

Web Engineering Practical File

Kapil Dev

02510102718

Btech CSE 6th SEM

Practical 1: Using JavaScript demonstrate Nested loop.

CODE:

```
1  <!DOCTYPE html>
2  <html>
3  <head>
4      <title>Nested Loop</title>
5  </head>
6  <body style="text-align: center;">
7      <h1>NESTED LOOP</h1>
8      <button onclick="nestedLoop()">Click me and see console</button>
9      <p id="pPrint" style="text-align: center;"></p>
10 </body>
11 <script type="text/javascript">
12     function nestedLoop(){
13         for (var i = 0; i <= 10; i++) {
14             console.log(`table of ${i}`)
15             var pTag= document.getElementById('pPrint');
16
17             pTag.innerHTML += `<h3 style="color: red">Table of ${i}</h3>` + "<br />"
18
19             for (var j = 1; j <= 10; j++) {
20                 console.log( `${i} * ${j} = ${i*j}` )
21                 pTag.innerHTML += `${i} * ${j} = ${i*j}` + "<br/>"
22             }
23         }
24     }
25 }
26 </script>
27 </html>
```

Output:

NESTED LOOP

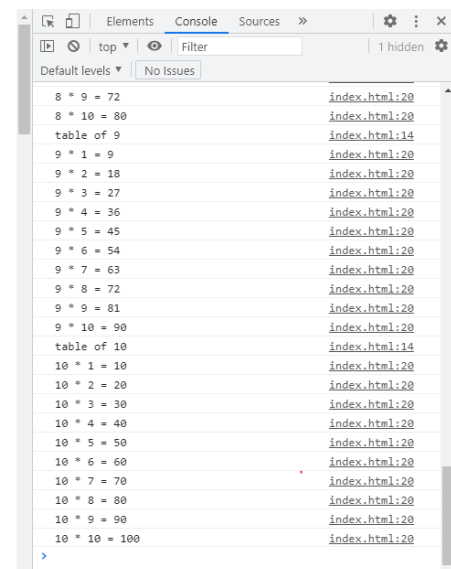
Click me and see console

Table of 0

```
0 * 1 = 0
0 * 2 = 0
0 * 3 = 0
0 * 4 = 0
0 * 5 = 0
0 * 6 = 0
0 * 7 = 0
0 * 8 = 0
0 * 9 = 0
0 * 10 = 0
```

Table of 1

```
1 * 1 = 1
1 * 2 = 2
1 * 3 = 3
1 * 4 = 4
1 * 5 = 5
1 * 6 = 6
1 * 7 = 7
1 * 8 = 8
1 * 9 = 9
```

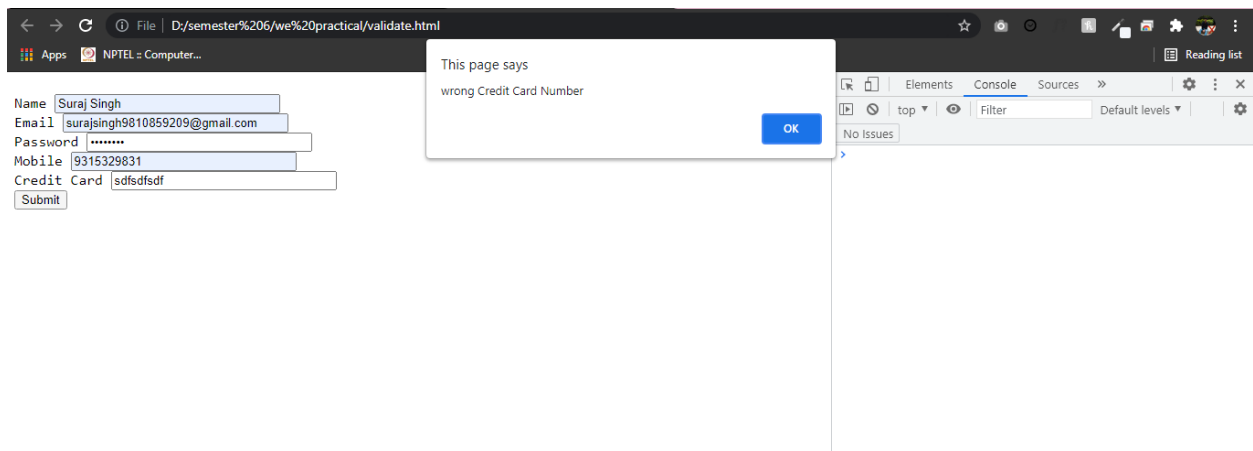


Practical 2: Validate the Registration, user login, user profile and payment by credit card pages using JavaScript.

CODE:

```
1  <!DOCTYPE html>
2  <html>
3  <head>
4    <title>Validate Form Using Html</title>
5  </head>
6  <body>
7    <form onsubmit="return false" name="register">
8      <div style="display: flex; ">
9        <p>
10         <label>Name</label>
11         <input type="text" size="30" name="name" placeholder="name">
12         <br />
13         <label>Email</label>
14         <input type="email" size="30" name="email" placeholder="email">
15         <br />
16         <label>Password</label>
17         <input type="password" size="30" name="password" placeholder="password">
18         <br />
19         <label>Mobile</label>
20         <input type="tel" size="30" name="mobile" placeholder="mobile">
21         <br />
22         <label>Credit Card</label>
23         <input type="text" size="30" name="credit" placeholder="Credit Card number">
24         <br />
25         <input type="submit" value="Submit" onclick="validateForm()">
26         <br />
27       </div>
28     </form>
29 </body>
30 <script type="text/javascript">
31   const validateForm = () => {
32     const {name , email , password , mobile , credit} = document.register;
33     if(name.value=== "" || email.value=== "" || password.value=== "" || mobile.value=== ""){
34       alert(`Any Field can't be Empty`);
35       return false;
36     }
37     if (!/^[a-zA-Z0-9.!#$%&'*/+=?^_`{|}~.-]+@[a-zA-Z0-9-]+(?:\.[a-zA-Z0-9-]+)*$/ .test(email.value))
38     {
39       alert("enter valid email")
40       return false
41     }
42     if(!/^(\\+\\d{1,3}[ - ])?\\d{10}$/ .test(mobile.value)){
43       alert("Invalid Mobile")
44       return false
45     }
46     if(!/^(?:4[0-9]{12}(?:[0-9]{3})?[25][1-7][0-9]{14}|6(?:011|5[0-9][0-9])[0-9]{12}|3[47][0-9]{13}|3(
47       ?0[0-5]|68[0-9])[0-9]{11}|(?:2131|1800|35\\d{3})\\d{11})$/ .test(credit.value) ){
48       alert("wrong Credit Card Number")
49       return false
50     }
51     console.Log("all OK")
52     alert("All Validate")
53   }
54 </script>
55 </html>
```

