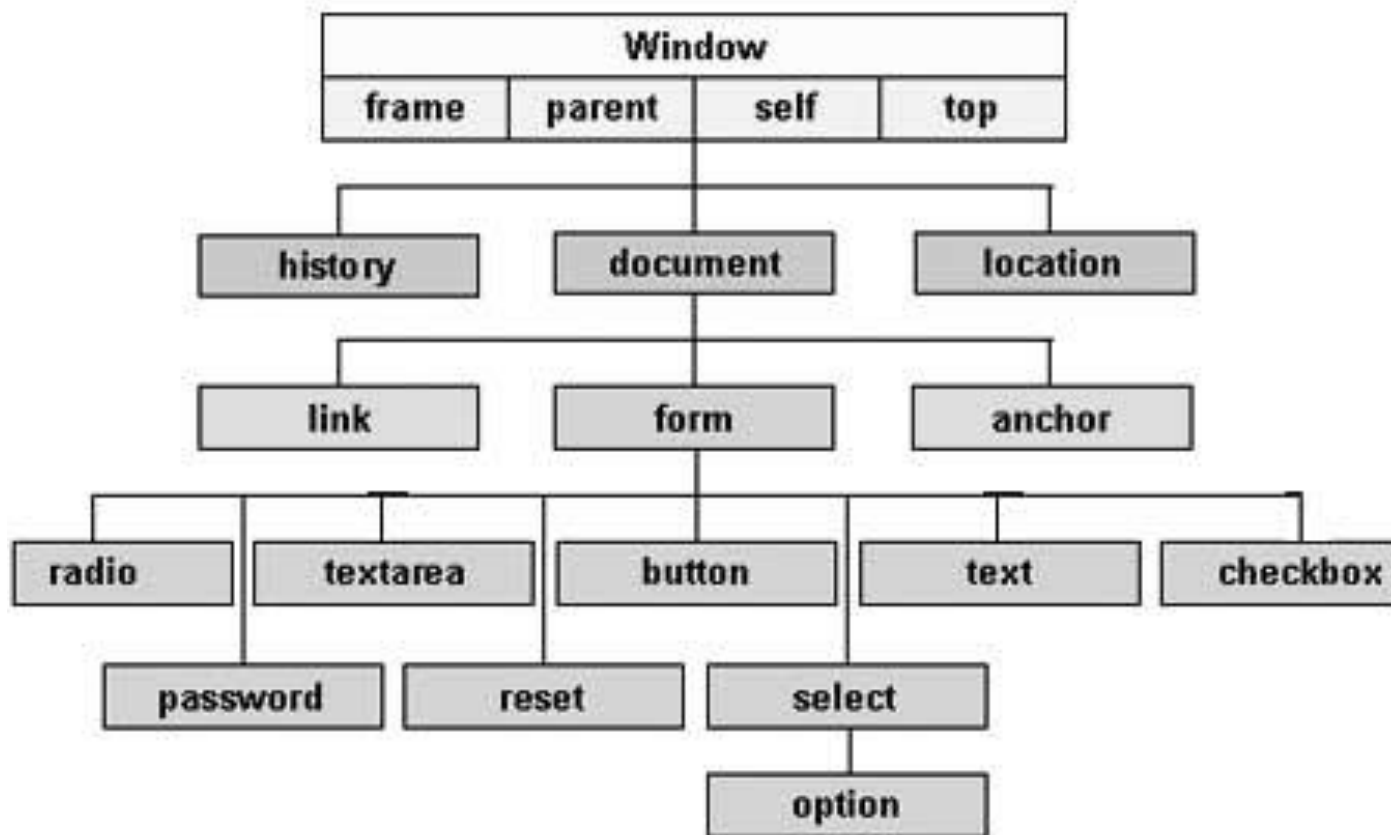# Аудиториски вежби 7

Интернет програмирање

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Document Object Model

Што е DOM

- Стандарден објектен модел и програмски интерфејс за HTML

- Дефинира
  - HTML елементите како објекти
  - Атрибути на сите HTML елементи
  - Методи за пристап до HTML елементи
  - Настани за HTML елементи

Наоѓање на HTML елементи

Method	Description
document.getElementById()	Find an element by element id
document.getElementsByTagName()	Find elements by tag name
document.getElementsByClassName()	Find elements by class name

