String methods

**Methods unrelated to HTML**

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

Returns the character (exactly one UTF-16 code unit) at the specified index.

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

Returns a number that is the UTF-16 code unit value at the given index.

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

Returns a nonnegative integer Number that is the code point value of the UTF-16 encoded code point starting at the specified index.

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

Combines the text of two strings and returns a new string.

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

Determines whether one string may be found within another string.

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

Determines whether a string ends with the characters of another string.

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

Returns the index within the calling [String](https://developer.mozilla.org/en-US/docs/Web/JavaScript/Reference/Global_Objects/String) object of the first occurrence of the specified value, or -1 if not found.

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

Returns the index within the calling [String](https://developer.mozilla.org/en-US/docs/Web/JavaScript/Reference/Global_Objects/String) object of the last occurrence of the specified value, or -1 if not found.

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

Returns a number indicating whether a reference string comes before or after or is the same as the given string in sort order.

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

Used to match a regular expression against a string.

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

Returns the Unicode Normalization Form of the calling string value.

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

Pads the current string from the end with a given string to create a new string from a given length.

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

Pads the current string from the start with a given string to create a new string from a given length.

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

Wraps the string in double quotes (""").

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

Returns a string consisting of the elements of the object repeated the given times.

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

Used to find a match between a regular expression and a string, and to replace the matched substring with a new substring.

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

Executes the search for a match between a regular expression and a specified string.

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

Extracts a section of a string and returns a new string.

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

Splits a [String](https://developer.mozilla.org/en-US/docs/Web/JavaScript/Reference/Global_Objects/String) object into an array of strings by separating the string into substrings.

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

Determines whether a string begins with the characters of another string.

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

Returns the characters in a string beginning at the specified location through the specified number of characters.

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

Returns the characters in a string between two indexes into the string.

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

The characters within a string are converted to lower case while respecting the current locale. For most languages, this will return the same as [toLowerCase()](https://developer.mozilla.org/en-US/docs/Web/JavaScript/Reference/Global_Objects/String/toLowerCase).

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

The characters within a string are converted to upper case while respecting the current locale. For most languages, this will return the same as [toUpperCase()](https://developer.mozilla.org/en-US/docs/Web/JavaScript/Reference/Global_Objects/String/toUpperCase).

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

Returns the calling string value converted to lower case.

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

Returns an object literal representing the specified object; you can use this value to create a new object. Overrides the [Object.prototype.toSource()](https://developer.mozilla.org/en-US/docs/Web/JavaScript/Reference/Global_Objects/Object/toSource) method.

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

Returns a string representing the specified object. Overrides the [Object.prototype.toString()](https://developer.mozilla.org/en-US/docs/Web/JavaScript/Reference/Global_Objects/Object/toString) method.

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

Returns the calling string value converted to uppercase.

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

Trims whitespace from the beginning and end of the string. Part of the ECMAScript 5 standard.

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

Trims whitespace from the left side of the string.

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

Trims whitespace from the right side of the string.

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

Returns the primitive value of the specified object. Overrides the [Object.prototype.valueOf()](https://developer.mozilla.org/en-US/docs/Web/JavaScript/Reference/Global_Objects/Object/valueOf) method.

[**String.prototype[@@iterator]()**](https://developer.mozilla.org/en-US/docs/Web/JavaScript/Reference/Global_Objects/String/@@iterator)

Returns a new Iterator object that iterates over the code points of a String value, returning each code point as a String value.

## The **split()** method splits a [String](https://developer.mozilla.org/en-US/docs/Web/JavaScript/Reference/Global_Objects/String) object into an array of strings by separating the string into substrings, using a specified separator string to determine where to make each split.

### **split()** Syntax

str.split([separator[, limit]])

Tip: If an empty string ("") is used as the separator, the string is split between each character.

### **Parameters**

**separator**Optional

Specifies the string which denotes the points at which each split should occur. The separator is treated as a string or as a [regular expression](https://developer.mozilla.org/en-US/docs/Web/JavaScript/Reference/Global_Objects/RegExp). If a plain-text separatorcontains more than one character, that entire string must be found to represent a split point. If separator is omitted or does not occur in str, the array returned contains one element consisting of the entire string. If separator is an empty string, str is converted to an array of characters.

**limit**Optional

Integer specifying a limit on the number of splits to be found. When this parameter is provided, the split() method splits the string at each occurence of the specified separator but stops when limit entries have been placed into the array. It may still contain fewer entries than limit if the end of the string is reached before the specified limit is reached. The left-over text is not returned in the new array.

### **Return value**

An [Array](https://developer.mozilla.org/en-US/docs/Web/JavaScript/Reference/Global_Objects/Array) of strings split at each point where the separator occurs in the given string.

## The **slice()** method extracts a section of a string and returns it as a new string.

### **slice** Syntax

str.slice(beginIndex[, endIndex])

### **Parameters**

**beginIndex**

The zero-based index at which to begin extraction. If negative, it is treated as strLength + beginIndex where strLength is the length of the string (for example, if beginIndex is -3 it is treated as strLength - 3). If beginIndex is greater than or equal to the length of the string, slice() returns an empty string.

