Javascript Regular Expressions

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The source of this article

Javascript Regular Expressions

(Regular Expression, 　　　　　　) 　　　　　　　　　　　　　　　　　　　　.

replace 　　　　　　　　　　　　　　　.

What is a Regular Expression?

(Regular Expression, 　　　　　　) 　　　　　　　　　　　　　　　　　　　　　.

, 　　　　　　　　　　　　　　　　　　　　　.

.

(text search) 　　　　　　　　**(text replace)**

.

Syntax

```
/pattern/modifiers;
```

Example

```
var patt = /w3schools/i;
```

:

/w3schools/i 　　　　(　　　　　) 　.

w3schools (   )   .

i (   )   (modifier)   .

Using String Methods

JavaScript   ,   search()   replace()   .

search()   ,   .

replace()   .

Using String search() With a String

search()   .

Example

["W3schools"   string   .

```html
<!DOCTYPE html>
<html>
<body>
  <h2>JavaScript String Methods</h2>
  <p>Search a string for "W3schools", and display the position of the match.</p>
  <p id="demo"></p>   <!-- 6 -->
  <script>
    let str = "Visit W3Schools!";
    let n = str.search("W3Schools");  /* W3Schools              ? */
    document.getElementById("demo").innerHTML = n;
  </script>
</body>
</html>
```

Using String search() With a Regular Expression

Example

"w3schools"   .

```html
<!DOCTYPE html>
```

```html
<html>
<body>
  <h2>JavaScript Regular Expressions</h2>
  <p>Search a string for "w3schools", and display the position of the
match:</p>
  <p id="demo"></p>   <!-- 6 -->
  <script>
    let str = "Visit W3Schools!";
    let n = str.search(/w3Schools/i);  /*
? */
    document.getElementById("demo").innerHTML = n;
  </script>
</body>
</html>
```

Using String replace() With a String

replace()   .

```html
<!DOCTYPE html>
<html>
<body>
  <h2>JavaScript String Methods</h2>
  <p>Replace "Microsoft" with "W3Schools" in the paragraph below:</p>
  <button onclick="myFunction()">Try it</button>
  <p id="demo">Please visit Microsoft!</p>   <!-- Please visit W3Schools! -
->
  <script>
    function myFunction() {
      let str = document.getElementById("demo").innerHTML;
      let txt = str.replace("Microsoft", "W3Schools");
      document.getElementById("demo").innerHTML = txt;
    }
  </script>
</body>
</html>
```

Use String replace() With a Regular Expression

(a case insensitive regular expression)   Microsoft
W3Schools   .

```html
<!DOCTYPE html>
<html>
<body>
```

```
<h2>JavaScript Regular Expressions</h2>
<p>Replace "Microsoft" with "W3Schools" in the paragraph below:</p>
<button onclick="myFunction()">Try it</button>
<p id="demo">Please visit Microsoft and Microsoft!</p>
<script>
  function myFunction() {
    let str = document.getElementById("demo").innerHTML;
    let txt = str.replace(/microsoft/i, "W3Schools");
    document.getElementById("demo").innerHTML = txt;
  }
</script>
</body>
</html>
```

Did You Notice?

,   (   )   .
                                    (:   ).

Regular Expression Modifiers

(Modifiers)   .

Modifier	Description
i	.
g	( )
m	.

Example of i modifier

```
<script>
    function myFunction() {
      let str = "Visit W3Schools";
      let patt1 = /w3schools/i; /*              w3schools       patt1
*/
      let result = str.match(patt1); /*    str        patt1(
w3schools                    result       ) */
      document.getElementById("demo").innerHTML = result; /*      result
id="demo"        p            */
    }
  </script>
```

Example of g modifier

```
<script>
    function myFunction() {
      let str = "Is this all there is?";
      let patt1 = /is/g;   /*                    */
      let result = str.match(patt1);
      document.getElementById("demo").innerHTML = result;
    }
```

Example of m modifier

```
  <script>
    function myFunction() {
      let str = "\nIs th\nis it?";
      let patt1 = /^is/m;
      let result = str.match(patt1);
      document.getElementById("demo").innerHTML = result;  /* is */
    }
  </script>
```

Regular Expression Patterns

:

Expression	Description
[abc]	.
[0-9]	.
(x|y)	| alternatives .

Example of [abc] pattern

```
<script>
    function myFunction() {
      let str = "Is this all there is?";
      let patt1 = /[h]/g;
      let result = str.match(patt1);
      document.getElementById("demo").innerHTML = result; /* h,h */
    }
</script>
```

Example of [0-9] pattern

```
  <script>
```

```
  function myFunction() {
    let str = "123456789";
    let patt1 = /[1-4]/g;  /*     str    1~4                patt1       */
    var result = str.match(patt1);  /*    patt1                str
      result         */
    document.getElementById("demo").innerHTML = result; /* 1,2,3,4 */
  }
</script>
```

Example of (x|y) pattern

```
<script>
  function myFunction() {
    let str = "re, green, red, green, gren, gr, blue, yellow";
    let patt1 = /(red|green)/g;
    let result = str.match(patt1);
    document.getElementById("demo").innerHTML = result; /* green,red,green
*/
  }
</script>
```

Metacharacters are characters with a special meaning:

Metacharacter(   ) :

Metacharacter	Description
\d	(digit) . digit: 0 9 10
\s	(whitespace character)
\b	\ bWORD WORD \ b
\uxxx	16 xxxx .

Example of Metachatacters (\d)

```
<script>
  function myFunction() {
    let str = "Give 100%!";
    let patt1 = /\d/g;   /*          \d            patt1       */
    let result = str.match(patt1);  /*     str          patt1
  result        */
    document.getElementById("demo").innerHTML = result; /* 1,0,0 */
  }
```

```
</script>
```

Example of Metacharacters (\s)

```
<script>
  function myFunction() {
    let str = "Is this all there is?";
    let patt1 = /\s/g;   /*     (whitespace)        */
    let result = str.match(patt1);
    document.getElementById("demo").innerHTML = result; /* [" ", " ", " ",
" "] */
    console.log(result, result.length);
  }
</script>
```

Exmaple of Metacharacters (\b)

```
<script>
  let str = "HELLO, LOOK AT YOU!";
  let patt1 = /\bLO/; /* LO                    */
  let result = str.search(patt1);
  document.getElementById("demo").innerHTML = result; /* Found in
position: 7 */
  console.log(result, result.length); /* 7 undefined */
</script>
```

Exmaple of Metacharacters (\b)

```
<script>
  let str = "HELLO, LOOK AT YOU";
  let patt1 = /LO\b/; /*             LO                */
  let result = str.search(patt1);
  document.getElementById("demo").innerHTML = result; /* Found in
position: 3 */
</script>
```

Example of Metacharacters (\uxxxx)

```
<script>
  function myFunction() {
    let str = "Visit W3Schools. Hello World!";
    let patt1 = /\u0057/g;
    let result = str.match(patt1);
    document.getElementById("demo").innerHTML = result; /* W,W */
  }
```

```
    </script>
```

Quantifiers define quantities

Quantifier	Description
n+	n .
n*	n O .
n?	n O 1 .

Example of Quantifiers (n+)

```
  <script>
    function myFunction() {
      let str = "Hellooo World! Hello W3Schools!";
      let patt1 = /o+/g;    /*           o                */
      let result = str.match(patt1);
      document.getElementById("demo").innerHTML = result; /* ooo,o,o,oo */
    }
  </script>
```

Example of Quantifiers (n*)

```
  <script>
    function myFunction() {
      let str = "Hellooo World! Hello W3Schools!";
      let patt1 = /lo*/g;
      let result = str.match(patt1);
      document.getElementById("demo").innerHTML = result; /* l,looo,l,l,lo,l
*/
    }
  </script>
```

Example of Quantifiers (n?)

```
  <script>
    function myFunction() {
      let str = "1, 100 or 1000?";
      let patt1 = /10?/g;
      let result = str.match(patt1);
      document.getElementById("demo").innerHTML = result; /* 1,10,10 */
    }
  </script>
```

Using the RegExp Object

JavaScript   RegExp   .

Using test()

test()   RegExp(   )   .

                         ,   true   false   .

                    "e"   .

Example

```
var patt = /e/;
patt.test("The best things in life are free!");
```

        "e"   ,   true   .

                                            .   .

```
/e/.test("The best things in life are free!");
```

```
<!DOCTYPE html>
<html>
<body>
  <h2>JavaScript Regular Expressions</h2>
  <p>Search for an "e" in the next paragraph:</p>
  <p id="p01">The best things in life are free!</p>
  <p id="demo"></p>
  <script>
    text = document.getElementById("p01").innerHTML;
    document.getElementById("demo").innerHTML = /e/.test(text);
  </script>
</body>
</html>
```

Using exec()

exec()   RegExp   .

,   .

,   (null)   .

"e"   .

Example

```
<script>
  let obj = /e/.exec("The best things in life are free!");
  document.getElementById("demo").innerHTML = "Found " + obj[0] + " in
position " + obj.index + " in the text: " + obj.input;
  /* Found e in position 2 in the text: The best things in life are free!
*/
</script>
```

Complete RegExp Reference

Complete JavaScript RegExp Reference   .

RegExp   .

, Javascript, Regular, Expressions