Менување на HTML елементи

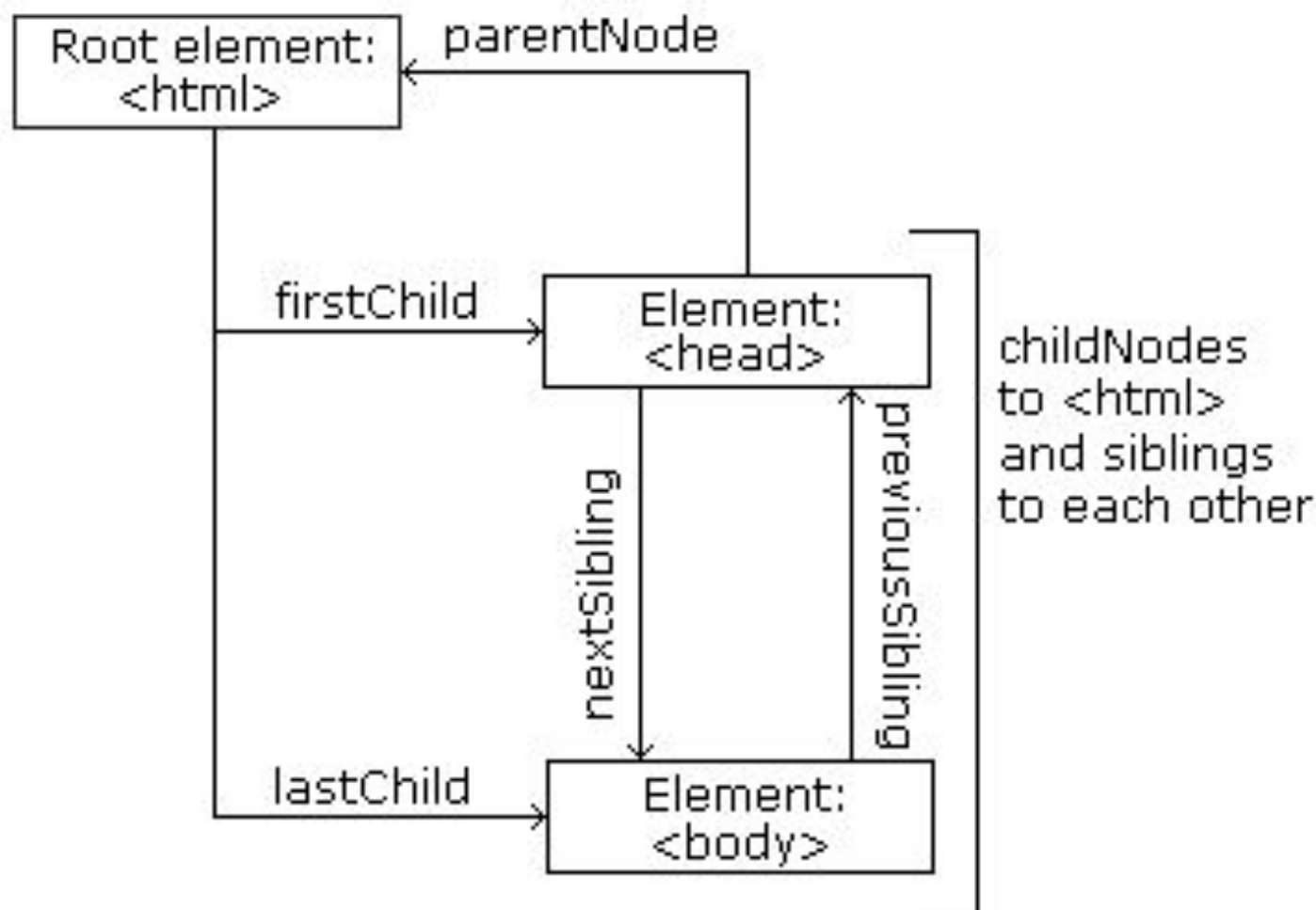| Method	Description
element.innerHTML=	Change the inner HTML of an element
element.*attribute*=	Change the attribute of an HTML element
element.setAttribute*(attribute,value)*	Change the attribute of an HTML element
element.style.*property*=	Change the style of an HTML element

