# Javascript

# **Event Handling**

- Onblur
- Ondblclick
- Onclick
- Onfocus
- Onkeydown
- Onkeypress
- Onload
- Onunload
- Onmouseover
- Onmouseout
- Onmousedown
- Onmouseup
- Onmousemove
- Onreset
- Onselect
- onsubmit

### **Event**

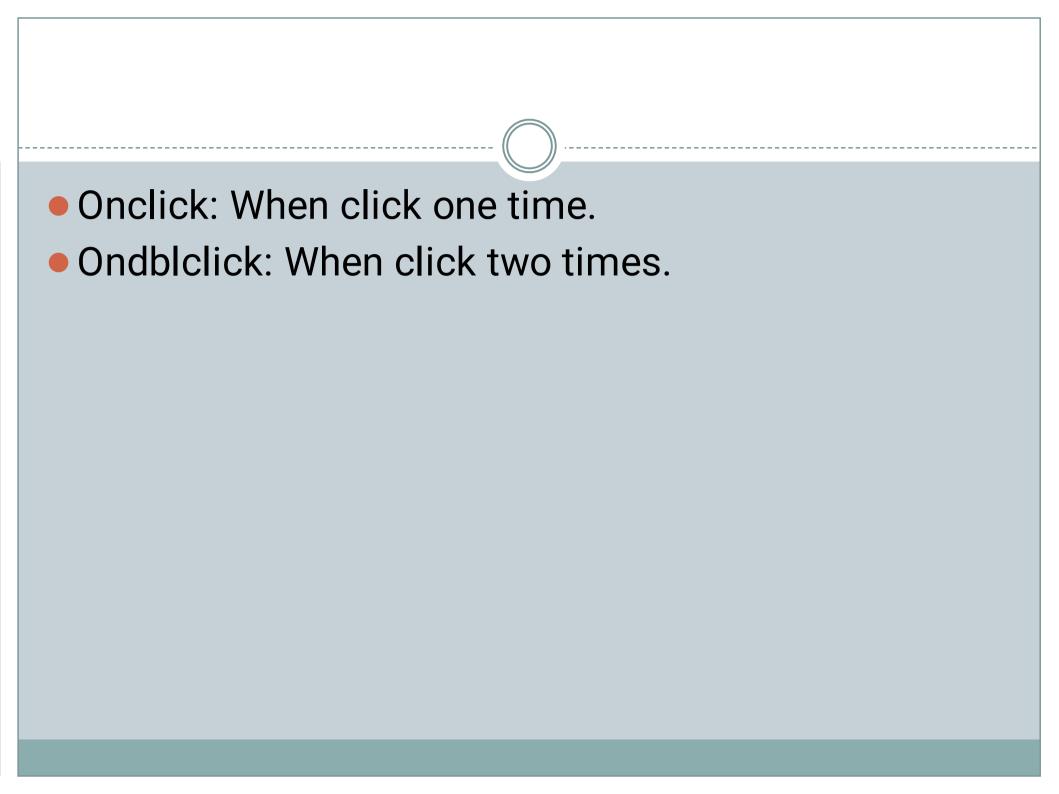
- JavaScript's interaction with HTML is handled through events that occur when the user or the browser manipulates a page.
- For an example: When page loads, When we press any key.
- Events are part of DOM(document object model) and every html element contains a set of events which can trigger JS code.

### Use of onblur and onfocus

- Onblur: When window loses its focus
- Onfocus: When window gets focus
- Example:
- <!DOCTYPE html><html><head></head>
- <body>

Enter Value: <input type="text" id="text" onfocus="fun()" onblur="abc()">

- <script>
- function fun(){
- document.getElementById("text").style.background = "pink";
- }
- function abc() {
- document.getElementById("text").style.background = "blue";
- }
- </script>
- </body>
- </html>



### onclick



- •<head></head>
- o<body>
- Enter the value of radius:
- •<input type="text" id="text1">
- <input type="button" onclick="fun()">
- o<br>
- o
- <script>
- •function fun(){
- var a = document.getElementById("text1").value;
- var area = Math.PI\*a\*a;
- •document.getElementById("sam").innerHTML=area;
- •}
- </script>
- </body>
- </html>

Enter the value of radius: 7

153.93804002589985

### ondblclick

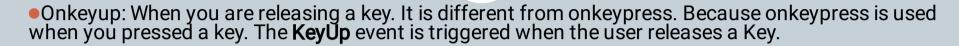
- <!doctype html>
- <head></head>
- o<body>
- o This is paragraph
- <script type="text/javascript">
- function fun()
- {
- Document.getElementById("para").innerHTML="This is the new content";
- }
- </script>
- </body>
- </html>

