



ERASMUS+

Enriching lives, opening minds

WEB-TECHNOLOGIES

www.confucius.by



JavaScript™

YAROSHEVICH
Andrey Olegovich

www.YAROSHEVICH.com

ao@dot.net.by

+375 29 254-07-92

- **var**: global

var age = 20;

let: limited

let counter = 1;

- **const**: will not change

const PI = 3.14159;

<https://asp.net.by/Projects/1/1.let.htm>

Hello!

Count

```
<!DOCTYPE html>
<html lang="en">
  <head>
    <title>Count</title>
    <script>
      let counter = 0;
      function count() {
        counter++;
        alert(counter);
      }
    </script>
  </head>
  <body>
    <h1>Hello!</h1>
    <button onclick="count()">
      Count</button>
  </body>
</html>
```

```
<!DOCTYPE html>
```

```
<html lang="en">
```

```
  <head>
```

```
    <title>Count</title>
```

```
    <script>
```

```
      let counter = 0;
```

```
      function count () {
```

```
        counter++;
```

```
        document.querySelector('h1').innerHTML = counter;
```

```
        //alert(counter);
```

```
      }
```

```
    </script>
```

```
  </head>
```

```
  <body>
```

```
    <h1>Hello!</h1>
```

```
    <button onclick="count()">Count</button>
```

```
  </body>
```

```
</html>
```

querySelector

document.querySelector

www.asp.net.by/Projects/1/1.1.querySelector.htm

```
<!DOCTYPE html>
<html lang="en">
  <head>
    <title>Count</title>
    <script>
      let counter = 0;
      function count() {
        heading= document.querySelector('h1');
        counter++;
        heading.innerHTML = counter;
      }
    </script>
  </head>
  <body>
    <h1>Hello!</h1>
    <button onclick="count()">Count</button>
  </body>
</html>
```

[addEventListener](#) function.

https://www.w3schools.com/jsref/met_document_addeventlistener.asp

```
<!DOCTYPE html>
<html>
<body>
<p>Click anywhere in the document to display "Hello World!".</p>
<p id="demo"></p>

<script>
document.addEventListener("click", function(){
  document.getElementById("demo").innerHTML = "Hello World!";
});
</script>

</body>
</html>
```

```
document.addEventListener('DOMContentLoaded', function()  
{ // Some code here}  
);
```

<!DOCTYPE html> [Link](#)

<html>

<body>

<script>

```
function ready() {  
  alert('DOM 就緒');  
}
```

```
document.addEventListener("DOMContentLoaded", ready);
```

</script>

</body>

</html>

```
let counter = 0;

function count() {
    counter++;
    querySelector('h1').innerHTML = counter;
}

document.addEventListener('DOMContentLoaded', function() {
    document.querySelector('button').onclick = count;
});
```

將 JavaScript 移至單獨的檔案 counter.js

counter.js

```
let counter = 0;
```

```
function count() {  
    counter++;  
    document.querySelector('h1').innerHTML  
        = counter;  
  
    }  
}
```

```
document.addEventListener('DOMContentLoaded', function() {  
    document.querySelector('button').onclick = count;  
});
```

```
<!DOCTYPE html>  
<html lang="en">  
    <head>  
        <title>Count</title>  
        <script src="counter.js">  
        </script>  
    </head>  
    <body>  
        <h1>0</h1>  
        <button>Count</button>  
    </body>  
</html>
```


將 JavaScript 放在單獨的檔案中很有用，原因有很多：

視覺吸引力：我們單獨的 HTML 和 JavaScript 檔案變得更具可讀性。

HTML 檔案之間的存取：現在我們可以擁有多個共享相同 JavaScript 的 HTML 檔案。

協作：我們現在可以輕鬆地讓一個人處理 JavaScript，而另一個人則處理 HTML。

導入：我們可以導入其他人已經寫好的 JavaScript 函式庫。

```
<!DOCTYPE html>
<html lang="en">
```

www.asp.net.by/Projects/1/1.5.onsubmit.htm?

```
<head>
```

```
<title>Hello, Person!</title>
```

```
<script>
```

```
var name;
```

```
document.addEventListener('DOMContentLoaded', function() {
```

```
    document.querySelector('form').onsubmit = function() {
```

```
        name = document.querySelector('#name').value;
```

```
        alert(`Hello, ${name}!`);
```

```
    };
```

```
});
```

```
</script>
```

```
</head>
```

```
<body>
```

```
<form>
```

```
<h1>Hello</h1>
```

```
<input autofocus id="name" placeholder="Name" type="text">
```

```
<input type="submit">
```

```
</form>
```

```
</body>
```

```
</html>
```