Output:



Practical 3: Develop and demonstrate a XHTML file that includes JavaScript that uses functions for the following problems:

- a) Parameter: A string
Output: The position in the string of the left-most vowel.
- b) Parameter: A number
Output: The number with its digits in the reverse order

CODE:

```

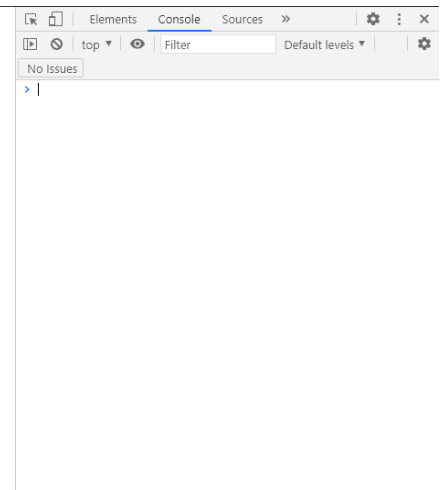
1  <!DOCTYPE html>
2  <html>
3    <head>
4      <title>JavaScript Fuctions</title>
5    </head>
6    <body>
7      <h1 id="foo">JavaScript Fuctions</h1>
8      <h1 id="forString" style="color: red"></h1>
9      <h1 id="forInt" style="color: pink"></h1>
10     <h1 id="forError" style="color: blue"></h1>
11   </body>
12   <script type="text/javascript">
13     const Takeinput = () => {
14       i = prompt("Enter the String or an Integer")
15       type = isNaN(parseInt(i)) ? "string" : "int"
16
17       if(type === "string"){
18         if(i.search(/[aeiou]/i) === -1){
19           document.getElementById("forError").innerHTML = "Not Found"
20           return
21         }
22         document.getElementById("forString").innerHTML = `First Object is at place: ${i.search(/[aeiou]/i) + 1}`
23       }else if(type === "int") {
24         document.getElementById("forInt").innerHTML = `reverse of the no is: ${i.split("").reverse().join("")}`
25       }
26     }
27   }
28   Takeinput()
29 </script>
30 </html>

```

Output:

JavaScript Fuctions

First Object is at place: 2

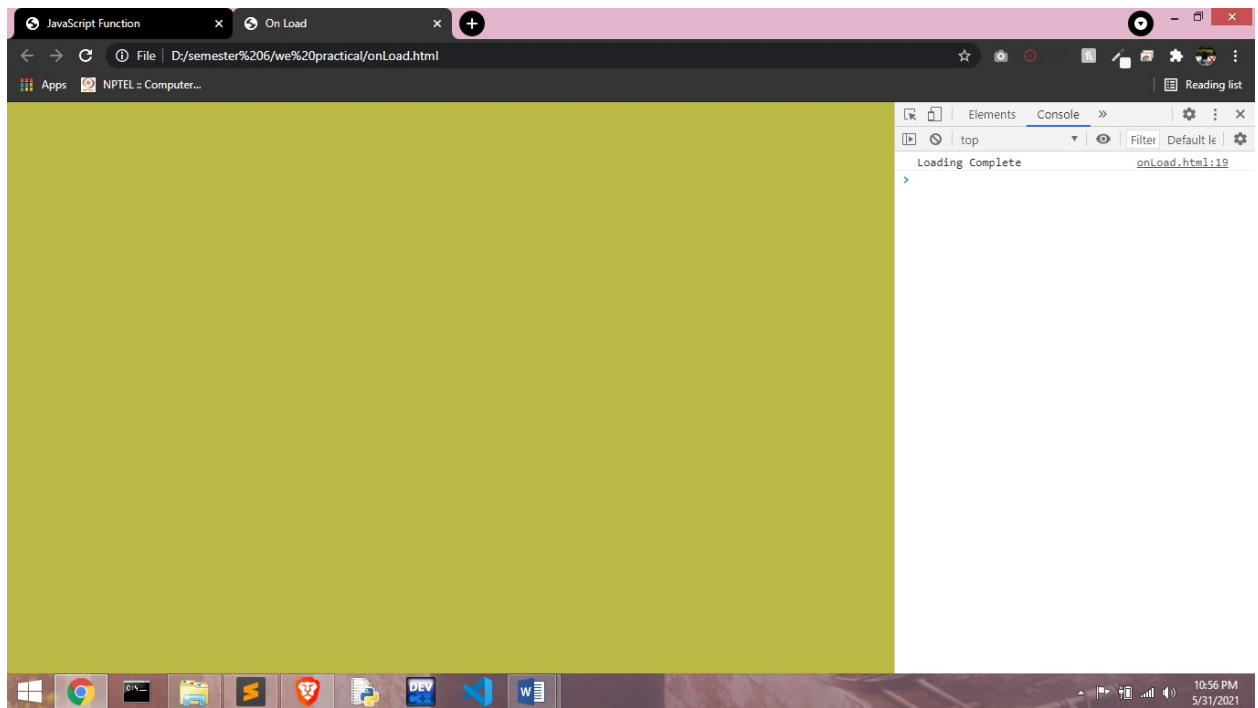


Practical 4: Using JavaScript demonstrate fade from one color to another on load.