# Onchange event

- <html>
  <head>
- <head></head>
- o<body id="p">
- <select id="sel" onchange="fun()">
- <option value="green">green</option>
- <option value="grey">grey</option>
- <option value="yellow">yellow</option>
- <option value="pink">pink</option>
- </select>
- <script>
- •function fun(){
- •var a = document.getElementById("sel").value;
- •document.getElementById("p").style.backgroundColor=a;
- •}
- </script>
- </body>
- </html>



# onkeyup



Onkeydown: when you are releasing a key. The KeyDown event is triggered when the user presses a Key.

Enter your name: zs

My name is: zs

• The **KeyPress** event is triggered when the user presses & releases a Key. (onKeyDown followed by onKeyUp)

```
<!DOCTYPE html>
```

- html>
- o<body>
- Enter your name: <input type="text" id="fname" onkeyup="fun()">
- My name is: <span id="sample"></span>
- <script>
- •function fun() {
- var x = document.getElementById("fname").value;
- document.getElementById("sample").innerHTML = x;
- •}
- </script></body>
- </html>

# onkeydown

omg!!

- <!DOCTYPE html>
- <html>
- o<body>
- <input type="text" onkeydown="fun()">
- <script>
- function fun() {
- alert("omg!! ");
- •}
- </script>
- </body>
- </html>

# onkeypress

omg!!

- <!DOCTYPE html>
  <html>
  <body>
- <input type="text" onkeypress="fun()">
- <script>
- function fun() {
- alert("omg!! ");
- •}
- </script>
- </body>
- </html>

### String Object

- A string is a sequence of characters.
- Var str="Welcome to Chitkara University";
- Var str1="hello"
- To find character at 6<sup>th</sup> position: str.charAt(6)
   (NOTE: index starts from zero so here it will go from 0 to 6.)
- To convert it into lower case: str.toLowerCase()
- To convert it into upper case: str.to UpperCase()
- To find the position of charcter or string: str. indexOf("character/ String")
- To merge two string: str.concat(str1)

```
character at 6th =e
in lower case=welcome to chitkara university
in upper case=WELCOME TO CHITKARA UNIVERSITY
index of to=8
concatination of=Welcome to chitkara universityhello everyone
```

- <!doctype html>
- <head></head>
- o<body>
- <script type="text/javascript">
- var str="Welcome to chitkara university";
- var str1= "hello everyone";
- document.write("character at 6th ="+str.charAt(6)+"<br>");
- document.write("in lower case="+str.toLowerCase()+"<br>");
- document.write("in upper case="+str.toUpperCase()+ "<br>");
- document.write("index of to="+str.indexOf("to")+"<br>");
- document.write("concatination of="+str.concat(str1)+"<br>");
- </script>
- </body>
- </html>

### Math object

- Math object is used to perform simple and complex arithmetic operations.
- Properties are:
- Math.Pl,
- Math.E (holds Euler's no. value is 2.718),
- Math.LOG10E(base-10 logarithm of E = 0.434)
- Math.LOG2E(base-10 logarithm of E = 1.442)
- Math.SQRT1\_2(returns square root of ½)
- Math.SQRT2(returns square root of 2)

- <!doctype html>
- <head></head>
- o<body>
- <script type="text/javascript">
- document.write(Math.PI+"<br>");
- document.write(Math.E+"<br>");
- document.write(Math.LOG10E+"<br>");
- </script> </body>

3.141592653589793 2.718281828459045 0.4342944819032518

# Methods

abs(x)	To find absolute value
ceil(x)	Rounds up x to nearest bigger integer
exp(x)	Returns the value of ex
floor(x)	Rounds up x to the nearest smaller integer
log(x)	Returns natural logarithmic value of x
min(x,,y,z,)	Find lowest number
max(x,y,z,)	Find highest no
pow(x,y)	X to the power of y
random()	Returns random number between 0 and 1
round(x)	Rounds up x to nearest integer
sqrt(x)	Returns square root of x

