Objektni model dokumenta (DOM)
Objekti i metode

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HTML DOM objekti

HTML DOM reference za objekte: http://www.w3schools.com/jsref/default.asp

- Document object
- Event object
- HTMLElement object
- Anchor object
- Area object
- Base object
- Body object
- Button object
- Form object
- Frame/IFrame object
- Frameset object
- Image object
- Input Button object
- Input Checkbox object
- Input File object
- Input Hidden object
- Input Password object

- Input Radio object
- Input Reset object
- Input Submit object
- Input Text object
- Link object
- Meta object
- Object object
- Option object
- Select object
- Style object
- Table object
- TableCell object
- TableRow object
- Textarea object

Za svaki HTML DOM objekat definisane su osobine i metode.

Body objekat

- Body objekat predstavlja "tijelo" HTML dokumenta (cjelokupan sadržaj u okviru <body></body> tagova)

Body Object Properties

W3C: W3C Standard.

Property	Description	W3C
aLink	Sets or returns the value of the alink attribute of the body element	Yes
background	Sets or returns the value of the background attribute of the body element	Yes
bgColor	Sets or returns the value of the bgcolor attribute of the body element	Yes
link	Sets or returns the value of the link attribute of the body element	Yes
text	Sets or returns the value of the text attribute of the body element	Yes
vLink	Sets or returns the value of the vlink attribute of the body element	Yes

Body Object Events

Event	Description	W3C
onload	Script to be run immediately after a page is loaded	Yes

HTML DOM Button objekat

- Button objekat predstavlja dugme na web strani.

- Pored uobičajenog izgleda dugme može biti grafičko (ikona) ili tekstualno.

- Za svaki **<button>** tag u HTML dokumentu kreira se instanca objekata button.

- **U okviru HTML button elementa (<button> tagova) mogu postojati tekst i slike. Ovo predstavlja razliku između dugmadi koja se kreiraju pomoću button elementa i dugmadi koja se kreiraju pomoću <input type="button> elementa.**

Button Object Properties

W3C: W3C Standard.

Property	Description	W3C
form	Returns a reference to the form that contains a button	Yes
name	Sets or returns the value of the name attribute of a button	Yes
type	Sets or returns the type of a button	Yes
value	Sets or returns the value of the value attribute of a button	Yes

HTML DOM Image objekat (1)

- Objekat **Image** predstavlja sliku koja se referencira u HTML dokumentu.

- Za svaki <img> tag u HTML dokumentu kreira se instanca objekta Image.

- **Napomena:** HTML dokument "ne sadrži" slike već samo reference (linkove) na slike.

HTML DOM Image objekat (2)

Image Object Properties

W3C: W3C Standard.

Property	Description	W3C
align	Sets or returns the value of the align attribute of an image	Yes
alt	Sets or returns the value of the alt attribute of an image	Yes
border	Sets or returns the value of the border attribute of an image	Yes
complete	Returns whether or not the browser is finished loading an image	No
height	Sets or returns the value of the height attribute of an image	Yes
hspace	Sets or returns the value of the hspace attribute of an image	Yes
longDesc	Sets or returns the value of the longdesc attribute of an image	Yes
lowsrc	Sets or returns a URL to a low-resolution version of an image	No
name	Sets or returns the name of an image	Yes
src	Sets or returns the value of the src attribute of an image	Yes
useMap	Sets or returns the value of the usemap attribute of an image	Yes
vspace	Sets or returns the value of the vspace attribute of an image	Yes
width	Sets or returns the value of the width attribute of an image	Yes

Image Object Events

Event	The event occurs when...	W3C
onabort	Loading of an image is interrupted	Yes
onerror	An error occurs when loading an image	Yes
onload	An image is finished loading	Yes

HTML DOM Form objekat (1)

- Objekat **Form** predstavlja formu u HTML dokumentu.

- Za svaki <form> tag kreira se instanca objekta Form.

- Forma služe za prikupljanje podataka od korisnika i sadrže različite elemente za unos podataka (tekst polja, textarea), izbor (checkbox, list,radio button,..) i dugmad (za slanje podataka serveru ili resetovanje forme).

Form Object Collections

W3C: W3C Standard.

Collection	Description	W3C
elements[]	Returns an array of all elements in a form	Yes

Form Object Properties

Property	Description	W3C
acceptCharset	Sets or returns the value of the accept-charset attribute in a form	Yes
action	Sets or returns the value of the action attribute in a form	Yes
enctype	Sets or returns the value of the enctype attribute in a form	Yes
length	Returns the number of elements in a form	Yes
method	Sets or returns the value of the method attribute in a form	Yes
name	Sets or returns the value of the name attribute in a form	Yes
target	Sets or returns the value of the target attribute in a form	Yes

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HTML DOM Form objekat (2)

Metode i događaji

Form Object Methods

Method	Description	W3C
reset()	Resets a form	Yes
submit()	Submits a form	Yes

Form Object Events

Event	The event occurs when...	W3C
onreset	The reset button is clicked	Yes
onsubmit	The submit button is clicked	Yes

Primjer- upotreba kolekcije elements za Form objekat

Kolekcija **elements** objekta Form sadrži niz koji predstavlja sve elemente u formi.

Sintaksa:

formObject.elements[].*property*

```
<html>
<body>
<form id="frm1" action="form_action.asp">
  First name: <input type="text" name="fname" value="Marko" /><br />
  Last name: <input type="text" name="lname" value="Markovic" /><br />
  <input type="submit" value="Posalji" />
</form>
<p>Elementi u formi su dva tekst polja i dugme.<br>Ispisivanje vrijednosti
elemenata forme </p>
<script type="text/javascript">
//pristup svim elementima forme koja ima id="frm1"
var x=document.getElementById("frm1");
//metoda x.length vraća broj koji predstavlja ukupan broj elemenata u formi
for (var i=0;i<x.length;i++)
  {
  document.write(x.elements[i].value);
  document.write("<br />");
  }
</script>
</body>
</html>
```

First name: Marko
Last name: Markovic
Posalji

Elementi u formi su dva tekst polja i dugme.
Ispisivanje vrijednosti elemenata forme

Marko
Markovic
Posalji

Kolekcija elements[ ] objekta Form

- Kolekcija **elements** objekta Form je niz koji predstavlja sve elemente u formi.

- Sintaksa:

formObject.elements[ ].*property*

Objekti kolekcije elements [ ] su:

DOM Input button	DOM Input Radio
DOM Input Checkbox	DOM Input Reset
DOM Input File	DOM Input Submit
DOM Input Hidden	DOM Input Text
DOM Input Password	DOM Textarea

REFERENCE: http://www.w3schools.com/jsref/default.asp

HTML DOM Input Button objekat (1)

- Objekat koji se kreira pomoću taga **<input type="button">** predstavlja dugme u HTML dokumentu koje korisnik može da "klikne".

- Ovaj tip dugmeta se najčešće koristi da pokrene JavaScript kada korisnik "klikne" na dugme.

- Za svaki <input type="button"> tag kreira se instanca Button objekta.

- Ovom objektu može se pristupiti pomoću kolekcije **elements() objekta Form** ili metodom **document.getElementById().**

HTML DOM Input Button objekat (2)

U okviru <input type="button"> tagova ne se koristiti slike ili tekst za predstavljanje dugmeta na HTML strani.

Button Object Properties

W3C: W3C Standard.

Property	Description	W3C
form	Returns a reference to the form that contains the input button	Yes
name	Sets or returns the value of the name attribute of an input button	Yes
type	Returns the type of form element the button is	Yes
value	Sets or returns the value of the value attribute of a button	Yes

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HTML DOM Input Checkbox objekat

- Objekat **Checkbox** predstavlja checkbox u HTML formi.

- Za svaki <input type="checkbox"> tag u HTML formi, kreira se instanca Checkbox objekta.

- Ovom objektu može se pristupiti pomoću kolekcije **elements() objekta Form** ili metodom **document.getElementById().**

Property	Description
accessKey	Sets or returns the keyboard key to access a checkbox
alt	Sets or returns an alternate text to display if a browser does not support checkboxes
checked	Sets or returns whether or not a checkbox should be checked
defaultChecked	Returns the default value of the checked attribute
disabled	Sets or returns whether or not a checkbox should be disabled
form	Returns a reference to the form that contains the checkbox
id	Sets or returns the id of a checkbox
name	Sets or returns the name of a checkbox
tabIndex	Sets or returns the tab order for a checkbox
type	Returns the type of form element a checkbox is
value	Sets or returns the value of the value attribute of a checkbox

Method	Description
blur()	Removes focus from a checkbox
click()	Simulates a mouse-click in a checkbox
focus()	Gives focus to a checkbox

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HTML DOM FileUpload objekat

- **FileUpload objekat**

- Za svaki <input type="file"> tag u HTML formi, kreira se instanca FileUpload objekta.