Додавање и бришење

Method	Description
document.createElement()	Create an HTML element
document.removeChild()	Remove an HTML element
document.appendChild()	Add an HTML element
document.replaceChild()	Replace an HTML element
document.write(*text*)	Write into the HTML output stream

Додавање на справувачи со настани

Method	Description
document.getElementById(*id*).onclick=function(){*code*}	Adding event handler code to an onclick event

Навигација

Креирање на елементи

- document.createElement(elementType);

- Пример

  - ```
    <div id="div1">
    <p id="p1">This is a paragraph.</p>
    <p id="p2">This is another paragraph.</p>
    </div>

    <script>
      var para = document.createElement("p");
      var node = document.createTextNode("This is new.");
      para.appendChild(node);

      var element = document.getElementById("div1");
      element.appendChild(para);
    </script>
    ```

Бришење и заменување елементи

- parent.removeChild(child);
- parent.replaceChild(para,child);
  - ```html
    <div id="div1">
        <p id="p1">This is a paragraph.</p>
        <p id="p2">This is another paragraph.</p>
    </div>
    <script>
        var para = document.createElement("p");
        var node = document.createTextNode("This is new.");
    para.appendChild(node);
        var parent = document.getElementById("div1");
        var child = document.getElementById("p1");
    parent.replaceChild(para,child);
        child = document.getElementById("p2");
        parent.removeChild(child);
    </script>
    ```

Пример 1

```html
<html>
  <head>
    <script>
      // run this function when the document is loaded
      window.onload = function() {

        // create a couple of elements in an otherwise empty HTML page
        var heading = document.createElement("h1");
        var heading_text = document.createTextNode("Big Head!");
        heading.appendChild(heading_text);
        document.body.appendChild(heading);
      }
    </script>
  </head>
  <body>
  </body>
</html>
```

Big Head!

Пример 2

```html
<html>
  <head>
    <title>DOM Tests</title>
    <script type="application/javascript">
    function setBodyAttr(attr, value){
      if (document.body) eval('document.body.'+attr+'="'+value+'"');
      else notSupported();
    }
    </script>
  </head>
  <body><div style="margin: .5in; height: 400;"><form>
      <p><b><tt>text</tt>color</b></p>
      <select onChange="setBodyAttr('text', this.options[this.selectedIndex].value);">
        <option value="black">black
        <option value="darkblue">darkblue
      </select>
      <p><b><tt>bgColor</tt></b></p>
      <select onChange="setBodyAttr('bgColor', this.options[this.selectedIndex].value);">
        <option value="white">white
        <option value="lightgrey">gray
      </select>
      <p><b><tt>link</tt></b></p>
      <select onChange="setBodyAttr('link', this.options[this.selectedIndex].value);">
        <option value="blue">blue
        <option value="green">green
      </select>
      <small><a href="http://www.google.com" id="sample">(sample link)</a></small><br>
    </form>
    </div>
  </body>
</html>
```

textcolor

black ▼

bgColor

white ▼

link

blue ▼ (sample link)

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Пример 3

```html
<html>
  <head>
    <title>DOM Tests</title>
  </head>
  <body>
    <table id="myTable">
      <tr>
          <td>Your age:</td>
           <td>
        <label><input type="radio" name="age" value="young" checked/> under 18 </label>
<label><input type="radio" name="age" value="mature"/> from 18 to 50</label>
            <label><input type="radio" name="age" value="senior"/> older than 60</label>
          </td>
       </tr>
      </table>
      <input type="button" value="Display" name="btn" onclick="display()"></input>
      <script>
         function display()
         {
               var elements = document.getElementsByTagName('input')
               for(var i=0; i<elements.length; i++) {
                    var input = elements[i]
                    alert(input.value+': '+input.checked)
               }
         }
         </script>
  </body>
</html>
```

Your age: ○ under 18 ○ from 18 to 50 ● older than 60
[Display]

Пример 4

```
<ol id="people">
  <li>John</li>
  <li>Rodger</li>
  <li>Hugo</li>
</ol>
<script>

  var elem = document.getElementById('people')

  var list = elem.getElementsByTagName('li')
  alert(list[0].innerHTML)

</script>
```

Пример 5

```
<div class="a b c">Yep</div>
<script>
alert( document.getElementsByClassName('a')[0].innerHTML )
</script>
```

Пример 6

- The
- Test

- Is
- Passed

```
<ul>
    <li>The</li>
    <li>Test</li>
  </ul>
  <ul>
   <li>Is</li>
   <li>Passed</li>
  </ul>
  <script>
   var elements = document.querySelectorAll('UL > LI:last-child')

   for (var i = 0; i < elements.length; i++) {
    alert(elements[i].innerHTML)
   }
  </script>
```

Пример 7

```html
<html>
  <title>DOM Tests</title>
</head>
<body>
  <label>2</label>
  <ul id="list">
    <li>item</li>
    <li>item</li></ul>
  <input type="button" id="add" value="add3" onclick="add()" />
  <input type="button" id="add" value="remove" onclick="remove()" />
  <script>
    var noli = 1;
    function add() {
      document.getElementById('list').insertAdjacentHTML('beforeend', '<li>item</li>');
      update(true);
      document.getElementById('add').value = 'add' + (noli + 1);
    }
    function remove() {
      console.log(document.getElementById('list').lastChild)
      document.getElementById('list').removeChild(document.getElementById('list').lastChild);
      update();
      document.getElementById('add').value = 'add' + (noli + 1);
    }
    function update(inc) {
      inc ? document.getElementsByTagName("label")[0].innerHTML = ++noli : document.getElementsByTagName("label")[0].innerHTML = --noli;
    }
    update(true);
  </script>
</body>
</html>
```
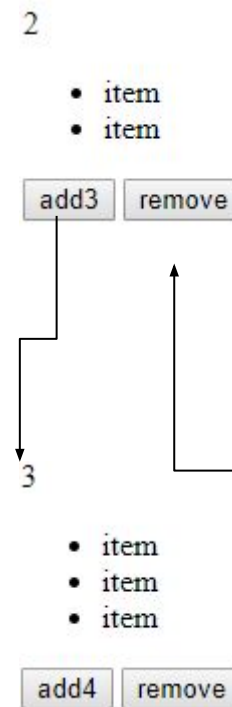

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Пример 8

Hello World!

The paragraph above was changed by a script.

```html
<html>

<body>
  <p id="p2">Hello World!</p>
    <script>
      document.getElementById("p2").style.color = "blue";
    </script>
    <p>The paragraph above was changed by a script.</p>
</body>

</html>
```
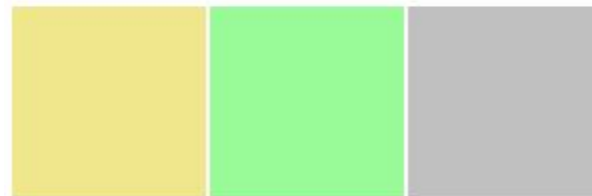
Пример 9

```html
<html>
<head>
  <script>
    function bgChange(bg) {
      document.body.style.background = bg;
    }
  </script>
</head>
<body>
  <h2>Change background color</h2><p>Mouse over the squares!</p>
  <table style="width:300px;height:100px">
    <tr>
      <td onmouseover="bgChange(this.style.backgroundColor)"
      onmouseout="bgChange('transparent')"
      style="background-color:Khaki">
      </td>
      <td onmouseover="bgChange(this.style.backgroundColor)"
      onmouseout="bgChange('transparent')"
      style="background-color:PaleGreen">
      </td>
      <td onmouseover="bgChange(this.style.backgroundColor)"
      onmouseout="bgChange('transparent')“
      style="background-color:Silver">
      </td>
    </tr>
  </table>
</body>
</html>
```

Change background color

Mouse over the squares!

Пример 10

```
<script>
var bg=0;

function changeColor() {
    console.log(bg.toString(16));
        document.body.style.background = "#"+(bg+=100).toString(16);
}

setInterval(changeColor, 500);
</script>
```

Пример 11

```html
<html>
<head>
</head>
<body>
  <p id="myAnimation" style="position: absolute;">Animation!</p>
</body>
<script>

    elem = document.getElementById("myAnimation");
    pos = 0;
    id = setInterval(frame, 10);

    function frame() {
      if (pos > 350) {
        clearInterval(id);
      } else {
        pos++;
        elem.style.top = pos + 'px';
        elem.style.left = pos + 'px';
      }
    }

</script>
</html>
```