- <!doctype html>
- <head></head>
- <body>
- <script type="text/javascript">
- document.write("absolute value="+Math.abs(-5)+"<br>");
- document.write("ceil value="+Math.ceil(5.6)+"<br>");
- document.write("floor value="+Math.floor(5.6)+"<br>");
- document.write("log value="+Math.log(1000)+"<br>");
- document.write("min value="+Math.min(23,45,12,56)+"<br>");
- document.write("max value="+Math.max(23,45,12,56)+"<br>");
- document.write("2 raise to power 4="+Math.pow(2,4)+"<br>");
- document.write("exponential value="+Math.exp(5)+"<br>");
- document.write("round of="+Math.round(5.6)+"<br>");
- document.write("square root of="+Math.sqrt(256)+"<br>");
- document.write("random value="+Math.random()+"<br>");
- </script>
- </body>

absolute value5
ceil value6
floor value5
log value6.907755278982137
min value12
max value56
2 raise to power 416
exponential value148.4131591025766
round of6
square root of16
random value0.22643660118571374

### Date object

- Date object is used to display a date on a web page.
- Date object can be created with the help of constructor function.
- To create date object there are following ways:
- Var dat = new Date();
- Var dat = new Date(milliseconds);
- Var dat = new Date(yyyy, mm, dd [, hr, min, sec, millisec])
- Var dat = new Date("mm dd, yyy");
- Var dat = new Date("mm dd, yyyy hr:min:sec");

getDate()	Returns current day (from 1 to 31)
getDay()	Returns day of week. 0=mon, 6= sun
getFullYear()	Returns current year
getHours()	0 to 23
getMilliseconds()	0 to 999
getMinutes()	0 to 59
getMonth()	0 to 11
getSeconds()	0 to 59
getTime()	Returns milliseconds since midnight jan 1, 1970
setDate()	Set the day of month
setFullYear()	Set any year four digit
setMonth()	Set any month

```
For e.g. <!doctype html>
<head></head>
<body>
<script type="text/javascript">
var dat = new Date();
var x = dat.getDate()
document.write(dat + "<br>");
document.write(x);
</script>
</body>
</html>
<!doctype html>
<head></head>
<body>
<script type="text/javascript">
var dat = new Date();
var x = dat.setDate(10);
document.write(dat + "<br>");
</script>
</body>
</html>
```

Thu Oct 05 2017 22:01:41 GMT+0530 (India Standard Time) 5

Tue Oct 10 2017 22:03:50 GMT+0530 (India Standard Time)

- <!doctype html>
- <head></head>
- o<body>
- <script type="text/javascript">
- •var dat = new Date();
- •var x = dat.toDateString();
- var y = dat.toString();
- •var z = dat.toTimeString();
- •var p = dat.valueOf();
- •document.write(x + "<br>");
- •document.write(y + "<br>");
- •document.write(z + "<br>");
- •document.write(p + "<br>");
- </script>
- </body>
- </html>

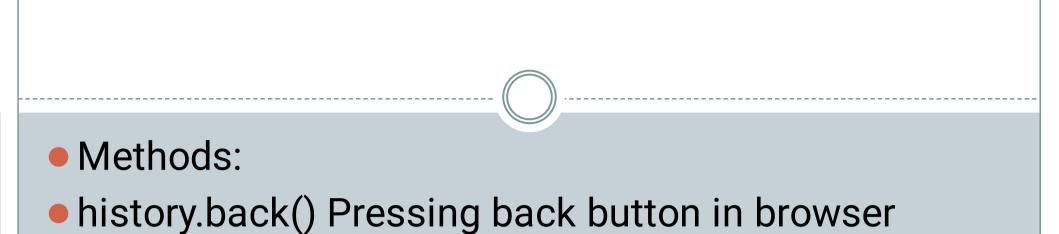
Thu Oct 05 2017 Thu Oct 05 2017 22:19:38 GMT+0530 (India Standard Time) 22:19:38 GMT+0530 (India Standard Time) 1507222178332

### History object

- he history object contains the URLs visited by the user (within a browser window).
- The history object is part of the window object and is accessed through the window.history property.
- <u>Length</u> Returns the number of URLs in the history list.
- window.history.propertyname;
- Or
- history.propertyname;
- Example:



- <html>
- o<body>
- Number of URLs in history list:
- o
- <strong>Note:</strong> This example is opened in a new frame and will be treated as a new "session".
- <script>
- var x = history.length;
- •document.getElementById("demo").innerHTML = x;
- </script>
- </body>
- </html>



history.forward() Pressing forward button in browser.