- Ovom objektu može se pristupiti pomoću kolekcije **elements() objekta Form** ili metodom **document.getElementById().**

Property	Description
accept	Sets or returns a comma-separated list of MIME types that indicates the MIME type of the file transfer
accessKey	Sets or returns the keyboard key to access the FileUpload object
alt	Sets or returns an alternate text to display if the browser does not support <input type="file">
defaultValue	Sets or returns the initial value of the FileUpload object
disabled	Sets or returns whether or not the FileUpload object should be disabled
form	Returns a reference to the form that contains the FileUpload object
id	Sets or returns the id of the FileUpload object
name	Sets or returns the name of the FileUpload object
tabIndex	Sets or returns the index that defines the tab order for the FileUpload object
type	Returns the type of the form element. For a FileUpload object it will be "file"
value	Returns the file name of the FileUpload object after the text is set by user input

Method	Description
blur()	Removes focus from the FileUpload object
focus()	Gives focus to the FileUpload object
select()	Selects the FileUpload object

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HTML DOM Hidden objekat

- Objekat **Hidden** predstavlja skriveno polje za unos u HTML formi.

- Za svaki <input type="hidden"> tag u HTML formi, kreira se instanca Hidden objekta.

- Ovom objektu može se pristupiti pomoću kolekcije **elements() objekta Form** ili metodom **document.getElementById().**

Property	Description
alt	Sets or returns an alternate text to display if a browser does not support hidden fields
form	Returns a reference to the form that contains the hidden field
id	Sets or returns the id of a hidden field
name	Sets or returns the name of a hidden field
type	Returns the type of form element a hidden input field is
value	Sets or returns the value of the value attribute of the hidden field

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HTML DOM Password objekat

▪ Objekat **Password** predstavlja polje za unos lozinke (password) u HTML formu.

▪ Za svaki <input type="password"> tag u HTML formi, kreira se instanca Password objekta.

▪ Ovom objektu može se pristupiti pomoću kolekcije **elements() objekta Form** ili metodom **document.getElementById().**

Property	Description
accessKey	Sets or returns the keyboard key to access a password field
alt	Sets or returns an alternate text to display if a browser does not support password fields
defaultValue	Sets or returns the default value of a password field
disabled	Sets or returns whether or not a password field should be disabled
form	Returns a reference to the form that contains the password field
id	Sets or returns the id of a password field
maxLength	Sets or returns the maximum number of characters in a password field
name	Sets or returns the name of a password field
readOnly	Sets or returns whether or not a password field should be read-only
size	Sets or returns the size of a password field
tabIndex	Sets or returns the tab order for a password field
type	Returns the type of form element a password field is
value	Sets or returns the value of the value attribute of the password field

Method	Description
blur()	Removes focus from a password field
focus()	Sets focus on a password field
select()	Selects the text in a password field

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HTML DOM Radio objekat

- Objekat **Radio** predstavlja "radio dugme" u HTML formi.

- Za svaki <input type="radio"> tag u HTML formi, kreira se instanca Radio objekta.

- Ovom objektu može se pristupiti pomoću kolekcije **elements() objekta Form** ili metodom **document.getElementById().**

Property	Description
accessKey	Sets or returns the keyboard key to access a radio button
alt	Sets or returns an alternate text to display if a browser does not support radio buttons
checked	Sets or returns the state of a radio button
defaultChecked	Returns the default state of a radio button
disabled	Sets or returns whether or not a radio button should be disabled
form	Returns a reference to the form that contains the radio button
id	Sets or returns the id of a radio button
name	Sets or returns the name of a radio button
tabIndex	Sets or returns the tab order for a radio button
type	Returns the type of form element a radio button is
value	Sets or returns the value of the value attribute of the radio button

Method	Description
blur()	Removes focus from a radio button
click()	Simulates a mouse-click on a radio button
focus()	Sets focus on a radio button

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HTML DOM Reset objekat

- Objekat **Reset** predstavlja reset dugme u HTML formi.

- Za svaki <input type="reset"> tag u HTML formi, kreira se instanca Reset objekta.

- Ovom objektu može se pristupiti pomoću kolekcije **elements() objekta Form** ili metodom **document.getElementById().**

Property	Description
accesskey	Sets or returns the keyboard key to access a reset button
alt	Sets or returns an alternate text to display if a browser does not support reset buttons
disabled	Sets or returns whether or not a reset button should be disabled
form	Returns a reference to the form that contains the reset button
id	Sets or returns the id of a reset button
name	Sets or returns the name of a reset button
tabIndex	Sets or returns the tab order for a reset button
type	Returns the type of form element a reset button is
value	Sets or returns the text that is displayed on a reset button

Method	Description
blur()	Removes focus from a reset button
click()	Simulates a mouse-click on a reset button
focus()	Sets focus on a reset button

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HTML DOM Submit objekat

- Objekat **Submit** predstavlja submit dugme u HTML formi.

- Za svaki <input type="submit"> tag u HTML formi, kreira se instanca Submit objekta.

- Ovom objektu može se pristupiti pomoću kolekcije **elements() objekta Form** ili metodom **document.getElementById().**

Property	Description
accessKey	Sets or returns the keyboard key to access a submit button
alt	Sets or returns an alternate text to display if a browser does not support submit buttons
disabled	Sets or returns whether or not a submit button should be disabled
form	Returns a reference to the form that contains the submit button
id	Sets or returns the id of a submit button
name	Sets or returns the name of a submit button
tabIndex	Sets or returns the tab order for a submit button
type	Returns the type of form element a submit button is
value	Sets or returns the text that is displayed on a submit button

Method	Description
blur()	Removes focus from a submit button
click()	Simulates a mouse-click on a submit button
focus()	Sets focus on a submit button

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HTML DOM Text objekat

- Objekat Text predstavlja polje za unos teksta u HTML formi.

- Za svaki <input type="text"> tag u HTML formi, kreira se instanca Text objekta.

- Ovom objektu može se pristupiti pomoću kolekcije **elements() objekta Form** ili metodom **document.getElementById().**

Property	Description
accessKey	Sets or returns the keyboard key to access a text field
alt	Sets or returns an alternate text to display if a browser does not support text fields
defaultValue	Sets or returns the default value of a text field
disabled	Sets or returns whether or not a text field should be disabled
form	Returns a reference to the form that contains the text field
id	Sets or returns the id of a text field
maxLength	Sets or returns the maximum number of characters in a text field
name	Sets or returns the name of a text field
readOnly	Sets or returns whether or not a text field should be read-only
size	Sets or returns the size of a text field
tabIndex	Sets or returns the tab order for a text field
type	Returns the type of form element a text field is
value	Sets or returns the value of the value attribute of a text field

Method	Description
blur()	Removes focus from a text field
focus()	Sets focus on a text field
select()	Selects the content of a text field

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HTML DOM Textarea objekat

- Objekat **Textarea** predstavlja polje za unos dužeg teksta (text-area) u HTML formi.

- Za svaki <textarea> tag u HTML formi , kreira se instanca Textarea objekta.

- Ovom objektu može se pristupiti pomoću kolekcije **elements() objekta Form** ili metodom **document.getElementById().**

Property	Description
accessKey	Sets or returns the keyboard key to access a textarea
cols	Sets or returns the width of a textarea
defaultValue	Sets or returns the default text in a textarea
disabled	Sets or returns whether or not a textarea should be disabled
form	Returns a reference to the form that contains the textarea
id	Sets or returns the id of a textarea
name	Sets or returns the name of a textarea
readOnly	Sets or returns whether or not a textarea should be read-only
rows	Sets or returns the height of a textarea
tabIndex	Sets or returns the tab order for the textarea
type	Returns the type of the form element
value	Sets or returns the text in a textarea

Method	Description
blur()	Removes focus from a textarea
focus()	Sets focus on a textarea
select()	Selects the text in a textarea

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HTML DOM Table objekat

- Objekat **Table** predstavlja tabelu u HTML dokumentu.
- Za svaki <table> tag u HTML dokumentu, kreira se instanca Table objekta.

Property	Description
border	Sets or returns the width of the table border
caption	Sets or returns the caption of a table
cellPadding	Sets or returns the amount of space between the cell border and cell content
cellSpacing	Sets or returns the amount of space between the cells in a table
frame	Sets or returns the outer-borders of a table
id	Sets or returns the id of a table
rules	Sets or returns the inner-borders of a table
summary	Sets or returns a description of a table
tFoot	Returns the TFoot object of a table
tHead	Returns the THead object of a table
width	Sets or returns the width of a table

Method	Description
createCaption()	Creates a caption element for a table
createTFoot()	Creates an empty tFoot element in a table
createTHead()	Creates an empty tHead element in a table
deleteCaption()	Deletes the caption element and its content from a table
deleteRow()	Deletes a row from a table
deleteTFoot()	Deletes the tFoot element and its content from a table
deleteTHead()	Deletes the tHead element and its content from a table
insertRow()	Inserts a new row in a table

HTML DOM TableCell objekat

- Objekat **TableCell** predstavlja ćeliju u HTML tabeli.
- Za svaki <td> tag u HTML dokumentu, kreira se instanca TableCell objekta.