**endIndex**

Optional. The zero-based index before which to end extraction. The character at this index will not be included. If endIndex is omitted, slice() extracts to the end of the string. If negative, it is treated as strLength + endIndex where strLength is the length of the string (for example, if endIndex is -3 it is treated as strLength - 3).

### **Return value**

A new string containing the extracted section of the string.

The **indexOf()** method returns the index within the calling [String](https://developer.mozilla.org/en-US/docs/Web/JavaScript/Reference/Global_Objects/String) object of the first occurrence of the specified value, starting the search at fromIndex. Returns -1 if the value is not found.

**Note:** For the Array method, see [Array.prototype.indexOf()](https://developer.mozilla.org/en-US/docs/Web/JavaScript/Reference/Global_Objects/Array/indexOf).

## Syntax

str.indexOf(searchValue[, fromIndex])

### **Parameters**

**searchValue**

A string representing the value to search for.

**fromIndex**Optional

An integer representing the index at which to start the search; the default value is 0. For fromIndex values lower than 0 or greater than str.length, the search starts at index 0 and str.length respectively.

### **Return value**

The index of the first occurrence of searchValue, or **-1** if not found.  
An empty string searchValue will match at any index between 0 and str.length

## Description

Characters in a string are indexed from left to right. The index of the first character is 0, and the index of the last character of a string called stringName is stringName.length - 1.

'Blue Whale'.indexOf('Blue'); // returns 0

'Blue Whale'.indexOf('Blute'); // returns -1

'Blue Whale'.indexOf('Whale', 0); // returns 5

'Blue Whale'.indexOf('Whale', 5); // returns 5

'Blue Whale'.indexOf('Whale', 7); // returns -1

'Blue Whale'.indexOf(''); // returns 0

'Blue Whale'.indexOf('', 9); // returns 9

'Blue Whale'.indexOf('', 10); // returns 10

'Blue Whale'.indexOf('', 11); // returns 10

The indexOf() method is case sensitive. For example, the following expression returns -1:

The **substr()** method returns the part of a string between the start index and a number of characters after it.

## Syntax

str.substr(start[, length])

### **Parameters**

**start**

The index of the first character to include in the returned substring.

**length**

Optional. The number of characters to extract.

### **Return value**

A new string containing the specified part of the given string.

## Description

substr() extracts length characters from a string, counting from the start index.

If start is a positive number, the index starts counting at the start of the string. Its value is capped at string.length.  
If start is a negative number, the index starts counting from the end of the string. Its value is capped at -string.length.  
Note: In Microsoft JScript, negative values of the start argument are not considered to refer to the end of the string.

If length is omitted, substr() extracts characters to the end of the string.  
If length is [undefined](https://developer.mozilla.org/en-US/docs/Web/JavaScript/Reference/Global_Objects/undefined), substr() extracts characters to the end of the string.  
If length is a negative number, it is treated as 0.

For both start and length, NaN is treated as 0.

The **slice()** method extracts a section of a string and returns it as a new string.

## Syntax

str.slice(beginIndex[, endIndex])

### **Parameters**

**beginIndex**

The zero-based index at which to begin extraction. If negative, it is treated as strLength + beginIndex where strLength is the length of the string (for example, if beginIndex is -3 it is treated as strLength - 3). If beginIndex is greater than or equal to the length of the string, slice() returns an empty string.

**endIndex**

Optional. The zero-based index before which to end extraction. The character at this index will not be included. If endIndex is omitted, slice() extracts to the end of the string. If negative, it is treated as strLength + endIndex where strLength is the length of the string (for example, if endIndex is -3 it is treated as strLength - 3).

### **Return value**

A new string containing the extracted section of the string.

## Description

slice() extracts the text from one string and returns a new string. Changes to the text in one string do not affect the other string.

slice() extracts up to but not including endIndex. str.slice(1, 4) extracts the second character through the fourth character (characters indexed 1, 2, and 3).

As an example, str.slice(2, -1) extracts the third character through the second to last character in the string.

## Examples

### **Using slice() to create a new string**

The following example uses slice() to create a new string.

var str1 = 'The morning is upon us.', // the length of str1 is 23.

str2 = str1.slice(1, 8),

str3 = str1.slice(4, -2),

str4 = str1.slice(12),

str5 = str1.slice(30);

console.log(str2); // OUTPUT: he morn

console.log(str3); // OUTPUT: morning is upon u

console.log(str4); // OUTPUT: is upon us.

console.log(str5); // OUTPUT: ""

### **Using slice() with negative indexes**

The following example uses slice() with negative indexes.

var str = 'The morning is upon us.';

str.slice(-3); // returns 'us.'

str.slice(-3, -1); // returns 'us'

str.slice(0, -1); // returns 'The morning is upon us'