CODE:

```
1  <!DOCTYPE html>
2  <html>
3    <head>
4      <title>On Load</title>
5    </head>
6    <style>
7      body {
8        transition: background-color 2s;
9      }
10   </style>
11   <body onload="onloading()">
12   </body>
13   <script type="text/javascript">
14     var colors = [ "yellow", "blue"];
15     var index = 0;
16
17     const onloading = () => {
18       console.log("Loading Complete")
19
20       setInterval(function () {
21         document.body.style.cssText = "background-color: " + colors[index];
22         index++;
23         if (index == undefined || index >= colors.length) {
24           index = 0;
25         }
26       }, 5000);
27     }
28
29   </script>
30 </html>
```

Output:



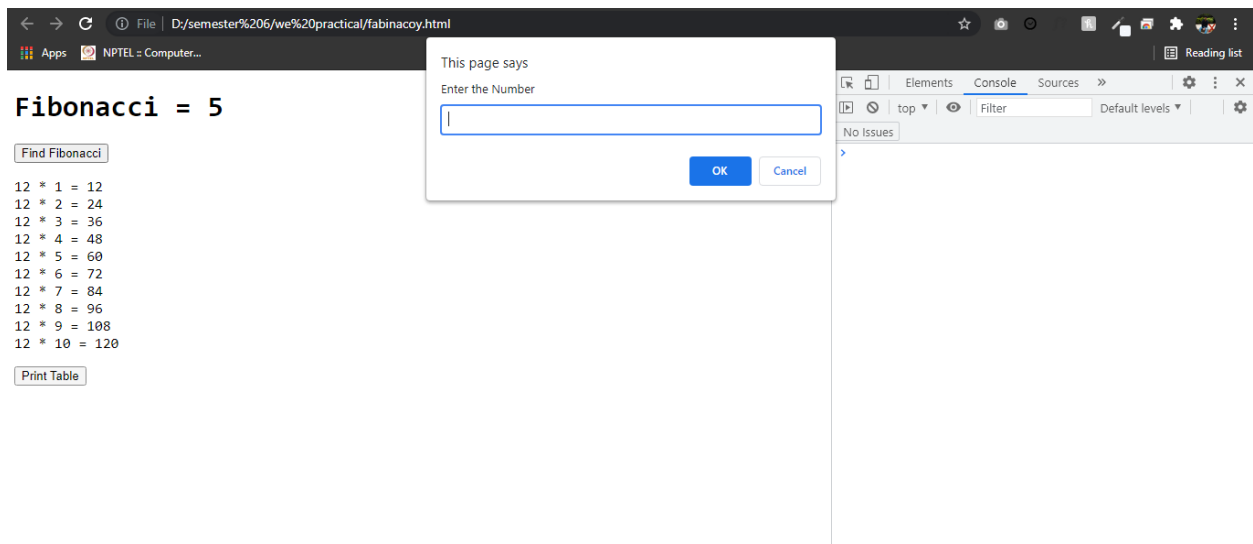
Practical 5: Develop and demonstrate a XHTML file that includes JavaScript script for the following problems:

- a) Input: A number n obtained using prompt.
Output: The first n Fibonacci numbers.
- b) Input: A number n obtained using prompt.
Output: A table of numbers from 1 to n and their squares using alert.

CODE:

```
1  <!DOCTYPE html>
2  <html>
3  <head>
4  <title>Fibonacci</title>
5  </head>
6  <body>
7  <h1 id="foo"></h1>
8  <button onclick="Fibonacci()">Find Fibonacci</button>
9  <p id="pPrint"></p>
10 <button onclick="printTable()">Print Table</button>
11 </body>
12 <script type="text/javascript">
13     function Fibonacci(){
14
15         num = prompt("Enter the Number")
16         num = parseInt(num)
17         var num1=0;
18         var num2=1;
19         var sum;
20         var i=0;
21         for (i = 1; i < num; i++)
22         {
23             sum=num1+num2;
24             num1=num2;
25             num2=sum;
26         }
27         alert(sum)
28         document.getElementById("foo").innerHTML = `Fibonacci = ${sum}`
29     }
30
31     function printTable(){
32         var num;
33         num = prompt("Enter the Number")
34         num = parseInt(num)
35
36         alert(num*num)
37         for(var i=1; i<=10; i++){
38             var pTag= document.getElementById('pPrint');
39             pTag.innerHTML += `${num} * ${i} = ${num*i}` + "<br/>"
40         }
41     }
42 </script>
43 </html>
```

Output:



Practical 6: Design a registration form and validate its field by using JavaScript

CODE:

```

1  <!DOCTYPE html>
2  <html>
3    <head>
4      <title>Validate Form Using Html</title>
5    </head>
6    <body>
7      <form onsubmit="return false" name="register">
8        <div style="display: flex; ">
9          <p>
10             <label>Name</label>
11             <input type="text" size="30" name="name" placeholder="name">
12             <br />
13             <label>Email</label>
14             <input type="email" size="30" name="email" placeholder="email">
15             <br />
16             <label>Password</label>
17             <input type="password" size="30" name="password" placeholder="password">
18             <br />
19             <label>Mobile</label>
20             <input type="tel" size="30" name="mobile" placeholder="mobile">
21             <br />
22             <input type="submit" value="Submit" onclick="validateForm()">
23             <br />
24           </div>
25        </form>
26      </body>
27      <script type="text/javascript">
28        const validateForm = () => {
29          const {name, email, password, mobile} = document.register;
30          if(name.value=== "" || email.value=== "" || password.value=== "" || mobile.value=== ""){
31            alert('Any Field can't be Empty');
32            return false;
33          }
34          if (!/^[a-zA-Z0-9.!#$%&'*/=?^_`{}~]+@[a-zA-Z0-9-]+(?:\.[a-zA-Z0-9-]+)*$/i.test(email.value))
35          {
36            alert("enter valid email")
37            return false
38          }
39          if (!/^(?!(\d{1,3})[- ]?)?\d{10}$/i.test(mobile.value)){
40            alert("Invalid Mobile")
41            return false
42          }
43          console.log("all OK")
44          alert("All Validate")
45        }
46      </script>
47    </html>