Property	Description
abbr	Sets or returns an abbreviated version of the content in a table cell
align	Sets or returns the horizontal alignment of data within a table cell
axis	Sets or returns a comma-delimited list of related table cells
cellIndex	Returns the position of a cell in the cells collection of a row
ch	Sets or returns the alignment character for a table cell
chOff	Sets or returns the offset of alignment character for a table cell
colSpan	Sets or returns the number of columns a table cell should span
headers	Sets or returns a list of space-separated header-cell ids
id	Sets or returns the id of a table cell
innerHTML	Sets or returns the HTML between the start and end tags of a table cell
rowSpan	Sets or returns the number of rows a table cell should span
scope	Sets or returns if this cell provides header information
vAlign	Sets or returns the vertical alignment of data within a table cell
width	Sets or returns the width of a table cell

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HTML DOM TableRow objekat

- Objekat **TableRow** predstavlja red u HTML tabeli.
- Za svaki <tr> tag uHTML dokumentu, kreira se instanca TableRow objekta.

Property	Description
align	Sets or returns the horizontal alignment of data within a table row
ch	Sets or returns the alignment character for cells in a table row
chOff	Sets or returns the offset of alignment character for the cells in a table row
id	Sets or returns the id of a table row
innerHTML	Sets or returns the HTML between the start and end tags of a table row
rowIndex	Returns the position of a row in the table's rows collection
sectionRowIndex	Returns the position of a row in the tBody, tHead, or tFoot rows collection
vAlign	Sets or returns the vertically alignment of data within a table row

Method	Description
deleteCell()	Deletes a cell in a table row
insertCell()	Inserts a cell in a table row

HTML DOM PRIMJERI

Primjer 1- definisanje tipa dugmeta (1)

- Osobina **type** omogućava da se pročita ili promijeni tip dugmeta u HTML dokumentu.

- **Type** može imati jednu od vrijednosti prikazanih u tabeli

Value	Description
submit	The button is a submit button (this is default for all browsers, except Internet Explorer)
button	The button is a clickable button (this is default for Internet Explorer)
reset	The button is a reset button (clears form data)

- **Sintaksa:**
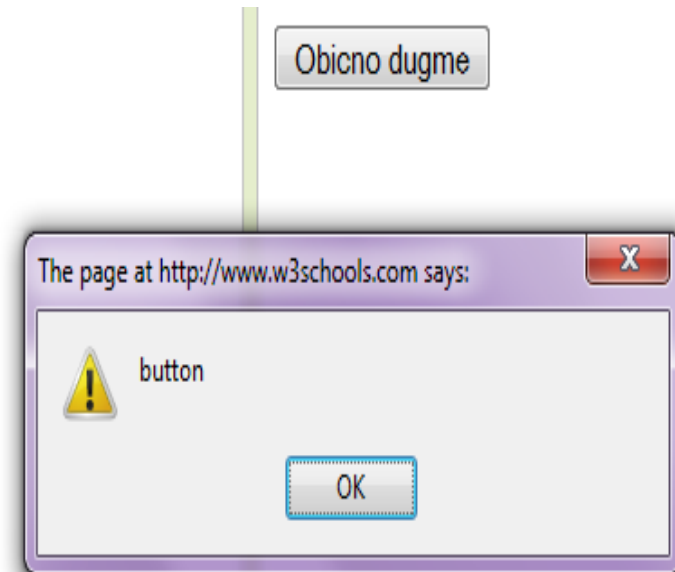
buttonObject.type=*value*

Primjer 1 - definisanje tipa dugmeta (2)

```html
<html>
<head>
<script type="text/javascript">
function alertType()
{
alert(document.getElementById("dugme").type)
}
</script>
</head>
<body>

<button id="dugme" type="button" onclick="alertType()">Obicno dugme</button>

</body>
</html>
```

Obicno dugme

The page at http://www.w3schools.com says:

button

OK

Primjer 2 – src osobina Image objekata (1)

