Javascript

Events

DOM

In CSS, what are the methods of using css?

1. inline
2. internal
3. external

inline

<input type="button" value="Click me" onclick="alert('why did you click me?')">

Internal

<!DOCTYPE html>

<html lang="en">

<head>

    <meta charset="UTF-8">

    <meta http-equiv="X-UA-Compatible" content="IE=edge">

    <meta name="viewport" content="width=device-width, initial-scale=1.0">

    <title>Document</title>

    <script>

        function fn1()

        {

            alert('why did you click me?..............')

        }

    </script>

</head>

<body>

    <input type="button" value="Click me" onclick="fn1()">

</body>

</html>

External

<!DOCTYPE html>

<html lang="en">

<head>

    <meta charset="UTF-8">

    <meta http-equiv="X-UA-Compatible" content="IE=edge">

    <meta name="viewport" content="width=device-width, initial-scale=1.0">

    <title>Document</title>

    <script>

        function fn1()

        {

            alert('why did you click me?..............')

        }

    </script>

    <script src="kalyan.js">

        /\*nothing is allowed here\*/

    </script>

</head>

<body>

    <input type="button" value="Click me" onclick="fn2()">

</body>

</html>

Events:

What are event? Events are timings. User interactions, for example,

Click

KeyUp

Hover

Blur (focus lost)

Focus

KeyDown

So many events are there.

DOM

Document Object Model

It represents a document as an object in memory.

window.alert

document

getElementById

getElementsByName

value property is used for scalar (single value) elements like

textbox

select (dropdownlist)

radio

checkbox

etc

innerText or innerHTML are used for container elements like

div

span

p

Using DOM, we can also access other properties of an element (apart from value or innerText or innerHTML)

background-color backgroundColor

Activity:

Identify as many events in javascript

Test:

Create a signup form that accepts:

First Name:

Last Name: only alphabets are allowed (no numbers)

Email id: only valid email id is allowed

Password: mask the password while typing

Confirm Password: display an error message in red color nearby

Date of Birth: allow user to select a date

Gender: use radio buttons

Education: dropdownlist (ECE, EEE, CSE, MCA)

On clicking the Signup button, these details should be displayed as a summary in DIV in the bottom

Use a HTML table to align Labels in first column and user interfaces in seconds column

Event binding can be done in many ways.

<input type=”button” onclick=”fn1()” />

Suppose, if an external js file is used, then also you can use the above code. Fn1() may be present in external file also. But, there is a problem.

HTML file is created first.

Then we work on javascript file, we do not want to modify the HTML file.

So, in js file, we need to do event binding.

Event binding:

Associating a function to an event. This we are going to do in js file now.

Javascript Functions:

What are the type of functions:

String functions

Numeric functions

Date functions

Activity:

Identify as many functions in Javascript.

String

|  |  |
| --- | --- |
| String length String slice() String substring() String substr() String replace() String replaceAll() String toUpperCase() String toLowerCase() String concat() | String trim() String trimStart() String trimEnd() String padStart() String padEnd() String charAt() String charCodeAt() String split() |

substring vs slice

**What they have in common:**

1. If start equals stop: returns an empty string
2. If stop is omitted: extracts characters to the end of the string
3. If either argument is greater than the string's length, the string's length will be used instead.

**Distinctions of** [substring()](https://developer.mozilla.org/en-US/docs/Web/JavaScript/Reference/Global_Objects/String/substring)**:**

1. If start > stop, then substring will swap those 2 arguments.
2. If either argument is negative or is NaN, it is treated as if it were 0.

**Distinctions of** [slice()](https://developer.mozilla.org/en-US/docs/Web/JavaScript/Reference/Global_Objects/String/slice)**:**

1. If start > stop, slice() will return the empty string. ("")
2. If start is negative: sets char from the end of string, exactly like substr() in Firefox. This behavior is observed in both Firefox and IE.
3. If stop is negative: sets stop to: string.length – Math.abs(stop) (original value), except bounded at 0 (thus, Math.max(0, string.length + stop)) as covered in the [ECMA specification](https://www.ecma-international.org/ecma-262/9.0/index.html#sec-string.prototype.slice).

Numeric functions:

## JavaScript Number Methods

These **number methods** can be used on all JavaScript numbers:

|  |  |
| --- | --- |
| **Method** | **Description** |
| toString() | Returns a number as a string |
| toExponential() | Returns a number written in exponential notation |
| toFixed() | Returns a number written with a number of decimals |
| toPrecision() | Returns a number written with a specified length |
| ValueOf() | Returns a number as a number |

--

Array methods:

|  |  |
| --- | --- |
| Array length Array toString() Array pop() Array push() Array shift() Array unshift() | Array join() Array delete() Array concat() Array flat() Array splice() Array slice() |

Date get methods:

## Date Get Methods

|  |  |
| --- | --- |
| **Method** | **Description** |
| getFullYear() | Get **year** as a four digit number (yyyy) |
| getMonth() | Get **month** as a number (0-11) |
| getDate() | Get **day** as a number (1-31) |
| getDay() | Get **weekday** as a number (0-6) |
| getHours() | Get **hour** (0-23) |
| getMinutes() | Get **minute** (0-59) |
| getSeconds() | Get **second** (0-59) |
| getMilliseconds() | Get **millisecond** (0-999) |
| getTime() | Get **time** (milliseconds since January 1, 1970) |

Date Set methods:

## Set Date Methods

Set Date methods are used for setting a part of a date:

|  |  |
| --- | --- |
| **Method** | **Description** |
| setDate() | Set the day as a number (1-31) |
| setFullYear() | Set the year (optionally month and day) |
| setHours() | Set the hour (0-23) |
| setMilliseconds() | Set the milliseconds (0-999) |
| setMinutes() | Set the minutes (0-59) |
| setMonth() | Set the month (0-11) |
| setSeconds() | Set the seconds (0-59) |
| setTime() | Set the time (milliseconds since January 1, 1970) |

Javascript Objects

Objects can have properties and methods

Javascript Object Notation

{"id":"2023","name":"Kalyan","department":"ECE"}

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    <meta name="viewport" content="width=device-width, initial-scale=1.0">

    <title>Document</title>

    <script>

        function fn1()

        {

            var id=document.getElementById("id").value;

            var name=document.getElementById("name").value;

            var department=document.getElementById("department").value;

            var obj={"id":"201","name":"Ajay C.M.","department":"EEE"};

            obj.id=id;

            obj.name=name;

            obj.department=department;

            alert(JSON.stringify(obj));

            //to convert object to string:      JSON.stringify()

            //to convert string to object:      JSON.parse()

        }

        function fn2()

        {

            var txt=document.getElementById("txt").value;

            var obj=JSON.parse(txt);

            //to set the value to a textbox

            document.getElementById("id").value=obj.id;

            document.getElementById("name").value=obj.name;

            document.getElementById("department").value=obj.department;

        }

    </script>

</head>

<body>

    <input type="text" name="" id="txt">

    <input type="button" value="Patch" onclick="fn2()"><br>

    Id: <input type="number" name="" id="id">

    Name: <input type="text" name="" id="name">

    Department: <input type="text" name="" id="department">

    <br>

    <input type="button" value="Ok" onclick="fn1()">

</body>

</html>

Activity:

Create 5 textboxes and whenever the cursor enters into a textbox, its background color should become yellow.

Take MCQ test from Day 36