```

Output:

The screenshot shows a web browser window with the address bar displaying 'D:/semester%206/we%20practical/registrationFormValidation.html'. The browser's address bar also shows 'Apps' and 'NPTEL - Computer...'. The page content includes a registration form with the following fields:

- Name: Suraj Singh
- Email: surajsingh9810859209@gmail.com
- Password: [masked]
- Mobile: 9315329831
- Submit button

A modal dialog box is displayed over the form, titled 'This page says'. The message inside the dialog is 'All Validate', and there is an 'OK' button at the bottom right of the dialog.

Practical 7: To design the scientific calculator and make event for each button using JavaScript.

CODE:

```

1  <!DOCTYPE html>
2  <html>
3    <head>
4      <title>Calculator</title>
5    </head>
6    <style type="text/css">
7      form{
8        width:440px;
9        padding:25px;
10       margin:auto;
11     }
12     input{
13       background:linear-gradient(45deg, red, blue);
14       color:#fff;
15       font-size:15px;
16       padding-top:15px;
17       padding-bottom:15px;
18       padding-left:19px;
19       padding-right:19px;
20       margin:6px;
21     }
22     h2{
23       text-align:center;
24     }
25     .sc{background: #C33764; /* fallback for old browsers */
26       background: -webkit-linear-gradient(to top, #1D2671, #C33764); /* Chrome 10-25, Safari 5.1-6 */
27       background: linear-gradient(to top, #1D2671, #C33764); /* W3C, IE 10+, Edge, Firefox 16+, Chrome 26+, Opera 12+, Safari 7+ */
28       color:#fff;
29     }
30   </style>
31   <body>
32     <h2>SCIENTIFIC CALCULATOR</h2>
33     <br />
34     <br />
35     <form name="sci-calc">
36       <table cellspacing="0" cellpadding="1">
37         <tr>
38           <td COLSPAN="5" ALIGN="center"><input NAME="display" class="sc" VALUE="0" SIZE="44" MAXLENGTH="25"></td>
39         </tr>
40         <tr>
41           <td align="center"><input type="button" value="Clear" ONCLICK="this.form.display.value = 0 "></td>
42           <td align="center" colspan="2"><input type="button" value="Backspace" ONCLICK="deleteChar(this.form.display)"></td>
43           <td align="center" colspan="2"><input type="button" value="Enter" NAME="Enter" ONCLICK="if (checkNum(
44             this.form.display.value)) { compute(this.form) }"></td>

```

```

45       <tr>
46         <td align="center"><input type="button" value="exp" ONCLICK="if (checkNum(this.form.display.value)) { exp(this.form) }"></td>
47         <td align="center"><input type="button" value="7" ONCLICK="addChar(this.form.display, '7')"></td>
48         <td align="center"><input type="button" value="8" ONCLICK="addChar(this.form.display, '8')"></td>
49         <td align="center"><input type="button" value="9" ONCLICK="addChar(this.form.display, '9')"></td>
50         <td align="center"><input type="button" value="/" ONCLICK="addChar(this.form.display, '/')"></td>
51       </tr>
52       <tr>
53         <td align="center"><input type="button" value="ln" ONCLICK="if (checkNum(this.form.display.value)) { ln(this.form) }"></td>
54         <td align="center"><input type="button" value="4" ONCLICK="addChar(this.form.display, '4')"></td>
55         <td align="center"><input type="button" value="5" ONCLICK="addChar(this.form.display, '5')"></td>
56         <td align="center"><input type="button" value="6" ONCLICK="addChar(this.form.display, '6')"></td>
57         <td align="center"><input type="button" value="*" ONCLICK="addChar(this.form.display, '*')"></td>
58       </tr>
59       <tr>
60         <td align="center"><input type="button" value="sqrt" ONCLICK="if (checkNum(this.form.display.value)) { sqrt(this.form) }"></td>
61         <td align="center"><input type="button" value="1" ONCLICK="addChar(this.form.display, '1')"></td>
62         <td align="center"><input type="button" value="2" ONCLICK="addChar(this.form.display, '2')"></td>
63         <td align="center"><input type="button" value="3" ONCLICK="addChar(this.form.display, '3')"></td>
64         <td align="center"><input type="button" value="-" ONCLICK="addChar(this.form.display, '-')"></td>
65       </tr>
66       <tr>
67         <td align="center"><input type="button" value="sq" ONCLICK="if (checkNum(this.form.display.value)) { square(this.form) }"></td>
68         <td align="center"><input type="button" value="0" ONCLICK="addChar(this.form.display, '0')"></td>
69         <td align="center"><input type="button" value="." ONCLICK="addChar(this.form.display, '.')"></td>
70         <td align="center"><input type="button" value="+/-" ONCLICK="changeSign(this.form.display)"></td>
71         <td align="center"><input type="button" value="+" ONCLICK="addChar(this.form.display, '+')"></td>
72       </tr>
73       <tr>
74         <td align="center"><input type="button" value="( " ONCLICK="addChar(this.form.display, '(')"></td>
75         <td align="center"><input type="button" value="cos" ONCLICK="if (checkNum(this.form.display.value)) { cos(this.form) }"></td>
76         <td align="center"><input type="button" value="sin" ONCLICK="if (checkNum(this.form.display.value)) { sin(this.form) }"></td>
77         <td align="center"><input type="button" value="tan" ONCLICK="if (checkNum(this.form.display.value)) { tan(this.form) }"></td>
78         <td align="center"><input type="button" value=")" ONCLICK="addChar(this.form.display, ')')"></td>
79       </tr>
80     </table>
81   </form>
82 </body>