我們在 `document.querySelector` 中使用「`#name`」來尋找 id 為 `name` 的元素。

我們在名稱輸入中使用「`autofocus`」欄位來指示頁面載入後，遊標應立即設定在該輸入中。



```
<!DOCTYPE html>
<html lang="en">
  <head>
    <script>
      document.addEventListener('DOMContentLoaded', function() {
        // Have each button change the color of the heading
        document.querySelectorAll('.price-change').forEach(function (button) {
          button.onclick = function() {
            document.querySelector('#coffee').style.color = button.dataset.color;
            document.querySelector('#coffee').innerHTML = button.dataset.price;
          };
        });
      });
    </script>
    <title>Colors</title>
  </head>
  <body>
    <h1 id="coffee">Latte </h1>
    <button class="price-change" data-color="red" data-price="€1">Small</button>
    <button class="price-change" data-color="brown" data-price="€2">Middle</button>
    <button class="price-change" data-color="green" data-price="€3">Big</button>
  </body>
</html>
```


Arrow Functions

$() \Rightarrow \{ \}$

<script>

let myFunction = (a, b) => a * b;

document.getElementById("demo").innerHTML = myFunction(4, 5);

</script>

Before Arrow:

```
hello = function() {  
  return "Hello World!";  
}
```

[Try it Yourself »](#)

With Arrow Function:

```
hello = () => {  
  return "Hello World!";  
}
```

[Try it Yourself »](#)

```
<script>
```

```
document.addEventListener('DOMContentLoaded', function() {  
    // Have each button change the color of the heading  
    document.querySelectorAll('.price-change').forEach(function (button) {  
        button.onclick = function() {  
            document.querySelector('#coffee').style.color = button.dataset.color;  
            document.querySelector('#coffee').innerHTML = button.dataset.price;  
        };  
    });  
});  
</script>
```

```
<script>
```

```
document.addEventListener('DOMContentLoaded', () => {  
    document.querySelectorAll('.price-change').forEach(button => {  
        button.onclick = () => {  
            document.querySelector('#coffee').style.color = button.dataset.color;  
            document.querySelector('#coffee').innerHTML = button.dataset.price;  
        };  
    });  
});
```

```
</script>
```

function()

() =>

function (button) {

button => {

button.onclick = **function()**

() => {

```

<!DOCTYPE html>
<html lang="en">
  <head>
    <script>      www.asp.net.by/Projects/1/1.8.dropdown.htm

document.addEventListener('DOMContentLoaded', function() {
  document.querySelector('select').onchange = function(){
  document.querySelector('#coffee').innerHTML = this.value;
    }
  });

```

我們可以使用 **onchange** 屬性來偵測所選元素中的更改

www.asp.net.by/Projects/1/1.9.dropdown.htm

```

document.addEventListener('DOMContentLoaded', () => {
  document.querySelector('select').onchange = () => {
  document.querySelector('#coffee').innerHTML = this.value;
  }
});

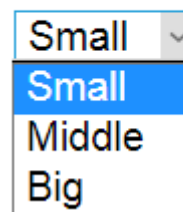
```

```

</script>
  <title>Colors</title>
</head>
<body>
  <h1 id="coffee">Latte </h1>
  <select>
    <option value="€1">Small</option>
    <option value="€2">Middle</option>
    <option value="€3">Big</option>
  </select>
</body>
</html>

```

Latte



在 JavaScript 中，「this」是一個關鍵字，它會根據使用它的上下文而改變。

events in JavaScript

https://www.w3schools.com/js/js_events.asp

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
onkeydown	The user pushes a keyboard key
onload	The browser has finished loading the page


```

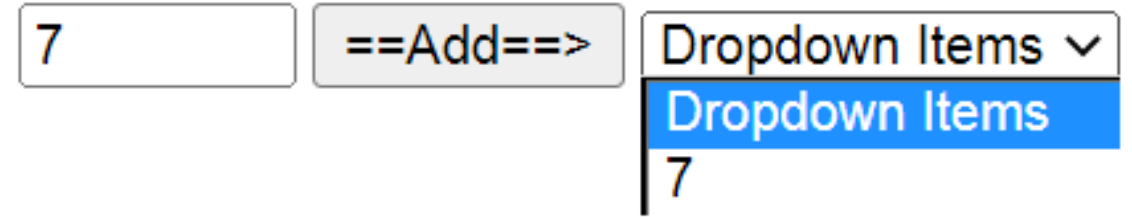
<!DOCTYPE html>
<html>
<head>
    <meta charset="utf-8" />
    <title>Drop Down</title>
    <script src="1.b.js"></script>
</head>

<body>
    <input id="M" type="text" value="7"
size="5" />
    <input type="button"
onclick='FillDropDown()' ;" value=="Add==">
    <select id="arr">
        <option>Dropdown Items</option>
    </select>

</body>

</html>

```



The screenshot shows a web interface with a text input field containing the number '7'. To its right is a button labeled '==Add==>'. Further right is a dropdown menu with the text 'Dropdown Items' and a downward arrow. The dropdown menu is open, showing a list of items, with '7' as the first item.

```

function AddSelect(optn) {
    let select =
document.getElementById("arr");
    let el = document.createElement("option");
    el.textContent = optn;
    el.value = optn;
    select.appendChild(el);
}

```

[createElement](#) function

```

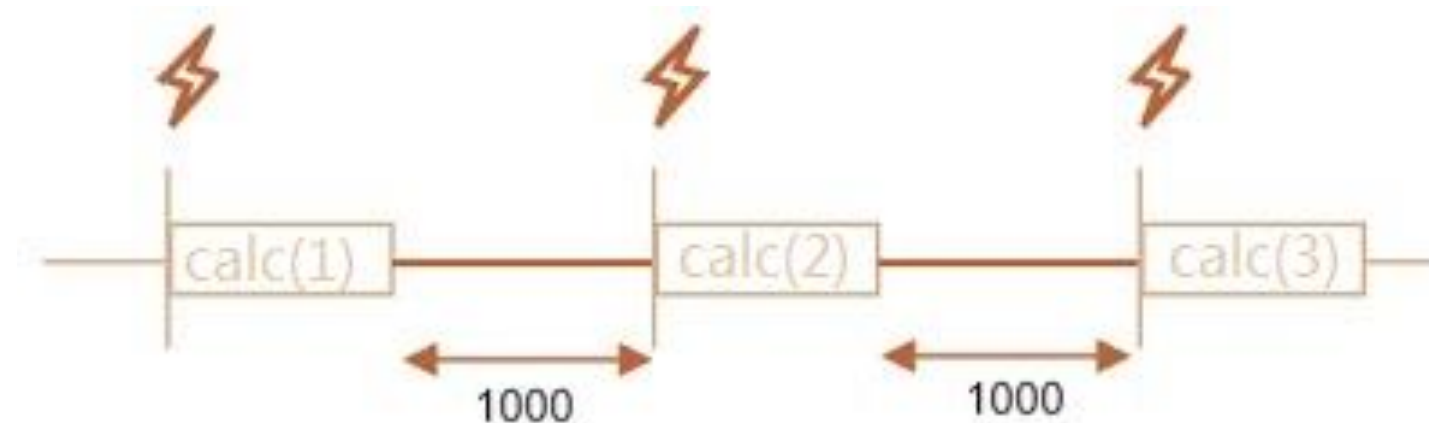
function FillDropDown() {
    var p = document.querySelector("#M").value;
    AddSelect(p);
}

```

setInterval

www.asp.net.by/Projects/1/1.C.setInterval.htm

```
<!DOCTYPE html>
<html lang="en">
  <head>
    <script>
      document.addEventListener('DOMContentLoaded', () => {
        setInterval(calc, 1000);
      });
      let counter = 0;
      function calc() {
        counter++;
        document.querySelector('#counter').innerHTML =
          counter;
      }
    </script>
    <title>Intervals</title>
  </head>
  <body>
    <h1 id="counter">0</h1>
  </body>
</html>
```



www.asp.net.by/Projects/1/1.C.Edison.htm

```
<!DOCTYPE html>
<html lang="en">
  <head>
    <script>
      var m=13;
      var t=3000;
      to=new Array(m+1);
      to[0]="http://asp.net.by/";
      to[1]="http://dot.net.by/";
      to[2]="http://esperanto.bsite.net";
      to[3]="http://bsite.net/Bond/";
      to[4]="http://bsite.net/Bond/WEB-T";
      to[5]="http://esperanto.bsite.net/5.htm";
      .....
      to[13]="http://esperanto.bsite.net/d.htm";
```

```
document.addEventListener('DOMContentLoaded', () => {
  setInterval(count, 4000);
});
let counter = 0;
function count() {
  document.querySelector('#counter').innerHTML = counter;
  window.open(to[counter],target="PromoteFirefoxWindow");
  counter++;
  if (counter==to.length) counter=0;
}
</script>
```

```
<title>Edison</title>
</head>
<body>
  <center>
    <h1 id="counter">0</h1>
  </center>
</body>
</html>
```

