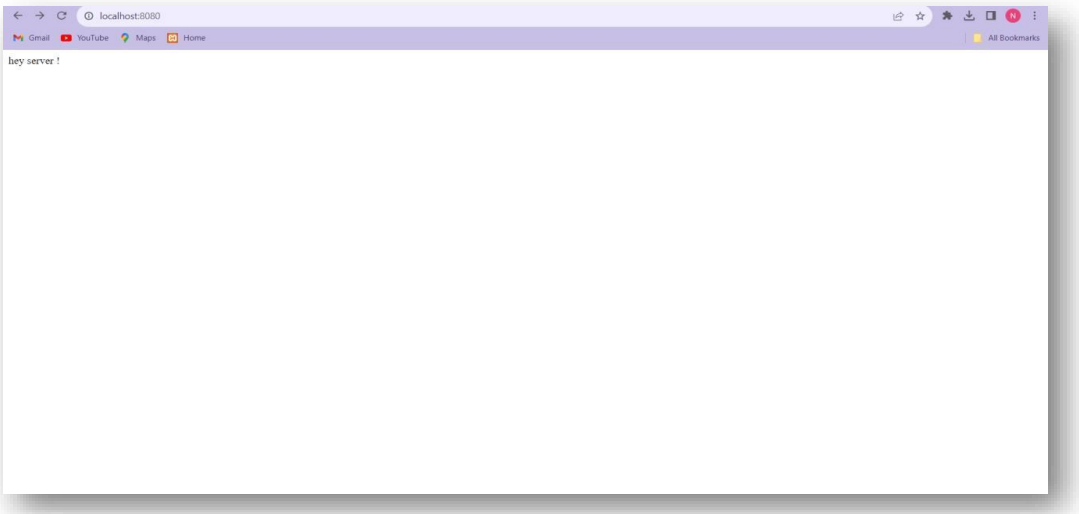
The http.createServer() method
includes request and response parameters which is supplied by Node.js.The request object can be used to get information about the current HTTP request e.g., url, request header, and data. The response object can be used to send a response for a current HTTP request.
The following example demonstrates handling HTTP request andresponse inNode.js.

```
var http = require("http");
var server =
  http.createServer(function(req,res){if
  (req.url=='/'){

    res.writeHead(200,{'Content-
    Type':'text/html'}); res.write("hey
    server ..........................!");
    res.end();
  }
  else if(req.url=='/student'){

    res.writeHead(200,{'Content-Type':'text/html'});
    res.write('<html><body><p><style>p{color:red;}</style>This
    is studentpage</p></body></html>');
    res.end();
   }
```

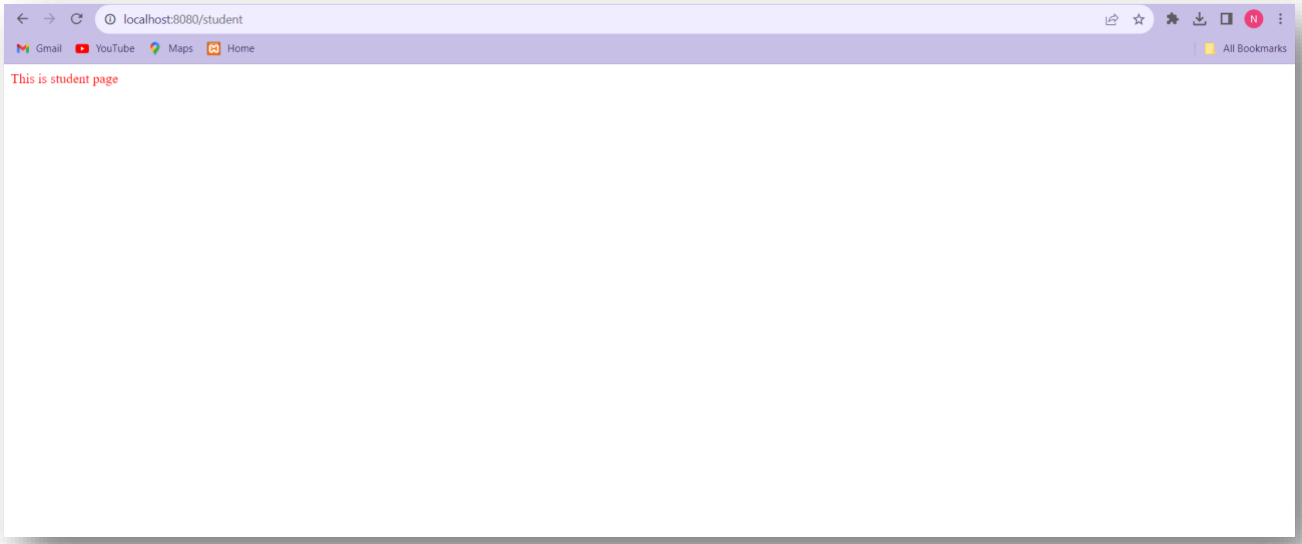
```
e            dmin'){
l
s            res.writeHead(200,{'Content-Type':'text/html'});
e            res.write('<html><body><h1><style> h1{background:gray;
i            color:red;}</style>This is admin page</h></body></html>');
f            res.end();
(
}r
else if (req.url == "/teacher") {
e
q res.writeHead(200, { "Content-Type": "text/html" });
. res.write(
u   "<html><body><h1><style> h1{background:gray; color:red;}</style> This is teacher
page</h></body></html>"
p
l );
else
else
res.end('Invalid Request');
s
server.listen(8080);
c console.log('server is running..');
a
});
```

Output:-

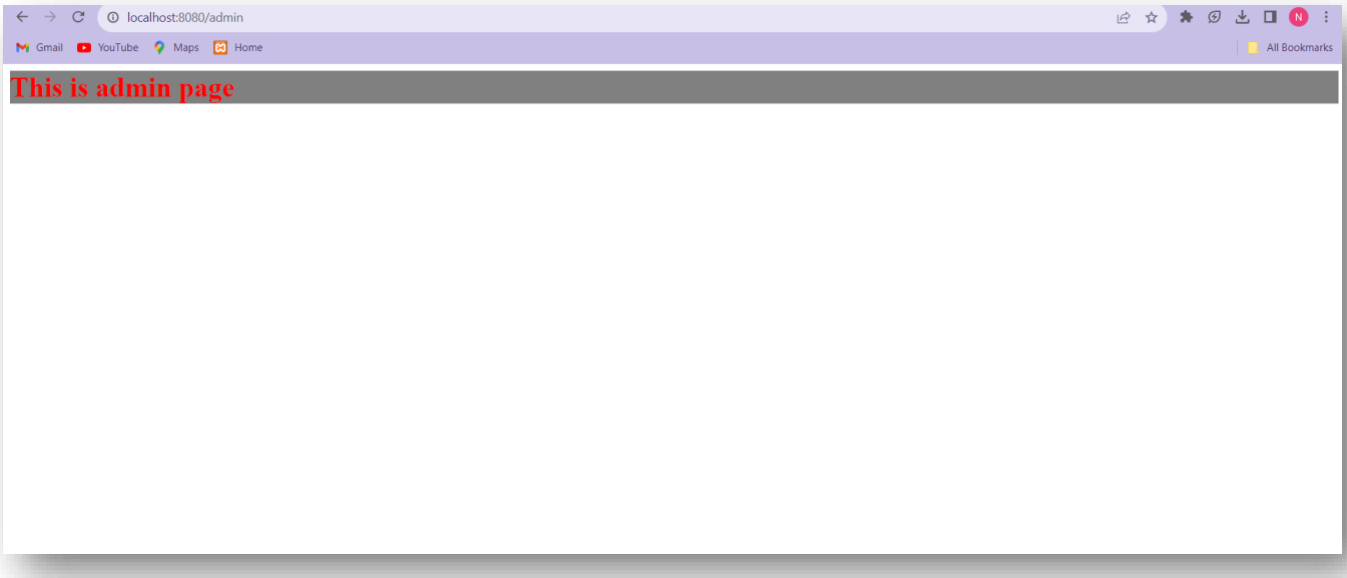
For Windows users, point your browser to http://localhost:8080 and seethe following result.



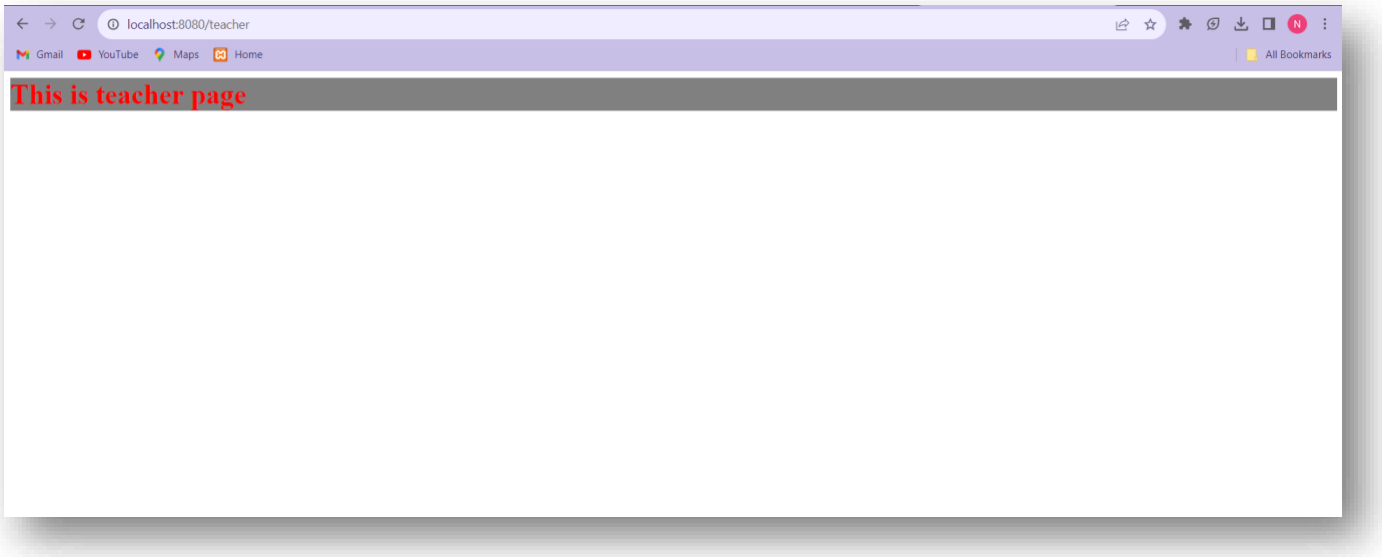
point your browser to http://localhost:8080/studentand see thefollowing result.



point your browser to http://localhost:8080/admin and see the followingresult.



point your browser to http://localhost:8080/teacher and see the following result.



6)Create an application to establish a connection with the MySQL database and perform basic database operations on it

Create database:

```
var mysql=require('mysql');
var
   con=mysql.createConnection
   ({host:'localhost',
   user:'root',
   password:'',
   database:'DB01'
});
con.connect(function(err)
   { if(err) throw err;
   console.log("Conected!
   ");
   con.query('CREATE DATABASE
   DB01',function(err,result){ if (err) throw err;
      console.log('Database created successfully!');
   });
});
```

Output:-

```
PROBLEMS 9   OUTPUT   DEBUG CONSOLE   TERMINAL   PORTS   COMMENTS        powershell
PS C:\Users\nishd\Desktop\WT> node createdb.js
Connected!
Database created successfully!
PS C:\Users\nishd\Desktop\WT>
```

Create table:

```
var mysql=require('mysql');
var
   con=mysql.createConnection
   ({host:'localhost',
   user:'root',
   password:'',
   database:'DB01'
});
con.connect(function(err){
   if(err) throw err;
   console.log("Connected!
   ");
   var query="CREATE  TABLE DB01(Name VARCHAR(10), ADDRESS
VARCHAR(255)
   con.query(query,function(err,res
      ult){if(err) throw err;
      console.log("Table  created!");
   });
});
```

Output:-

```
PROBLEMS 9   OUTPUT   DEBUG CONSOLE   TERMINAL   PORTS   COMMENTS        powershell
PS C:\Users\nishd\Desktop\WT> node createdb.js
Connected!
Table Created!
PS C:\Users\nishd\Desktop\WT>
```

Insert table:

```
var mysql=require('mysql');
var
   con=mysql.createConnection
   ({host:'localhost',
   user:'root',
   password:'',
   database:'DB01'
});
con.connect(function(err)
   { if(err) throw err;
   console.log('Connected!
   ');
   var query="INSERT INTO
   DB01(NAME,ADDRESS)
   VALUES('TCS', 'MUMBAI')";
   con.query(query,function(err,res
      ult){if (err) throw err;
      console.log('1 record inserted!');
   });
});
```

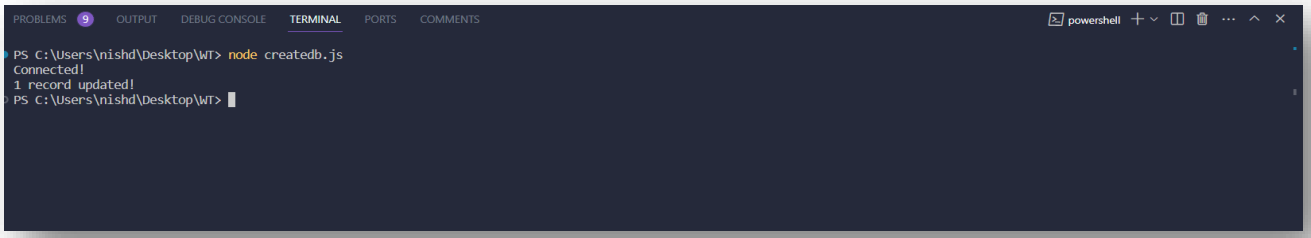
Output:-

```
PROBLEMS 9   OUTPUT   DEBUG CONSOLE   TERMINAL   PORTS   COMMENTS        powershell

PS C:\Users\nishd\Desktop\WT> node createdb.js
Connected!
1 record inserted!
PS C:\Users\nishd\Desktop\WT>
```

Update table:

```
var mysql=require('mysql');
var
   con=mysql.createConnection
   ({host:'localhost',
   user:'root',
   password:'',
   database:'DB01'
});
con.connect(function(err)
   { if (err) throw err;
   console.log('Connected
   !');
   var query="UPDATE  CUSTOMERS SET address='HIGHWAY  37'
   WHERE address=MUMBAI";
   con.query(query,function(err,result){
      if(err) throw err;
      console.log('1 record updated!');
   });
});
```

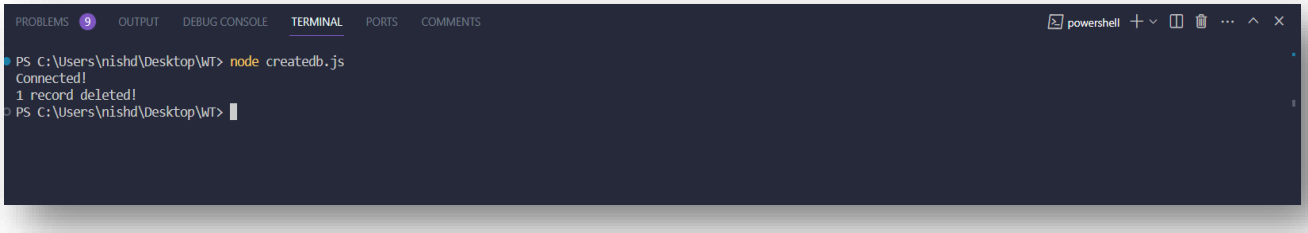
Output:-

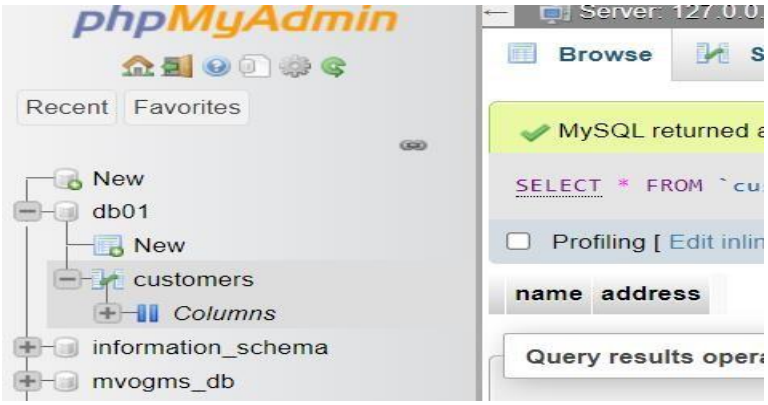


Delete record:

```
var mysql=require('mysql');
var
   con=mysql.createConnection
   ({host:'localhost',
   user:'root',
   password:'',
   database:'DB01'
});
con.connect(function(err)
   { if (err) throw err;
   console.log('Connected
   !');
   var query="DELETE  FROM DB01 WHERE
   address=HIGHWAY 37";
   con.query(query,function(err,result){
      if(err) throw err;
      console.log('1 record deleted!');
   });
});
```

Output:-





7) Create an Application using filters

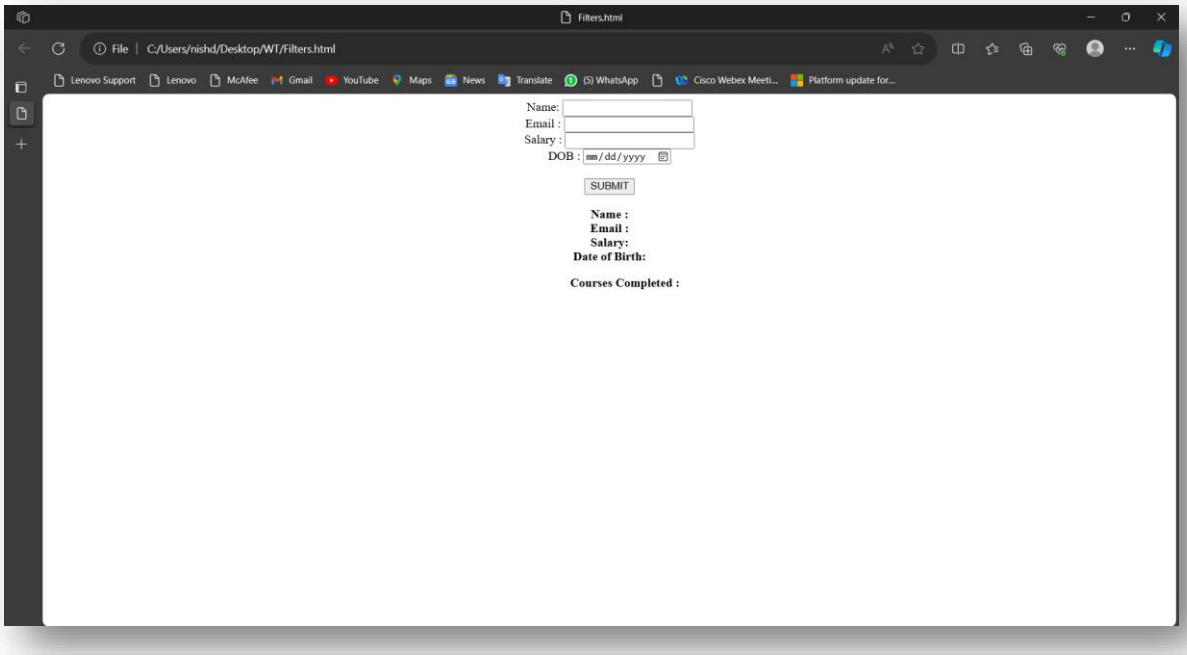
Code:

```
<!DOCTYPE HTML>
<html>
<head>
<script
src="https://ajax.googleapis.com/ajax/libs/an
gularjs/1.8.2/angular.min.js"></script>
</head>
<body style="text-align:center;">
<div ng-app="app">
<div ng-controller="controller">
<form action="javascript:void(0)"> Name:
<input type="text"
ng-model="user.fName" /><br> Email :
<input type="text"
ng-model="user.lName" /><br>
Salary : <input type="text" ng-
model="user.sal"><br> DOB : <input
type="date" ng-model="user.dob">
<br><br>
<button ng-click="getData(user)"> SUBMIT
</button>
</form>
<p><b>Name :</b>
{{userData.fName|uppercase}}<br>
<b>Email :</b>
{{userData.lName|lowercase}}<br>

<b> Salary:</b> {{userData.sal|currency:"₹
```

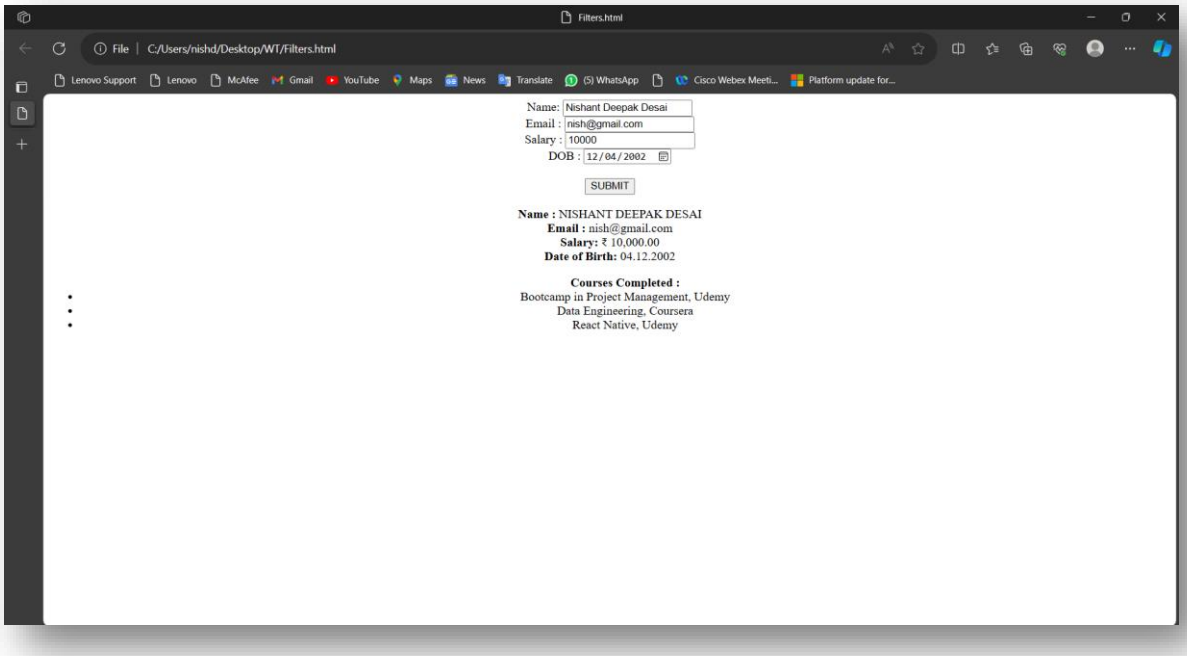
```
"}}<br>
<b>Date of Birth:</b> {{ userData.dob|date :
"dd.MM.y"}}<br>
<ul>
<b>Courses Completed :</b>
<li ng-repeat= "x in courses | orderBy :
'name'">
{{x.name + ", " + x.platform}}
</li>
</ul></p>
</div>
</div>
</body>
<script>
var myApp = angular.module("app", []);
myApp.controller("controller", function
($scope) {
$scope.userData = '';
$scope.getData = function (user) {
$scope.userData = angular.copy(user);
$scope.courses = [{ "name": "React Native",
"platform": "Udemy"
}, {
"name": "Data Engineering",
"platform": "Coursera"
}, {
"name": "Bootcamp in Project Management",
"platform": "Udemy"
},];

};
});
</script>
</html>
```

Output:

Before Submit:



After Submit:

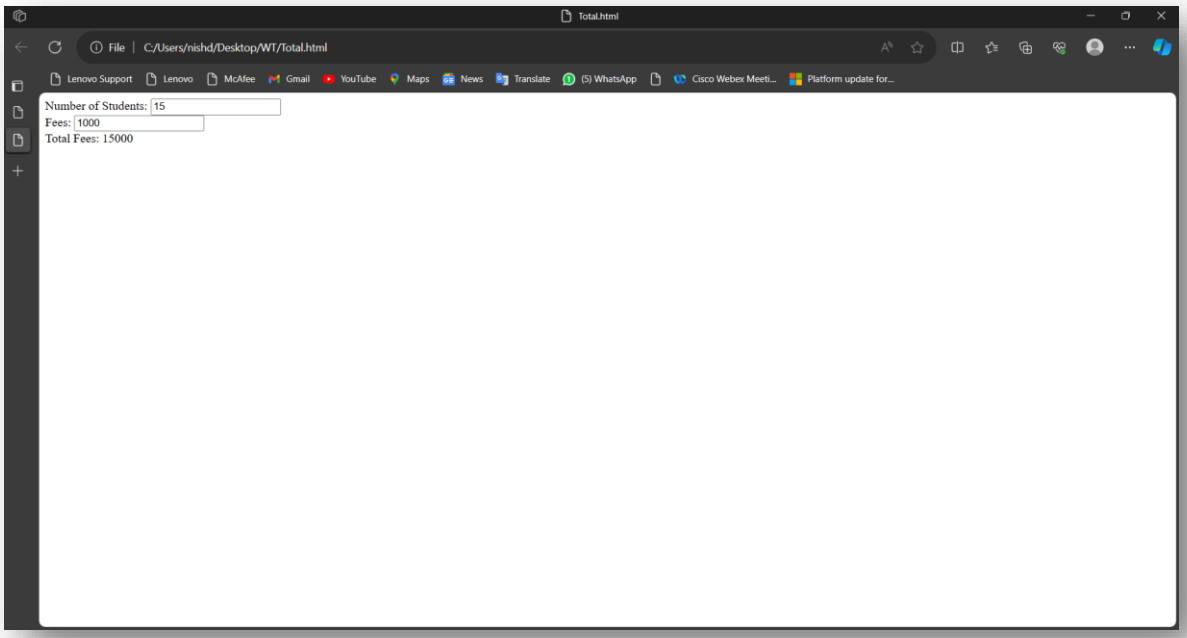


8) Create an Application to Demonstrate directives

Code:

```
<html>
  <script
src="https://ajax.googleapis.com/ajax/libs/angularjs/1.8.2/angular.min.js"></script>
  <body>
    <div ng-app="" ng-init="students=15;fees=1000">
      Number of Students: <input type="number"  ng-model="students"  /> <br />
      Fees: <input type="number"  ng-model="fees"  /> <br />
      Total Fees: {{ students * fees }}
    </div>
  </body>
</html>
```

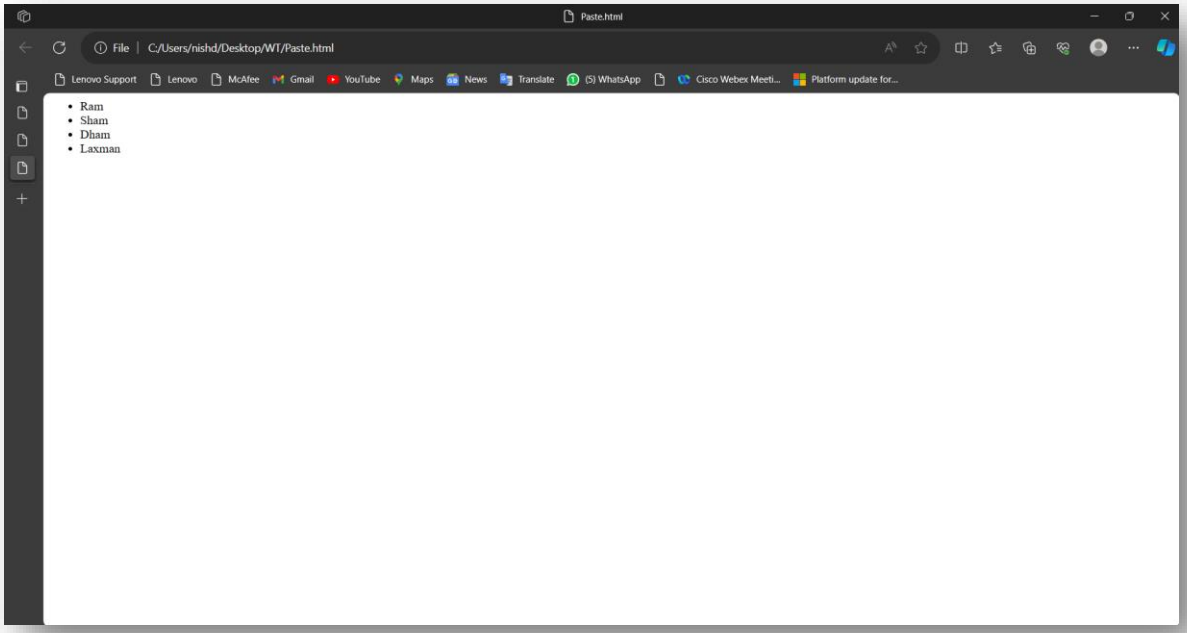
Output:



Code:

```
<html>
  <script
  src="https://ajax.googleapis.com/ajax/libs/angularjs/1.6.9/angular.min.js"></script>
  <body>
    <div ng-app="" ng-init="names=['Ram','Sham','Dham','Laxman']">
      <ul>
      <li ng-repeat="x in names">
        {{ x }}
      </li>
      </ul>
      </div>
  </body>
 </html>
```

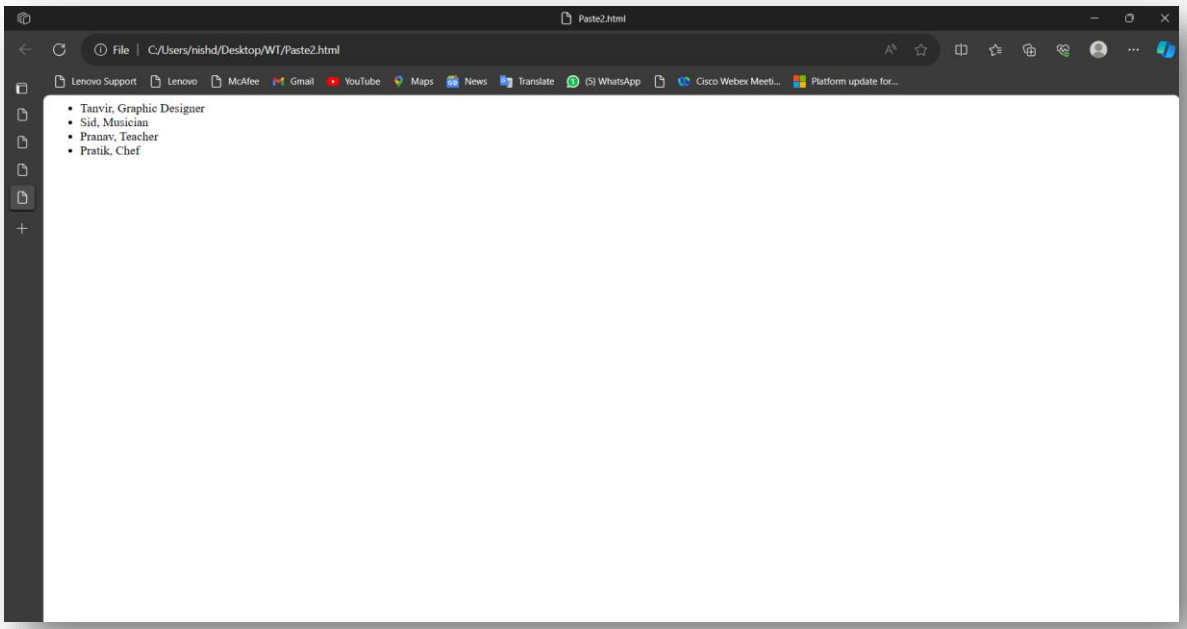
Output:



Code:

```
<html>
 <script
 src="https://ajax.googleapis.com/ajax/libs/angularjs/1.6.9/angular.min.js"></script>
 <body>
   <div ng-app="" ng-init="names=[
   {name:'Tanvir',proffesion:'Graphic  Designer'},
   {name:'Sid',proffesion:'Musician'},
   {name:'Pranav',proffesion:'Teacher'},
   {name:'Pratik',proffesion:'Chef'}]">
   <ul>
   <li ng-repeat="x in names">
   {{ x.name + ', ' + x. proffesion: }}
   </li>
   </ul>
   </div>
 </body>
</html>
```

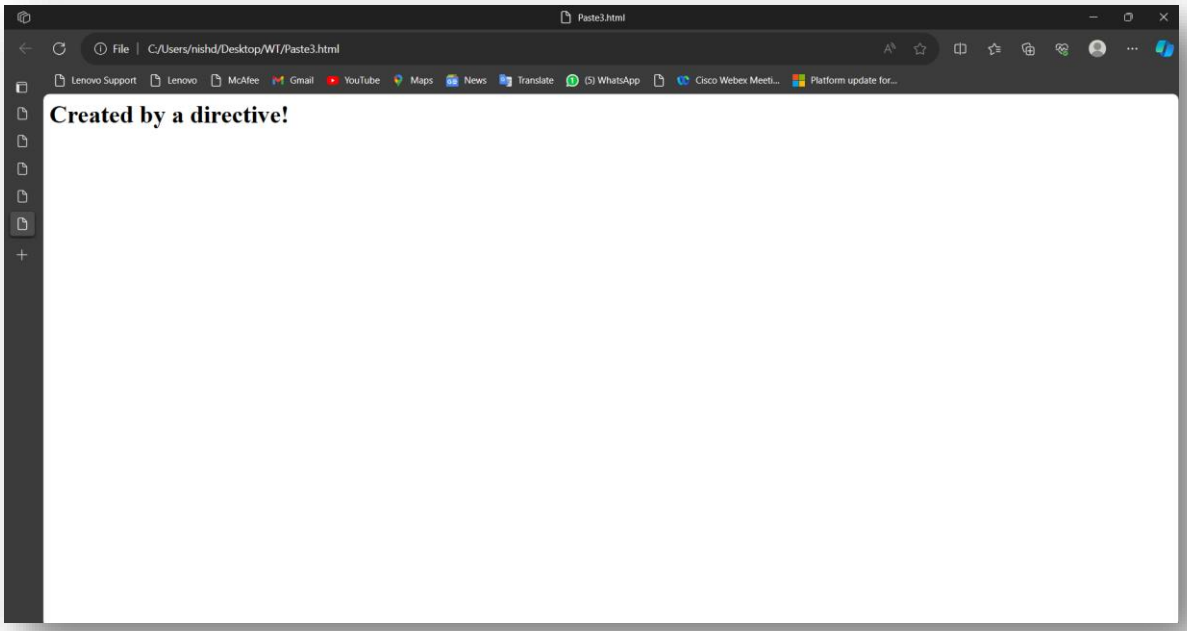
Output:



Code:

```
<html>
 <script
 src="https://ajax.googleapis.com/ajax/libs/angularjs/1.6.9/angular.min.js"></script>
 <body>
   <body ng-app="myApp">
      <w3-test-directive></w3-test-directive>
      <script>
      var app = angular.module("myApp",  []);
      app.directive("w3TestDirective",
      function() {return {
      template : "<h1>Created  by a directive!</h1>"
      };
      });
      </script>
      </body>
 </body>
</html>
```

Output:

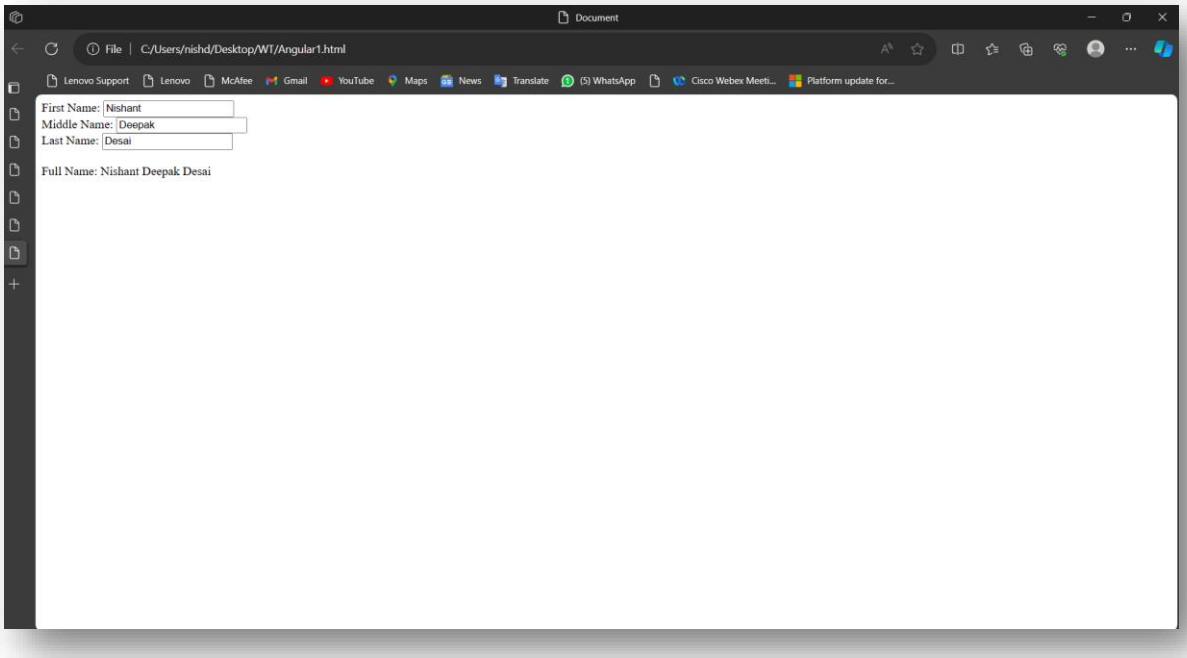


9) Demonstrate controllers in Angular.js through an application

Code:

```
<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="UTF-8" />
    <meta http-equiv="X-UA-Compatible" content="IE=edge" />
    <meta name="viewport" content="width=device-width, initial-scale=1.0" />
    <title>Document</title>
  </head>
  <script
src="https://ajax.googleapis.com/ajax/libs/angularjs/1.8.2/angular.min.js"></script>
  <body>
    <div ng-app="myApp" ng-controller="myCtrl">
      First Name: <input type="text" id="fname" ng-model="firstname" /><br />
      Middle Name: <input type="text" ng-model="middlename" /><br />
      Last Name: <input type="text" ng-model="lastname" /><br />
      <br />
      Full Name: {{firstname+" "+middlename+" "+lastname}}
    </div>
    <script>
      var app = angular.module("myApp", []);
      app.controller("myCtrl", function ($scope) {
        $scope.firstname = "Nishant";
        $scope.middlename = "Deepak";
        $scope.lastname = "Desai";
      });
    </script>
  </body>
</html>
```

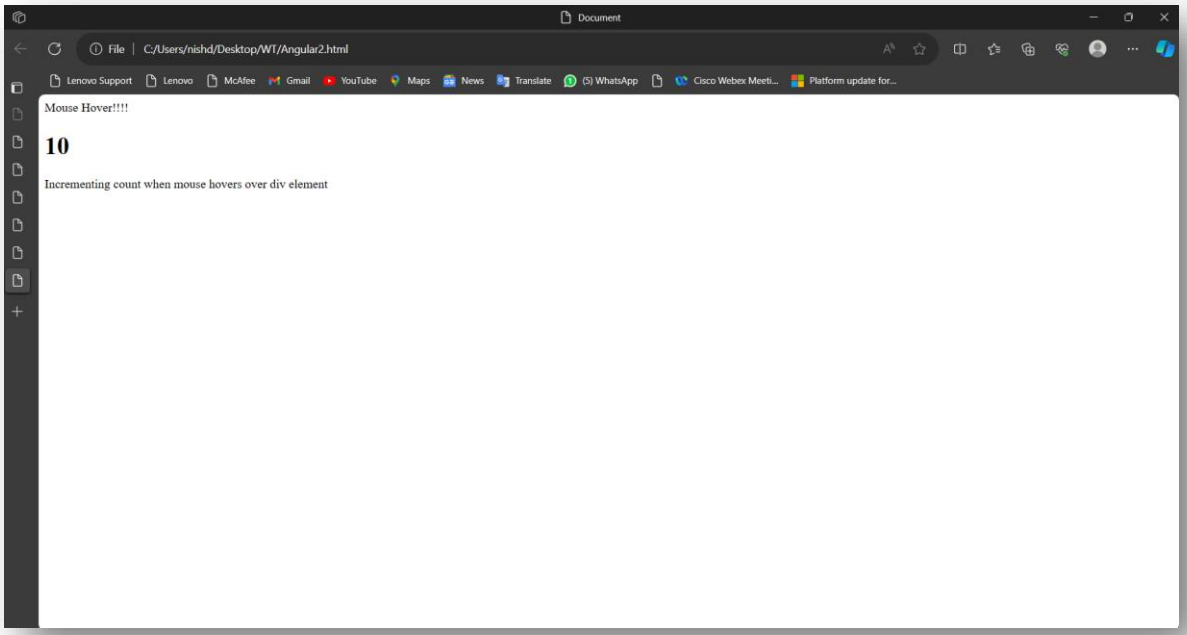
Output:



Code:

```
<!DOCTYPE html>
<html lang="en">
<head>
   <meta charset="UTF-8">
   <meta http-equiv="X-UA-Compatible" content="IE=edge">
   <meta name="viewport" content="width=device-width, initial-scale=1.0">
   <title>Document</title>
</head>
<script
src="https://ajax.googleapis.com/ajax/libs/angularjs/1.8.2/angular.min.js"></script>
<body ng-app="">
   <div ng-mouseenter="count=count+1" ng-init="count=0">Mouse Enter!!!</div>
   <h1>{{count}}</h1>
   <p>Incrementing count when mouse hovers over div element</p>
</body>
</html>
```

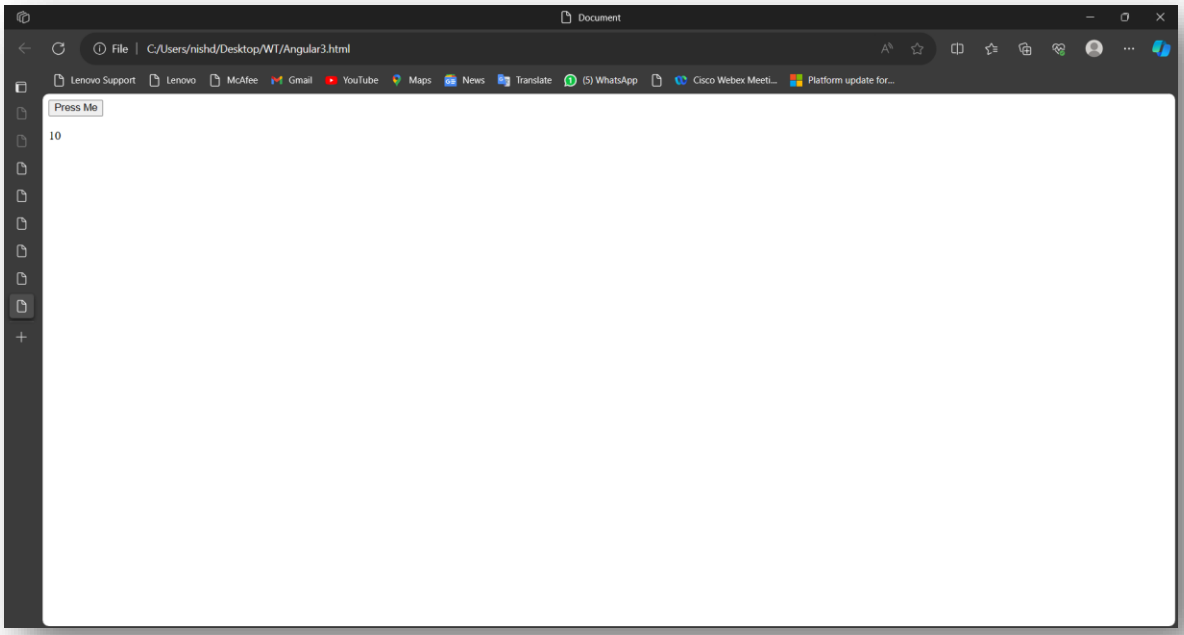
Output:



Code:

```
<!DOCTYPE html>
<html lang="en">
<head>
<meta charset="UTF-8">
<meta http-equiv="X-UA-Compatible" content="IE=edge">
<meta name="viewport" content="width=device-width, initial-scale=1.0">
<title>Document</title>
</head>
<script
src="https://ajax.googleapis.com/ajax/libs/angularjs/1.8.2/angular.min.js"></script>
<body>
<div ng-app="myApp" ng-controller="myCtrl">
<button ng-click="count=count+1">Click Me</button>
<p>{{count}}</p>
</div>
<script>
var app=angular.module('myApp',[]); app.controller('myCtrl',function($scope){
$scope.count=0
});
</script>
</body>
```

Output:

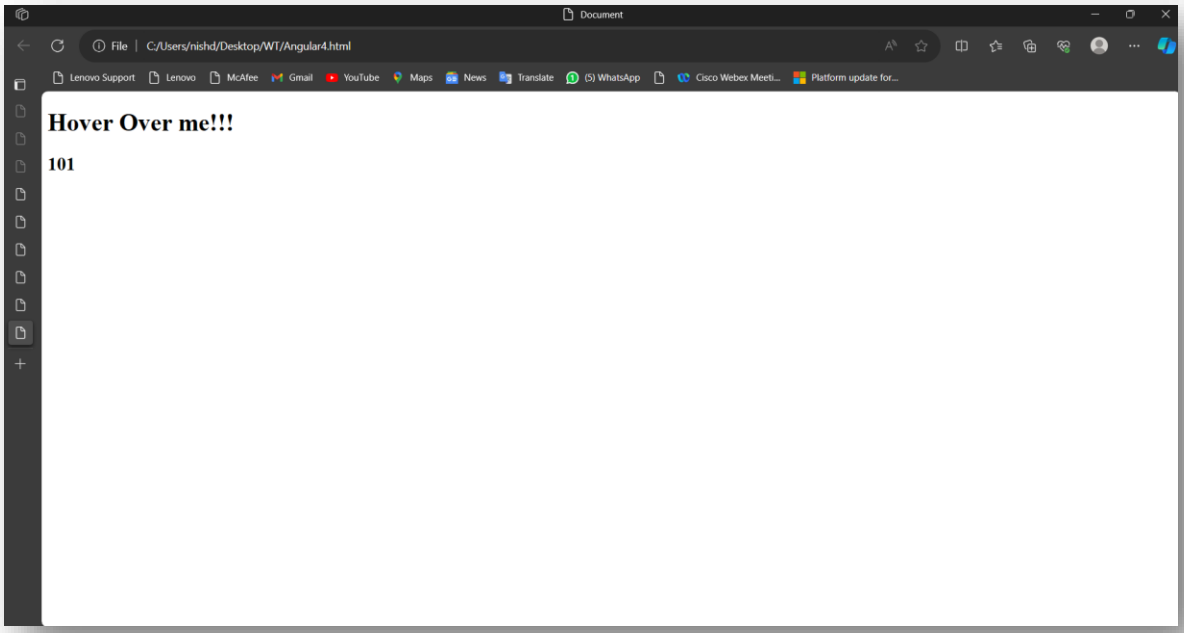


Code:

```
<!DOCTYPE html>
<html lang="en">
<head>
   <meta charset="UTF-8">
   <meta http-equiv="X-UA-Compatible" content="IE=edge">
   <meta name="viewport" content="width=device-width, initial-scale=1.0">
   <title>Document</title>
</head>
<script
src="https://ajax.googleapis.com/ajax/libs/angularjs/1.8.2/angular.min.js"></script>
<body>
  <div ng-app="myApp" ng-controller="myCtrl">
      <h1 ng-mousemove="count=count+1">Hover Over me!!!</h1>
      <h2>{{count}}</h2>
   </div>

   <script>
      angular.module('myApp',[]).controller('myCtrl',function($
      scope){
         $scope.count=0;
      })
```

```
    </script>
  </body>
  </html>
```

Output:



10)Demonstrate features of Angular.js froms with a program

Code:

```
<html>
  <script
src="https://ajax.googleapis.com/ajax/libs/angularjs/1.6.9/angular.min.js"></script>
  <style>
    input.ng-invalid {
      background-color: lightcoral;
    }
    input.ng-valid {
      background-color: white;
    }
  </style>
  <body ng-app="myApp">
    <center>
      <form name="userdashboard">
        <fieldset style="width: 40%">
          <legend><h2>User DashBoard</h2></legend>
          <div ng-controller="formCtrl">
            <h3>
              <b
                >Enter Full Name:

            &
nbsp;         
                <input
                  type="text"
                  name="name"0
                  style="padding: 5px"
                  ng-model="fullname"
                />
              </b>
            </h3>

            <h3>
              <b
                >Appartment Number:

            &
```

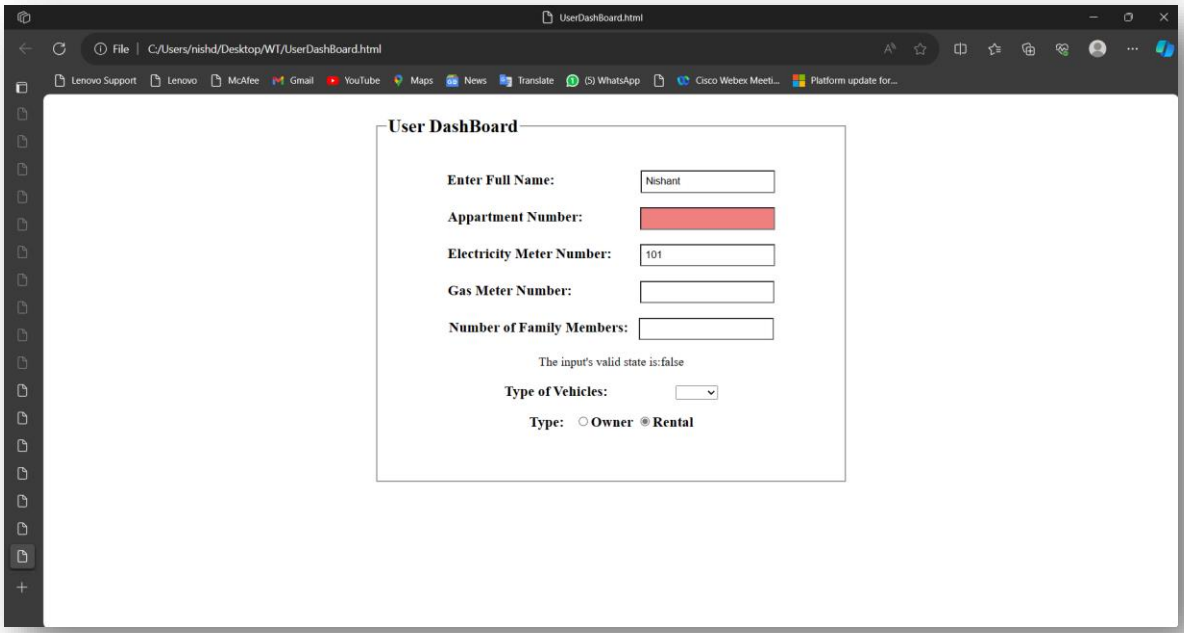
```
nbsp; 
            <input
              type="text"
              name="appartmentnumber"
              style="padding: 5px"
              ng-model="appartmentnumber"
              required
            />
          </b>
        </h3>
        <h3>
          <b
            >Electricity Meter Number:       
            <input
              type="text"
              name="numelectricity"
              style="padding: 5px"
              ng-model="meternumber"
            />
          </b>
        </h3>

        <h3>
          <b
            >Gas Meter Number
            &
nbsp;    
            <input
              type="text"
              name="numgasmeter"
              style="padding: 5px"
              ng-model="gasnumber"
            />
          </b>
        </h3>
        <h3>
          <b


  >Number of Family Members:  
```

```
            <input
              type="text"
              name="numfamily"
              style="padding: 5px"
              ng-model="familynumbers"
            />
          </b>
        </h3>
        <p>
          The input's valid state
          is:{{userdashboard.appartmentnumber.$valid}}
        </p>
      </div>
      <h3>
        <b
          >Type of Vehicles:

            &
nbsp;    
          <!-- <input type="number"  name="numvehicle"  style="padding: 5px" /> -->
        </b>
        <select ng-model="myVar">
          <option value=""></option>
          <option value="Bike">Bike</option>
          <option value="Car">Car</option>
          <option value="Truck">Truck</option>
        </select>
      </h3>
      <h3>
        <b
          >Type:  
          <input
            type="radio"
            name="numfamily"
            style="padding: 5px"
            ng-model="type"
          />Owner
          <input

            type="radio"
```

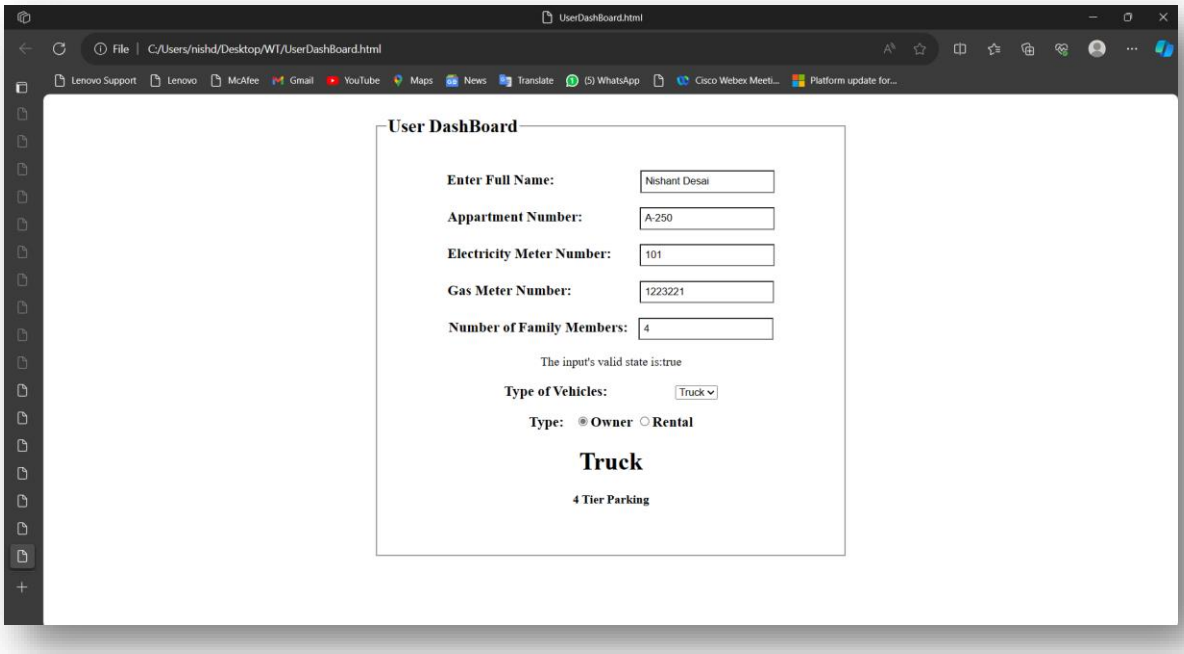
```
            name="numfamily"
            style="padding:  5px"
            ng-model="type"
           />Rental
          </b>
        </h3>
        <div ng-switch="myVar">
          <div ng-switch-when="Bike">
            <h1>Bike</h1>
            <p><b>1 Tier Parking</b></p>
          </div>
          <div ng-switch-when="Car">
            <h1>Car</h1>
            <p><b>2 Tier Parking</b></p>
          </div>
          <div ng-switch-when="Truck">
            <h1>Truck</h1>
            <p><b>4 Tier Parking</b></p>
          </div>
        </div>
        <br /><br />
      </fieldset>
    </form>
  </center>
  <script>
    var app = angular.module("myApp",  []);
    app.controller("formCtrl",  function ($scope) {
      $scope.fullname  = "Nishant";
      $scope.meternumber  = "101";
    });
  </script>
 </body>
</html>
```

Output:

Before Input:



After Input:



11) Create a SPA (Single Page Application)

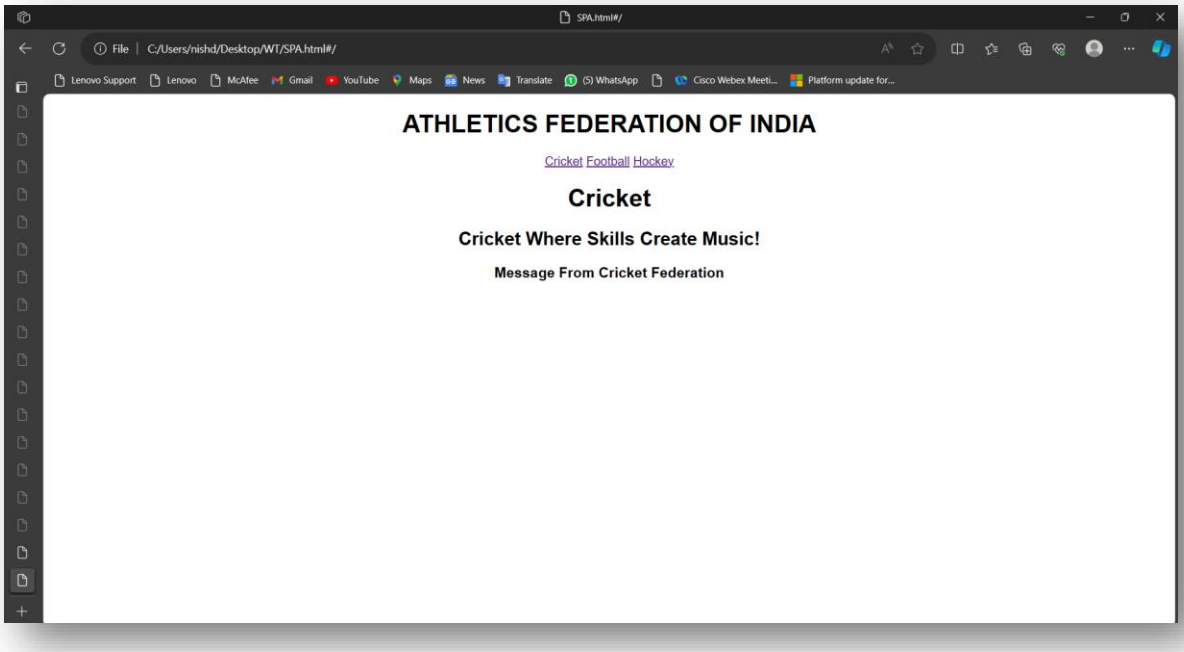
Code:

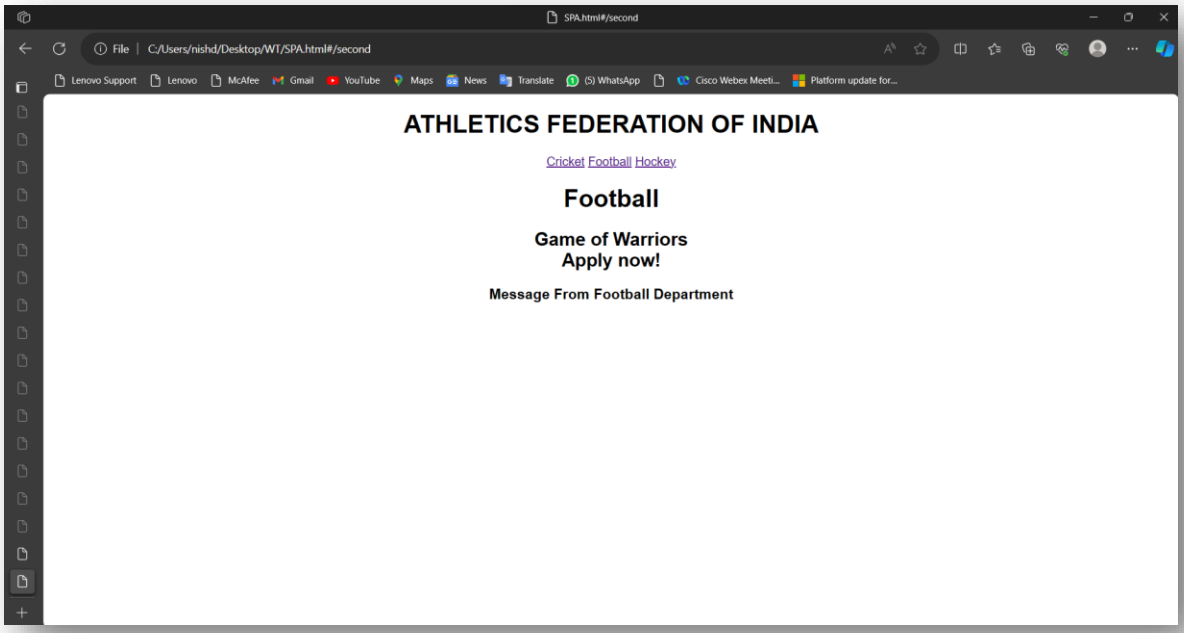
```
<!DOCTYPE html>
<!--ng-app directive tells AngularJS that myApp is the root element of the application -->
<html ng-app="myApp">
  <head>
    <!--import the angularjs libraries-->
    <script
src="https://cdnjs.cloudflare.com/ajax/libs/angular.js/1.4.7/angular.min.js"></script>
    <script src="https://cdnjs.cloudflare.com/ajax/libs/angular.js/1.4.7/angular-
route.min.js"></script>

    <style>
      body {
        text-align: center;
        font-family: Arial, Helvetica, sans-serif;
        background-color: white;
      }

      h1 {
        color: black;
      }
    </style>
  </head>

  <body>
    <h1>ATHLETICS FEDERATION OF INDIA</h1>
    <!--hg-template indicates the pages that get loaded as per requirement-->
    <script type="text/ng-template" id="first.html">
      <h1>Cricket</h1>
      <h2 style="color:black">  Cricket Where Skills Create Music!
      </h2>
      <h3>{{message}}</h3>
    </script>
    <script type="text/ng-template" id="second.html">

     <h1>Football</h1>
        <h2 style="color:black">
      Game of Warriors<br> Apply now!
        </h2>
```

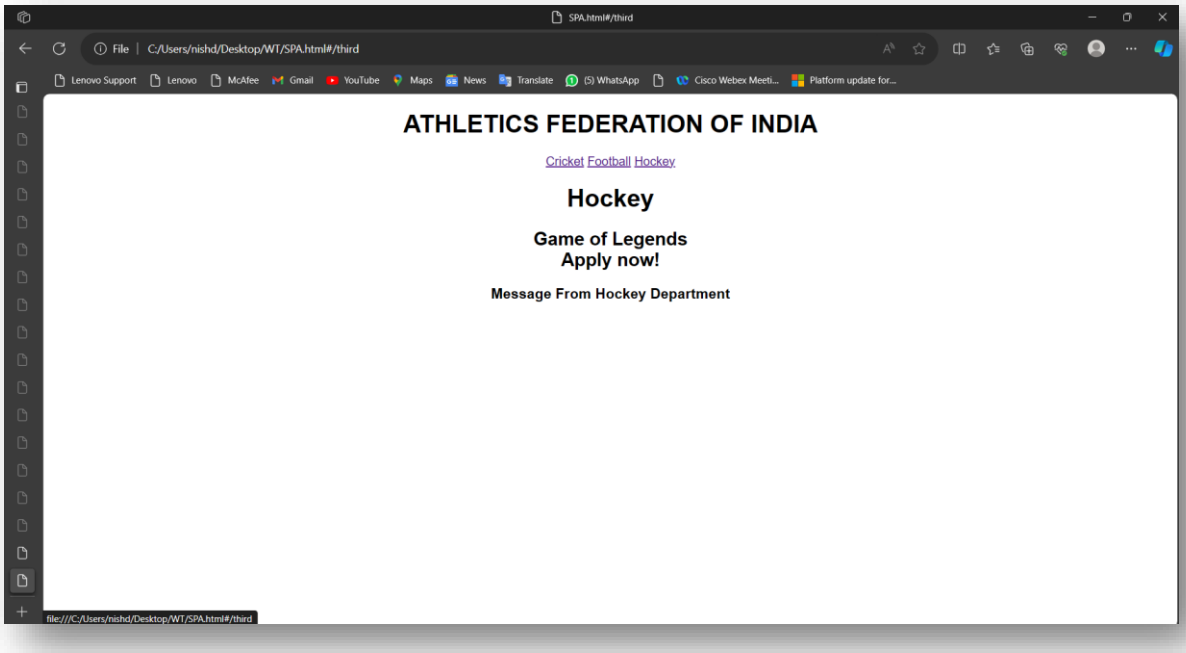
```
    <h3>{{message}}</h3>
  </script>

  <script type="text/ng-template"  id="third.html">
    <h1>Hockey</h1>
    <h2 style="color:black">
    Game of Legends<br> Apply now!
    </h2>
    <h3>{{message}}</h3>
  </script>

  <!-- Hyperlinks to load different pages dynamically -->
  <a href="#/">Cricket</a>
  <a href="#/second">Football</a>
  <a href="#/third">Hockey</a>

  <!--ng-view includes the rendered template of the current route into the main page-->
  <div ng-view></div>

  <script>
    var app = angular.module("myApp",  []);
    var app = angular.module("myApp",  ["ngRoute"]);
    app.config(function ($routeProvider) {
      $routeProvider
        .when("/", {
          templateUrl: "first.html",
          controller: "FirstController",
        })

        .when("/second", {
          templateUrl: "second.html",
          controller: "SecondController",
        })



.when("/third", {
          templateUrl: "third.html",
          controller: "ThirdController",
        })
```

```
      .otherwise({ redirectTo: "/" });
    });

    app.controller("FirstController", function ($scope) {
      $scope.message = "Message From Cricket Federation";
    });
    app.controller("SecondController", function ($scope) {
      $scope.message = "Message From Football Department";
    });
    app.controller("ThirdController", function ($scope) {
      $scope.message = "Message From Hockey Department";
    });
  </script>
 </body>
</html>
```

Output:




SPA.html#/second
File | C:/Users/nishd/Desktop/WT/SPA.html#/second
ATHLETICS FEDERATION OF INDIA
Cricket Football Hockey
Football
Game of Warriors
Apply now!
Message From Football Department


SPA.html#/third
File | C:/Users/nishd/Desktop/WT/SPA.html#/third
ATHLETICS FEDERATION OF INDIA
Cricket Football Hockey
Hockey
Game of Legends
Apply now!
Message From Hockey Department
file:///C:/Users/nishd/Desktop/WT/SPA.html#/third