History.go()

```
<html>
 <head>
                                           Back
 <script>
 function b() {
   window.history.back()
 </script>
 </head>
 <body>
 <input type="button" value="Back" onclick="b()">
 </body>
```

```
<html>
 <head>
 <script>
                                      Forward
 function fw() {
   window.history.forward()
 </script>
 </head>
 <body>
 <input type="button" value="Forward" onclick="fw()">
 </body>
```

<!DOCTYPE html> <html> Go 2 pages back o<body> <button onclick="goBack()">Go 2 pages back</button> <script> •function goBack() { window.history.go(-2); </script> </body> </html>

### Location object

- The window.location object can be used to get the current page address (URL) and to redirect the browser to a new page.
- Properties:
- window.location.href returns the href (URL) of the current page
- window.location.hostname returns the domain name of the web host
- window.location.pathname returns the path and filename of the current page
- window.location.protocol returns the web protocol used (http: or https:)
- window.location.href Sets or returns the entire URL
- window.location.search
   Sets or returns the querystring part of a URL
- window.location.hash Sets or returns the anchor part (#) of a URL
- Window.location.port Sets or returns the port number of a URL
- host Sets or returns the hostname and port number of a URL

### methods

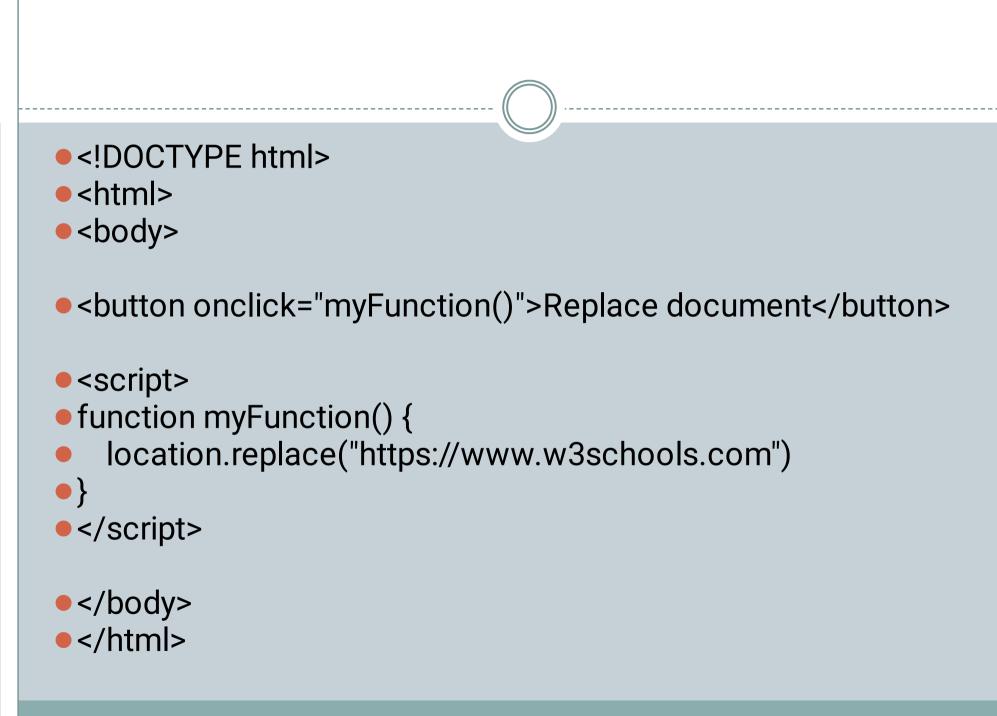
- Window.location.assign(): loads a new document
- Window.location.reload()
- Window.location.replace()

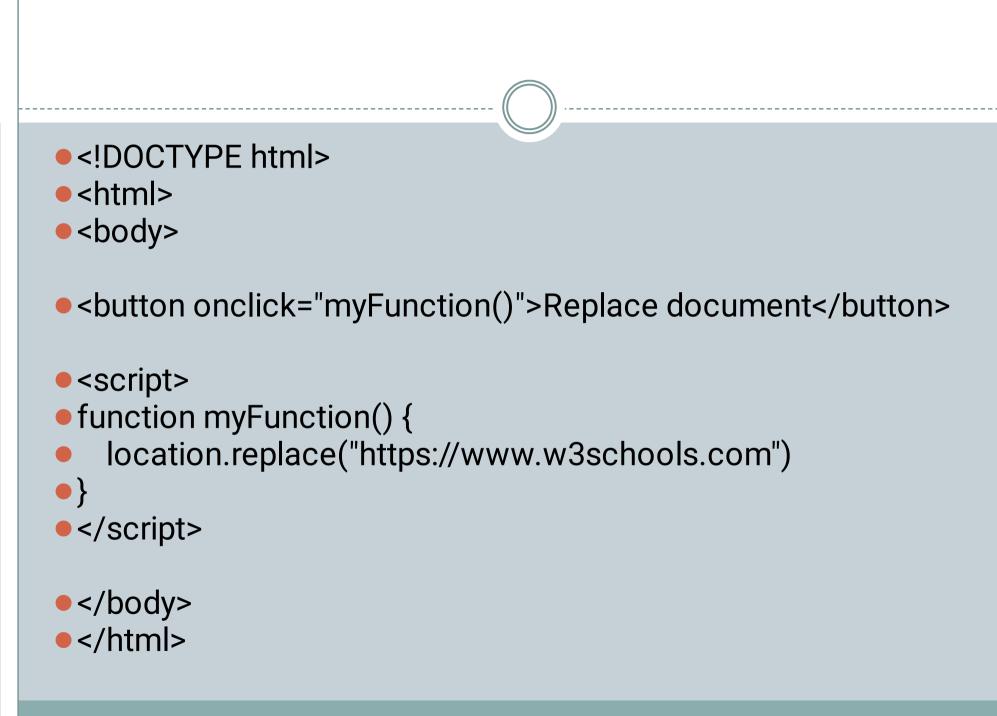
- <!DOCTYPE html>
- html>
- o<body>
- <h2>JavaScript</h2>
- <h3>The window.location object</h3>
- <input type="button" value="Load new</p>
- •document" onclick="newDoc()">
- <script>
- •function newDoc() {
- window.location.assign("https://www.chitkara.edu.in/")
- •}
- </script>
- </body>
- </html>

Load new document









### Window object

- <u>closed</u>Returns a Boolean value indicating whether a window has been closed or not.
- innerHeightReturns the inner height of a window's content area
- innerWidthReturns the inner width of a window's content area
- length Returns the number of <iframe> elements in the current window
- Location:
- Navigator:
- Document:
- History:
- outerHeightReturns the outer height of a window, including toolbars/ scrollbars
- outerWidth Returns the outer width of a window, including toolbars/ scrollbars
- Parent Returns the parent window of the current window
- Self Returns the current window
- Status Sets or returns the text in the statusbar of a window

# Navigator object

- The navigator object contains information about the browser.
- appVersion property returns the version information of the browser.
- appCodeName Returns the code name of the browser.
- appName Returns the name of the browser
- cookieEnabled Determines whether cookies are enabled in the browser
- userAgent Returns the user-agent header sent by the browser to the server

```
<!DOCTYPE html>
   <html> <body>
                                                Try it
   <button onclick="fun()">Try it</button>
   Browser CodeName: Mozilla
  Browser Name: Netscape
  Version info: 5.0 (Windows)
   cookie enabled: true
<script>
                                               user agent: Mozilla/5.0 (Windows NT 6.3; WOW64; rv:52.0) Gecko/20100101 Firefox/52.0
   function fun() {
    var x = "Browser CodeName: " + navigator.appCodeName;
     document.getElementById("demo").innerHTML = x+"<br>";
   var y = "Browser Name: " + navigator.appName;
     document.getElementById("demo1").innerHTML = y+"<br/>';
   var z = "Version info: " + navigator.appVersion;
     document.getElementById("demo2").innerHTML = z;
  var p = "cookie enabled: " + navigator.cookieEnabled;
     document.getElementById("demo3").innerHTML = p;
   var r = "user agent: " + navigator.userAgent;
     document.getElementById("demo4").innerHTML = r;
   </script></body></html>
```

### Methods

- javaEnabled() Specifies whether or not the browser has Java enabled.
- A Boolean, indicating whether the browser has Java enabled.

Returns true if enabled, false if not.

taintEnabled() Removed in JavaScript version 1.2.
 Specifies whether the browser has data tainting enabled. The taintEnabled() method returns a Boolean value that specifies whether the browser has data tainting enabled.

- <!DOCTYPE html>
- html>
- o<body>
- Click the button to find out if your browser has Java enabled.
- •<button onclick="myFunction()">Try it</button>
- o
- <script>
- •function myFunction() {
- var x = "Java Enabled: " + navigator.javaEnabled();
- document.getElementById("demo").innerHTML = x;
- •}
- </script>
- </body>
- </html>

- <!DOCTYPE html>
- <html>
- o<body>
- <script>
- document.write("Data tainting enabled: " + navigator. taintEnabled());
- </script>
- </body>
- </html>