U ovom primjeru, kada korisnik pritisne dugme vrši se promjena slike na HTML strani promjenom osobine **src** Image objekta

```
<html>
<head>
<script type="text/javascript">
function changeSrc()
  {
  document.getElementById("myImage").src="hackanm.gif";
  }
</script>
</head>
<body>

<img id="myImage" src="compman.gif" width="107" height="98" />
<br /><br />
<input type="button" onclick="changeSrc()" value="Promijeni sliku" />

<p><b>Napomena:</b> Referenca (Src property) slike može se
promijenti.Ukoliko nije definisano drugačije, nova slika imaće iste
dimenzije (width, height) kao stara.</p>

</body>
</html>
```

Primjer 2 – src osobina Image objekata (2)

1. Početna strana

Promijeni sliku

Napomena: Referenca (Src property) slike može se promijenti.
Ukoliko nije definisano drugačije, nova slika imaće iste dimenzije (width, height) kao stara.

2. Početna strana nakon što korisnik pritisne dugme za promjenu slike

Promijeni sliku

Napomena: Referenca (Src property) slike može se promijenti.
Ukoliko nije definisano drugačije, nova slika imaće iste dimenzije (width, height) kao stara.

Primjer 3 – Event atribut Button objekta (1)

Atribut **Event** objekta **Button** vraća vrijednost koja definiše koje dugme miša je kliknuto kada se desi određeni događaj.

Syntax

```
event.button=0|1|2
```

Parameter	Description
0	Specifies the left mouse-button
1	Specifies the middle mouse-button
2	Specifies the right mouse-button

Internet Explorer has different parameters:

Parameter	Description
1	Specifies the left mouse-button
4	Specifies the middle mouse-button
2	Specifies the right mouse-button

REFERENCE: http://www.w3schools.com/jsref/dom_obj_event.asp

Primjer 3 – Event atribut Button objekta (2)

```html
<html>
<head>
<script type="text/javascript">
function whichButton(event)
{
if (event.button==2)
  {
  alert("KLIKNULI STE DESNO DUGME!");
  }
else
  {
  alert("KLIKNULI STE LIJEVO DUGME!");
  }
}
</script>
</head>

<body onmousedown="whichButton(event)">
<p>Kliknite na dokument. Alert box će prikazati koje dugme miša ste
kliknuli!</p>
</body>
```

Kliknite na dokument. Alert box će prikazati koje dugme miša ste kliknuli!

The page at http://www.w3schools.com says:

⚠ KLIKNULI STE LIJEVO DUGME!

OK

Primjer 4 – insertRow() metoda Table objekta (1)

- Metoda **insertRow()** omogućava dodavanje novog reda u tabelu na određenoj poziciji.

- Sintaksa:

  tableObject.insertRow(*index*)

- **Dodavanje reda na kraju tabele:**

  document.getElementById('myTable').insertRow(0)

- **Dodavanje reda na početku tabele**

  document.getElementById('myTable').insertRow(-1)

Primjer 4 – insertRow() metoda Table objekta (2)

```
<html>
<head>
<script type="text/javascript">
function insRow()
{
//dodavanje reda na kraju tabele
var x=document.getElementById('myTable').insertRow(-1);
//dodavanje ćelija u novom redu
var y=x.insertCell(0);
var z=x.insertCell(1);
//upisivanje teksta u ćelije novog reda
y.innerHTML="NOVA 1";
z.innerHTML="NOVA 2";
}
</script>
</head>
```

nastavak koda..

```
<body>
<table id="myTable" border="1">
<tr>
<td>Naziv</td>
<td>Količina</td>
</tr>
<tr>
<td>....</td>
<td>....</td>
</tr>
<tr>
<td>...</td>
<td>...</td>
</tr>
</table>
<br />
<input type="button" onclick="insRow()" value="Dodaj"><br>
<input type="button"  value="Posalji">
</body>
</html>
```
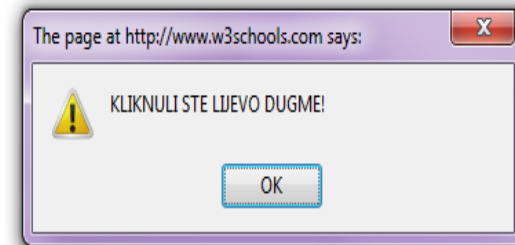
Primjer 4 – insertRow() metoda Table objekta (3)

Naziv	Količina
….	….
…	…

Dodaj

Posalji

Naziv	Količina
….	….
…	…
NOVA 1	NOVA 2

Dodaj

Posalji