```

```

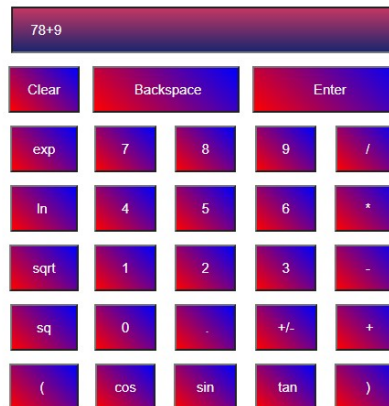
85 <script type="text/javascript">
86     function addChar(input, character) {
87         if(input.value == null || input.value == "0")
88             input.value = character
89         else
90             input.value += character
91     }
92
93     function cos(form) {
94         form.display.value = Math.cos(form.display.value);
95     }
96
97     function sin(form) {
98         form.display.value = Math.sin(form.display.value);
99     }
100
101     function tan(form) {
102         form.display.value = Math.tan(form.display.value);
103     }
104
105     function sqrt(form) {
106         form.display.value = Math.sqrt(form.display.value);
107     }
108
109     function ln(form) {
110         form.display.value = Math.log(form.display.value);
111     }
112
113     function exp(form) {
114         form.display.value = Math.exp(form.display.value);
115     }
116
117     function deleteChar(input) {
118         input.value = input.value.substring(0, input.value.length - 1)
119     }
120
121     function changeSign(input) {
122         if(input.value.substring(0, 1) == "-")
123             input.value = input.value.substring(1, input.value.length)
124         else
125             input.value = "-" + input.value
126     }
127
128     function compute(form) {
129         form.display.value = eval(form.display.value)
130     }
131
132     function square(form) {
133         form.display.value = eval(form.display.value) * eval(form.display.value)
134     }
135
136     function checkNum(str) {
137         for (var i = 0; i < str.length; i++) {
138             var ch = str.substring(i, i+1)
139             if (ch < "0" || ch > "9") {
140                 if (ch != "/" && ch != "a" && ch != "+" && ch != "-" && ch != "." &&
141                     ch != "(" && ch != ")") {
142                     alert("invalid entry!")
143                     return false
144                 }
145             }
146         }
147         return true
148     }
149 </script>
150 </html>

```

Output:



SCIENTIFIC CALCULATOR

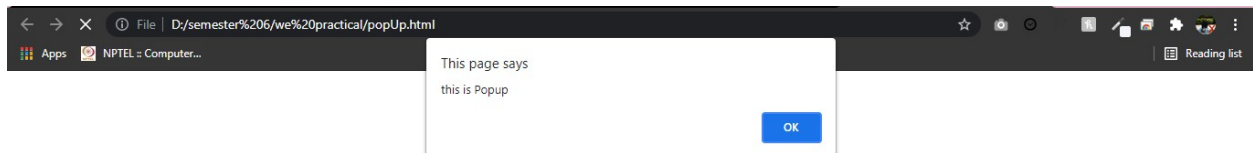


Practical 8: WAP to create popup boxes in JavaScript.

CODE:

```
1  <!DOCTYPE html>
2  <html>
3  <head>
4      <title>Popup</title>
5  </head>
6  <body>
7      <h1>This is to Create to popup</h1>
8  </body>
9  <script type="text/javascript">
10     function pop(){
11         alert("this is Popup")
12     }
13     pop()
14 </script>
15 </html>
```

Output:



Practical 9: WAP to implement Java Servlet.

CODE:

FILENAME: demoservlet.js

```
1 import javax.servlet.http.*;
2 import javax.servlet.*;
3 import java.io.*;
4 public class DemoServlet extends HttpServlet {
5     public void doGet(HttpServletRequest req, HttpServletResponse res)
6     throws ServletException, IOException {
7         res.setContentType("text/html"); //setting the content type
8         PrintWriter pw = res.getWriter(); //get the stream to write the data
9
10        //writing html in the stream
11        pw.println("<html><body>");
12        pw.println("Welcome to servlet");
13        pw.println("</body></html>");
14
15        pw.close(); //closing the stream
16    }
17 }
```

FILENAME: web.xml

```
<web>
  <servlet>
    <servlet-name>Kapil</servlet-name>
    <servlet-class>DemoServlet</servlet-class>
  </servlet>
  <servlet-mapping>
    <servlet-name>Kapil</servlet-name>
    <url-pattern>/welcome</url-pattern>
  </servlet-mapping>
</web>
```

TOMCAR SERVER LOG


```
Tomcat
NOTE: Picked up JDK_JAVA_OPTIONS: --add-opens=java.base/java.lang=ALL-UNNAMED --add-opens=java.base/java.io=ALL-UNNAMED --add-opens=java.base/java.util=ALL-UNNAMED --add-opens=java.base/java.util.concurrent=ALL-UNNAMED --add-opens=java.rmi/sun.rmi.transport=ALL-UNNAMED
12-Jun-2021 01:08:04.668 INFO [main] org.apache.catalina.startup.VersionLoggerLi
stener.log Server version name: Apache Tomcat/9.0.46
12-Jun-2021 01:08:04.689 INFO [main] org.apache.catalina.startup.VersionLoggerLi
stener.log Server built: May 8 2021 17:35:52 UTC
12-Jun-2021 01:08:04.690 INFO [main] org.apache.catalina.startup.VersionLoggerLi
stener.log Server version number: 9.0.46.0
12-Jun-2021 01:08:04.694 INFO [main] org.apache.catalina.startup.VersionLoggerLi
stener.log OS Name: Windows 8.1
12-Jun-2021 01:08:04.695 INFO [main] org.apache.catalina.startup.VersionLoggerLi
stener.log OS Version: 6.3
12-Jun-2021 01:08:04.700 INFO [main] org.apache.catalina.startup.VersionLoggerLi
stener.log Architecture: amd64
12-Jun-2021 01:08:04.702 INFO [main] org.apache.catalina.startup.VersionLoggerLi
stener.log Java Home: C:\Program Files\Java\jdk-15.0.1
12-Jun-2021 01:08:04.703 INFO [main] org.apache.catalina.startup.VersionLoggerLi
stener.log JVM Version: 15.0.1+9-18
12-Jun-2021 01:08:04.704 INFO [main] org.apache.catalina.startup.VersionLoggerLi
stener.log JVM Vendor: Oracle Corporation
12-Jun-2021 01:08:04.704 INFO [main] org.apache.catalina.startup.VersionLoggerLi
stener.log CATALINA_BASE: C:\Program Files\Apache Software Foundation\To
mcat 9.0
12-Jun-2021 01:08:04.706 INFO [main] org.apache.catalina.startup.VersionLoggerLi
stener.log CATALINA_HOME: C:\Program Files\Apache Software Foundation\To
mcat 9.0
12-Jun-2021 01:08:04.847 INFO [main] org.apache.catalina.startup.VersionLoggerLi
stener.log Command line argument: --add-opens=java.base/java.lang=ALL-UNNAMED
12-Jun-2021 01:08:04.849 INFO [main] org.apache.catalina.startup.VersionLoggerLi
stener.log Command line argument: --add-opens=java.base/java.io=ALL-UNNAMED
12-Jun-2021 01:08:04.850 INFO [main] org.apache.catalina.startup.VersionLoggerLi
stener.log Command line argument: --add-opens=java.base/java.util=ALL-UNNAMED
12-Jun-2021 01:08:04.852 INFO [main] org.apache.catalina.startup.VersionLoggerLi
stener.log Command line argument: --add-opens=java.base/java.util.concurrent=ALL
-UNNAMED
12-Jun-2021 01:08:04.853 INFO [main] org.apache.catalina.startup.VersionLoggerLi
stener.log Command line argument: --add-opens=java.rmi/sun.rmi.transport=ALL-UNN
AMED
12-Jun-2021 01:08:04.855 INFO [main] org.apache.catalina.startup.VersionLoggerLi
stener.log Command line argument: -Djava.util.logging.config.file=C:\Program Fil
es\Apache Software Foundation\Tomcat 9.0\conf\logging.properties
12-Jun-2021 01:08:04.862 INFO [main] org.apache.catalina.startup.VersionLoggerLi
stener.log Command line argument: -Djava.util.logging.manager=org.apache.juli.Cl
assLoaderLogManager
12-Jun-2021 01:08:04.869 INFO [main] org.apache.catalina.startup.VersionLoggerLi
stener.log Command line argument: -Djdk.tls.ephemeralDHKeySize=2048
12-Jun-2021 01:08:04.871 INFO [main] org.apache.catalina.startup.VersionLoggerLi
stener.log Command line argument: -Djava.protocol.handler.pkgs=org.apache.catali
```

```

12-Jun-2021 01:08:04.874 INFO [main] org.apache.catalina.startup.VersionLoggerLi
stener.log Command line argument: -Dcatalina.base=C:\Program Files\Apache Softwa
re Foundation\Tomcat 9.0
12-Jun-2021 01:08:04.875 INFO [main] org.apache.catalina.startup.VersionLoggerLi
stener.log Command line argument: -Dcatalina.home=C:\Program Files\Apache Softwa
re Foundation\Tomcat 9.0
12-Jun-2021 01:08:04.877 INFO [main] org.apache.catalina.startup.VersionLoggerLi
stener.log Command line argument: -Djava.io.tmpdir=C:\Program Files\Apache Softw
are Foundation\Tomcat 9.0\temp
12-Jun-2021 01:08:05.002 INFO [main] org.apache.catalina.core.AprLifecycleListen
er.lifecycleEvent Loaded Apache Tomcat Native library [1.2.28] using APR version
[1.7.0].
12-Jun-2021 01:08:05.004 INFO [main] org.apache.catalina.core.AprLifecycleListen
er.lifecycleEvent APR capabilities: IPv6 [true], sendfile [true], accept filters
[false], random [true].
12-Jun-2021 01:08:05.006 INFO [main] org.apache.catalina.core.AprLifecycleListen
er.lifecycleEvent APR/OpenSSL configuration: useAprConnector [false], useOpenSSL
[true]
12-Jun-2021 01:08:05.019 INFO [main] org.apache.catalina.core.AprLifecycleListen
er.initializeSSL OpenSSL successfully initialized [OpenSSL 1.1.1k 25 Mar 2021]
12-Jun-2021 01:08:06.465 INFO [main] org.apache.coyote.AbstractProtocol.init Ini
tializing ProtocolHandler ["http-nio-8080"]
12-Jun-2021 01:08:06.781 SEVERE [main] org.apache.catalina.util.LifecycleBase.ha
ndleSubClassException Failed to initialize component [Connector[HTTP/1.1-8080]]
    org.apache.catalina.LifecycleException: Protocol handler initialization
failed
        at org.apache.catalina.connector.Connector.initInternal(Connecto
r.java:1049)
        at org.apache.catalina.util.LifecycleBase.init(LifecycleBase.jav
a:136)
        at org.apache.catalina.core.StandardService.initInternal(Standar
dService.java:556)
        at org.apache.catalina.util.LifecycleBase.init(LifecycleBase.jav
a:136)
        at org.apache.catalina.core.StandardServer.initInternal(Standard
Server.java:1045)
        at org.apache.catalina.util.LifecycleBase.init(LifecycleBase.jav
a:136)
        at org.apache.catalina.startup.Catalina.load(Catalina.java:724)
        at org.apache.catalina.startup.Catalina.load(Catalina.java:746)
        at java.base/jdk.internal.reflect.NativeMethodAccessorImpl.invoke
(Native Method)
        at java.base/jdk.internal.reflect.NativeMethodAccessorImpl.invoke
(NativeMethodAccessorImpl.java:64)
        at java.base/jdk.internal.reflect.DelegatingMethodAccessorImpl.i
nvoke(DelegatingMethodAccessorImpl.java:43)
        at java.base/java.lang.reflect.Method.invoke(Method.java:564)
        at org.apache.catalina.startup.Bootstrap.load(Bootstrap.java:302
)
        at org.apache.catalina.startup.Bootstrap.main(Bootstrap.java:472)

```

```

    Caused by: java.net.BindException: Address already in use: bind
        at java.base/sun.nio.ch.Net.bind0(Native Method)
        at java.base/sun.nio.ch.Net.bind(Net.java:550)
        at java.base/sun.nio.ch.ServerSocketChannelImpl.bind(ServerSocketChannelImpl.java:249)
        at org.apache.tomcat.util.net.NioEndpoint.initServerSocket(NioEndpoint.java:300)
        at org.apache.tomcat.util.net.NioEndpoint.bind(NioEndpoint.java:253)
        at org.apache.tomcat.util.net.AbstractEndpoint.bindWithCleanup(AbstractEndpoint.java:1204)
        at org.apache.tomcat.util.net.AbstractEndpoint.init(AbstractEndpoint.java:1217)
        at org.apache.coyote.AbstractProtocol.init(AbstractProtocol.java:603)
        at org.apache.coyote.http11.AbstractHttp11Protocol.init(AbstractHttp11Protocol.java:80)
        at org.apache.catalina.connector.Connector.initInternal(Connector.java:1046)
        ... 13 more
12-Jun-2021 01:08:06.790 INFO [main] org.apache.catalina.startup.Catalina.load Server initialization in [3172] milliseconds
12-Jun-2021 01:08:06.941 INFO [main] org.apache.catalina.core.StandardService.startInternal Starting service [Catalina]
12-Jun-2021 01:08:06.946 INFO [main] org.apache.catalina.core.StandardEngine.startInternal Starting Servlet engine: [Apache Tomcat/9.0.46]
12-Jun-2021 01:08:06.988 INFO [main] org.apache.catalina.startup.HostConfig.deployDirectory Deploying web application directory [C:\Program Files\Apache Software Foundation\Tomcat 9.0\webapps\docs]
12-Jun-2021 01:08:07.878 INFO [main] org.apache.catalina.startup.HostConfig.deployDirectory Deployment of web application directory [C:\Program Files\Apache Software Foundation\Tomcat 9.0\webapps\docs] has finished in [890] ms
12-Jun-2021 01:08:07.882 INFO [main] org.apache.catalina.startup.HostConfig.deployDirectory Deploying web application directory [C:\Program Files\Apache Software Foundation\Tomcat 9.0\webapps\examples]
12-Jun-2021 01:08:09.712 INFO [main] org.apache.catalina.startup.HostConfig.deployDirectory Deployment of web application directory [C:\Program Files\Apache Software Foundation\Tomcat 9.0\webapps\examples] has finished in [1,830] ms
12-Jun-2021 01:08:09.715 INFO [main] org.apache.catalina.startup.HostConfig.deployDirectory Deploying web application directory [C:\Program Files\Apache Software Foundation\Tomcat 9.0\webapps\host-manager]
12-Jun-2021 01:08:09.823 INFO [main] org.apache.catalina.startup.HostConfig.deployDirectory Deployment of web application directory [C:\Program Files\Apache Software Foundation\Tomcat 9.0\webapps\host-manager] has finished in [108] ms
12-Jun-2021 01:08:09.825 INFO [main] org.apache.catalina.startup.HostConfig.deployDirectory Deploying web application directory [C:\Program Files\Apache Software Foundation\Tomcat 9.0\webapps\manager]
12-Jun-2021 01:08:09.947 INFO [main] org.apache.catalina.startup.HostConfig.deployDirectory Deployment of web application directory [C:\Program Files\Apache Sof

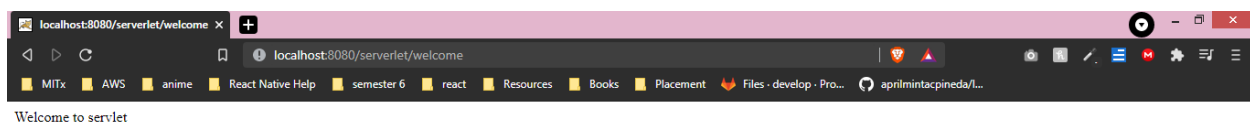
```

```

12-Jun-2021 01:08:09.949 INFO [main] org.apache.catalina.startup.HostConfig.deployDirectory Deploying web application directory [C:\Program Files\Apache Software Foundation\Tomcat 9.0\webapps\rd]
12-Jun-2021 01:08:10.050 INFO [main] org.apache.catalina.startup.HostConfig.deployDirectory Deployment of web application directory [C:\Program Files\Apache Software Foundation\Tomcat 9.0\webapps\rd] has finished in [101] ms
12-Jun-2021 01:08:10.052 INFO [main] org.apache.catalina.startup.HostConfig.deployDirectory Deploying web application directory [C:\Program Files\Apache Software Foundation\Tomcat 9.0\webapps\ROOT]
12-Jun-2021 01:08:10.112 INFO [main] org.apache.catalina.startup.HostConfig.deployDirectory Deployment of web application directory [C:\Program Files\Apache Software Foundation\Tomcat 9.0\webapps\ROOT] has finished in [59] ms
12-Jun-2021 01:08:10.113 INFO [main] org.apache.catalina.startup.HostConfig.deployDirectory Deploying web application directory [C:\Program Files\Apache Software Foundation\Tomcat 9.0\webapps\serverlet]
12-Jun-2021 01:08:10.183 INFO [main] org.apache.catalina.startup.HostConfig.deployDirectory Deployment of web application directory [C:\Program Files\Apache Software Foundation\Tomcat 9.0\webapps\serverlet] has finished in [65] ms
12-Jun-2021 01:08:10.186 INFO [main] org.apache.catalina.startup.HostConfig.deployDirectory Deploying web application directory [C:\Program Files\Apache Software Foundation\Tomcat 9.0\webapps\simpleValidation]
12-Jun-2021 01:08:10.297 INFO [main] org.apache.catalina.startup.HostConfig.deployDirectory Deployment of web application directory [C:\Program Files\Apache Software Foundation\Tomcat 9.0\webapps\simpleValidation] has finished in [110] ms
12-Jun-2021 01:08:10.306 INFO [main] org.apache.catalina.startup.Catalina.startup Server startup in [3515] milliseconds
12-Jun-2021 01:15:31.860 INFO [Catalina-utility-1] org.apache.catalina.startup.HostConfig.reload Reloading context [/serverlet]
12-Jun-2021 01:15:31.917 INFO [Catalina-utility-1] org.apache.catalina.core.StandardContext.reload Reloading Context with name [/serverlet] has started
12-Jun-2021 01:15:32.371 INFO [Catalina-utility-1] org.apache.catalina.core.StandardContext.reload Reloading Context with name [/serverlet] is completed

```

Output:



Practical 10: WAP to add image with height and width attributes in HTML page

CODE:

```
1  <!DOCTYPE html>
2  <html>
3  <body>
4
5  <h2>Image Size</h2>
6
7  <p>Here we specify the width and height of an image with the width and height attributes:</p>
8
9  
10
11 </body>
12 </html>
13
```

Output:

Image Size

Here we specify the width and height of an image with the width and height attributes:



Practical 11: WAP to add floating images in HTML Page.

CODE:

```

1  <!DOCTYPE html>
2  <html>
3  <body>
4    <h2>Floating Images</h2>
5    <p><strong>Float the image to the right:</strong></p>
6    <p>
7      
8      A paragraph with a floating image. A paragraph with a floating image. A paragraph with a floating
      image.
9    </p>
10   <p><strong>Float the image to the left:</strong></p>
11   <p>
12     
13     A paragraph with a floating image. A paragraph with a floating image. A paragraph with a floating
      image.
14   </p>
15 </body>
16 </html>

```

Output:

Floating Images

Float the image to the right:

A paragraph with a floating image. A paragraph with a floating image. A paragraph with a floating image.



Float the image to the left:



A paragraph with a floating image. A paragraph with a floating image. A paragraph with a floating image.

Practical 12: WAP to get Geolocation and watch position.

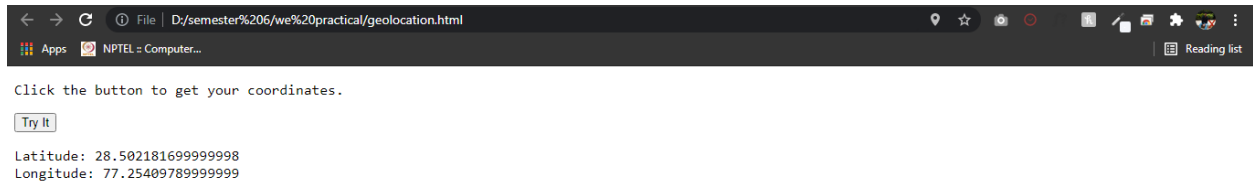
CODE:

```

1  <!DOCTYPE html>
2  <html>
3    <body>
4      <p>Click the button to get your coordinates.</p>
5      <button onclick="getLocation()">Try It</button>
6      <p id="demo"></p>
7      <script>
8        var x = document.getElementById("demo");
9
10       function getLocation() {
11         if (navigator.geolocation) {
12           navigator.geolocation.getCurrentPosition(showPosition);
13         } else {
14           x.innerHTML = "Geolocation is not supported by this browser.";
15         }
16       }
17
18       function showPosition(position) {
19         x.innerHTML = "Latitude: " + position.coords.latitude +
20           "<br>Longitude: " + position.coords.longitude;
21       }
22     </script>
23   </body>
24 </html>

```

Output:



Practical 13: WAP to implement a JSP to generate dynamic content.

CODE:

```

1  <html>
2  <head>
3    <title>Echoing HTML Request Parameters</title>
4  </head>
5  <body>
6    <h3>Choose an author:</h3>
7    <form method="get">
8      <input type="checkbox" name="author" value="Tan Ah Teck">Tan
9      <input type="checkbox" name="author" value="Mohd Ali">Ali
10     <input type="checkbox" name="author" value="Kumar">Kumar
11     <input type="submit" value="Query">
12   </form>
13
14   <%
15     String[] authors = request.getParameterValues("author");
16     if (authors != null) {
17   %>
18     <h3>You have selected author(s):</h3>
19     <ul>
20   <%
21       for (int i = 0; i < authors.length; ++i) {
22   %>
23         <li><%= authors[i] %></li>
24   <%
25       }
26   %>
27     </ul>
28     <a href="<%= request.getRequestURI() %>">BACK</a>
29   <%
30     }
31   %>
32 </body>
33 </html>

```

Output:

