

NATIONAL TECHNICAL UNIVERSITY OF UKRAINE
"IGOR SIKORSKY KYIV POLYTECHNIC INSTITUTE"

Faculty of Informatics and Computer Engineering
Department of Computer Engineering

LABORATORY WORK

2

JAVASCRIPT EVENTS HANDLING

2nd year student

groups of IP-98

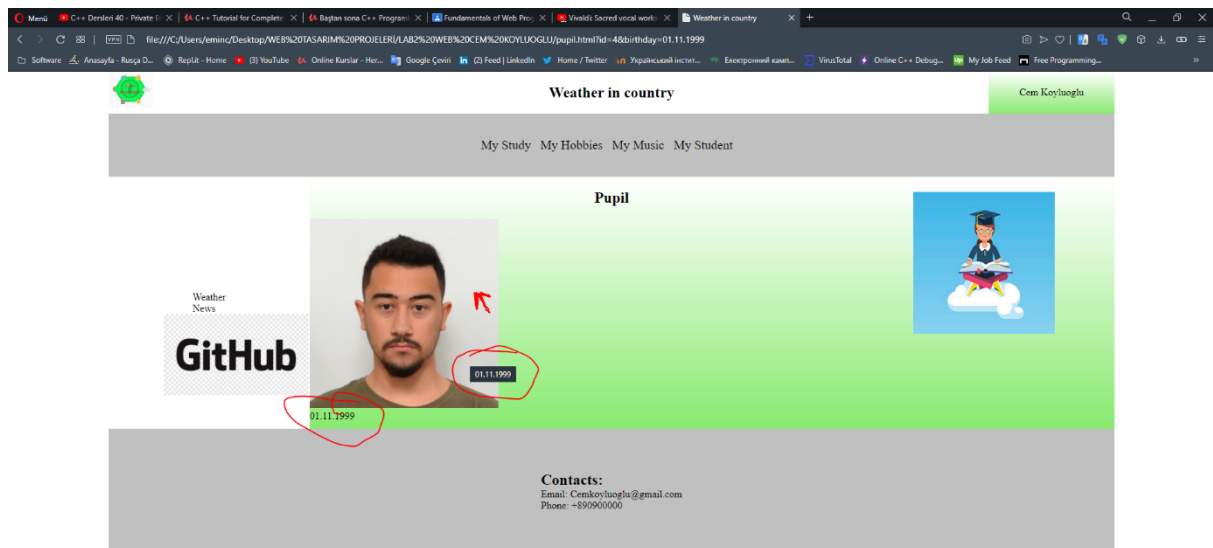
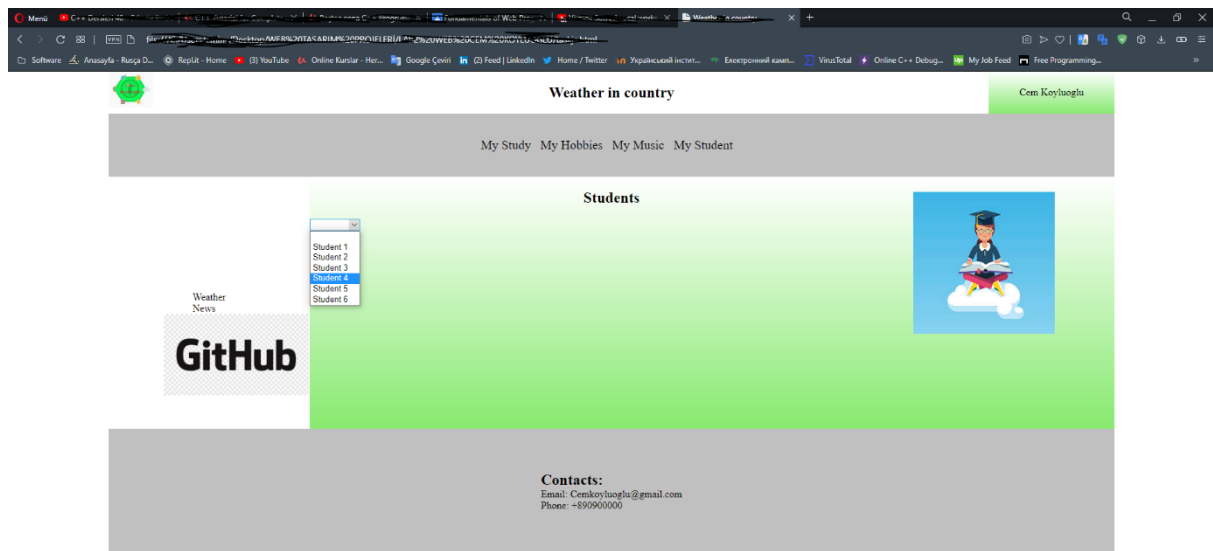
CEM KOYLUOGLU

Kyiv 2021

Purpose: to consolidate knowledge of client script programming and to get practical JavaScript event handling skills.

TASK5

```
1 const BIRTHDAYS = [
2   "21.01.1966",
3   "02.05.1995",
4   "03.04.2000",
5   "01.11.1995",
6   "31.12.1960",
7   "10.08.1999",
8 ];
9
10 document.getElementById("students").addEventListener("change", function() {
11
12   var item = document.getElementById("students");
13   location.href = "pupil.html?id=" + item.value + "&birthday=" + BIRTHDAYS[item.value] - 1;
14
15 });
16
17 var urlParams = new URLSearchParams(window.location.search);
18 var id = urlParams.get("id");
19 var birthday = urlParams.get("birthday");
20
21 document.getElementById("pupil-image").src = "assets/images/pupil" + id + ".png";
22 document.getElementById("pupil-image").setAttribute("title", birthday);
23
24 document.getElementById("pupil-image").addEventListener("mouseover", function() {
25   console.log(birthday);
26   document.getElementById("pupil-birthday").innerHTML = birthday;
27 });
28
29 document.getElementById("pupil-image").addEventListener("mouseout", function() {
30   document.getElementById("pupil-birthday").innerHTML = "";
31 });
32
33 
34
35 <div class="name-site">
36   <h2>
37     Weather in country
38   </h2>
39 </div>
40 <div class="name-student">
41   <p>
42     Cem Koyunoglu
43   </p>
44 </div>
45 <div class="menu">
46   <span id="menu"><a href="index.html">My Study</a></span>
47   <span id="menu"><a href="index.html">My Bobbies</a></span>
48   <span id="menu"><a href="index.html">My Music</a></span>
49   <span id="menu"><a href="tasks.html">My Student</a></span>
50 </div>
51 <div class="content">
52   <div class="left-menu">
53     <div class="content-menu">
54       <span id="left-menu"><a href="https://www.cimmetio.no/no/weather-kyiv-4944/">Weather</a></span>
55       <span id="left-menu"><a href="https://www.ukr.net/no/news/kyiv.html">News</a></span>
56       <div class="photo">
57         <a href="https://github.com/"></a>
58       </div>
59     </div>
60     <div class="content-text">
61       <div class="text">
62         <h2 id="title-text">
63           Pupil
64         </h2>
65         <img id="pupil-image" src="" alt="Pupil" title="" />
66         <p id="pupil-birthday"></p>
67       </div>
68     </div>
69   </div>
70   <div class="img">
71     
72   </div>
73 </div>
74 <div class="basement">
75   <div class="contacts">
76     <p><span id="bold">Contacts:</span></p>
77     <p>Email: Cemkoyunoglu@gmail.com</p>
78     <p>Phone: +909000000</p>
79   </div>
80 </div>
81
82 <link rel="stylesheet" href="main.css" />
83 <title>Weather in country</title>
84 <body>
85   <div class="wrap">
86     <div class="header">
87       <div class="logo">
88         
89       </div>
90       <div class="name-site">
91         <h2>
92           Weather in country
93         </h2>
94       </div>
95       <div class="name-student">
96         <p>
97           Cem Koyunoglu
98         </p>
99       </div>
100      <div class="menu">
101        <span id="menu"><a href="index.html">My Study</a></span>
102        <span id="menu"><a href="index.html">My Bobbies</a></span>
103        <span id="menu"><a href="index.html">My Music</a></span>
104        <span id="menu"><a href="tasks.html">My Student</a></span>
105      </div>
106      <div class="content">
107        <div class="left-menu">
108          <div class="content-menu">
109            <span id="left-menu"><a href="https://www.cimmetio.no/no/weather-kyiv-4944/">Weather</a></span>
110            <span id="left-menu"><a href="https://www.ukr.net/no/news/kyiv.html">News</a></span>
111            <div class="photo">
112              <a href="https://github.com/"></a>
113            </div>
114          </div>
115          <div class="content-text">
116            <div class="text">
117              <h2 id="title-text">
118                Students
119              </h2>
120              <select id="students">
121                <option value="0"></option>
122                <option value="1">Student 1</option>
123                <option value="2">Student 2</option>
124                <option value="3">Student 3</option>
125                <option value="4">Student 4</option>
126                <option value="5">Student 5</option>
127                <option value="6">Student 6</option>
128              </select>
129            </div>
130          </div>
131        </div>
132        <div class="img">
133          
134        </div>
135      </div>
136    </div>
137    <div class="basement">
138      <div class="contacts">
139        <p><span id="bold">Contacts:</span></p>
140        <p>Email: Cemkoyunoglu@gmail.com</p>
141        <p>Phone: +909000000</p>
142      </div>
143    </div>
144  </div>
145 </body>
146 </html>
```



-ANSWERS:

1. How to add Javascript code to webpage?

To **include** an external **JavaScript** file, we can use the script tag with the attribute `src`. You've already used the `src` attribute when using images. The value for the `src` attribute should be the path to your **JavaScript** file. This script tag should be included between the `<head>` tags in your HTML document.

2. JavaScript language syntax

JavaScript syntax refers to a set of rules that determine how the **language** will be written (by the programmer) and interpreted (by the browser). The **JavaScript syntax** is loosely based on the Java **syntax**.

3. What are data types in JavaScript?

There are six basic data types in JavaScript which can be divided into three main categories: primitive (or primary), composite (or reference), and special data types. **String**, Number, and **Boolean** are **primitive data types**. Object, **Array**, and Function (which are all types of objects) are composite data types.

4. The **Window** object defines **methods** like alert(), which **displays a message** in a **dialog box**. A prompt **message** can be displayed on the screen using alert().

5. What is parseInt used for?

The **parseInt** function converts its first argument to a string, parses that string, then returns an integer or NaN . If not NaN , the return value will be the integer that is the first argument taken as a number in the specified radix .

6. What are the valid methods of document object?

Methods of Document Object:

- write("string"): writes the given string on the **document**.
- getElementById(): returns the element having the given id value.
- getElementsByName(): returns all the elements having the given name value.
- getElementsByTagName(): returns all the elements having the given tag name.

7. What are the different types of events in JavaScript?

Common HTML Events

Event	Description
onchange	An HTML element has been changed
onclick	The user clicks an HTML element
onmouseover	The user moves the mouse over an HTML element
onmouseout	The user moves the mouse away from an HTML element

8. Assigning event handlers to items

The term **event handler** may refer to: Any function or object that is registered to be notified of **events**. Or more specifically, to the mechanism of registering **event** listeners via on... **attributes** in HTML or properties in Web APIs, such as <button onclick="alert(this)"> or window

9. Load event and its onLoad handler.

The easiest way to make it work would be to **put** the **function** call directly after the **element**. Example: <div id="somid">Some content</div> The **onload event** can only be used on the document (body) itself, frames, images, and scripts.

10. What is a click event?

The **click event** fires when the user clicks on an element OR activates an element by other means (i.e. the keyboard). It is the most important JavaScript **event**. The other events on this page are strictly subsidiary. mousedown. Fires when the user depresses the mouse button.

11. Math object methods js

The **math object** provides you properties and methods for **mathematical** constants and functions. ... All the properties and methods of **Math** are static and can be called by using **Math** as an **object** without creating it. Thus, you refer to the constant pi as **Math**. Pi and you call the sine function as **Math**.

12. How to call a method in JavaScript? Give an example.

With the **call()** method, you can write a method that can be used on different objects.

```
var person = {
  fullName: function() {
    return this.firstName + " " + this.lastName;
  }
}
var person1 = {
  firstName: "John",
  lastName: "Doe"
}
var person2 = {
  firstName: "Mary",
  lastName: "Doe"
}
person.fullName.call(person1); // Will return "John Doe"
```

13. Date object.

The **date.now()** method is used to returns the number of milliseconds elapsed since January 1, 1970, 00:00:00 UTC. Since **now()** is a static method of **Date**, it will always be used as **Date**.

14. Date Object Methods

Method	Description
getDate()	Returns the day of the month (from 1-31)
getDay()	Returns the day of the week (from 0-6)
getFullYear()	Returns the year
getHours()	Returns the hour (from 0-23)
getMilliseconds()	Returns the milliseconds (from 0-999)
getMinutes()	Returns the minutes (from 0-59)
getMonth()	Returns the month (from 0-11)
getSeconds()	Returns the seconds (from 0-59)
getTime()	Returns the number of milliseconds since midnig

15.. Array object.

The **Array object** lets you store multiple values in a single variable. It stores a fixed-size sequential collection of elements of the same type. An **array** is used to store a collection of data, but it is often more useful to think of an **array** as a collection of variables of the same type.

16. How is the naming of document objects in JavaScript?

A Document object represents the HTML document that is displayed in that window. The Document object has various **properties** that refer to other objects which allow access to and modification of document content. The way a document content is accessed and modified is called the Document Object Model, or DOM.

17. How is a document object referenced in JavaScript? The document object represents your web page. If you want to access any element in an HTML page, you always start with accessing the document object. Below are some examples of how you can use the document object to access and manipulate HTML.

18. How do I access object properties in JavaScript?

You can access the properties of an object in JavaScript in 3 ways:

Dot property accessor: `object.property`

Square brackets property access: `object['property']`

Object destructuring: `const { property } = object`

19. The Window object and its methods.

Window Object Methods

Method	Description
<code>moveTo()</code>	Moves a window to the specified position
<code>open()</code>	Opens a new browser window
<code>print()</code>	Prints the content of the current window
<code>prompt()</code>	Displays a dialog box that prompts the visitor for input

20. How are window parameters set in JavaScript?

The window object represents an open window in a browser.

If a document contains frames (<iframe> tags), the browser creates one window object for the HTML document, and one additional window object for each frame.

21. Methods open () and close () of document object.

The `Document.close()` method finishes writing to a document, opened with

The `Document.open()` method opens a document for writing.

This does come with some side effects. For example:

- All event listeners currently registered on the document, nodes inside the document, or the document's window are removed.
- All existing nodes are removed from the document.

23. The checked object's input property.

The DOM Input **Radio checked Property** in HTML DOM is used to set or return the **checked** state of an Input **Radio Button**. This **Property** is used to reflect the HTML **checked attribute**.

24. Properties of the option object.

Option Object

The Option object represents an HTML <option> element.

Access an Option Object

You can access an <option> element by using `getElementById()`: Option Object Properties

Property	Description
defaultSelected	Returns the default value of the selected attribute
disabled	Sets or returns whether an option is disabled, or not
form	Returns a reference to the form that contains the option
index	Sets or returns the index position of an option in a drop-down list

25. Image object and its properties.

Image Object

The Image object represents an HTML `` element.

Access an Image Object

You can access an `` element by using `getElementById()`: Create an Image Object

You can create an `` element by using the `document.createElement()` method:

26. Events and their handlers when interacting with the mouse.

With HTML 4.0, we were given the ability to tie scripts to certain events triggered on a web page. The most famous use of events is still probably JavaScript rollovers on links, triggered by the `onmouseover` and `onmouseout` events. Of course, CSS can handle that much easier now, but it doesn't render events useless, as there are many we can tap into (see Table 26-5) and put to good use.

27. Style object and its properties.

The `style` property returns a `CSSStyleDeclaration` object, which represents an element's style attribute.

The `style` property is used to get or set a specific style of an element using different CSS properties.

Note: It is not possible to set styles by assigning a string to the `style` property, e.g. `element.style = "color: red;"`. To set the style of an element, append a "CSS" property to `style` and specify a value, like this: