

JS & DOM Reference

Overview

JavaScript Objects

- JS Array
- JS Boolean
- JS Date
- JS Math
- JS Number
- JS String
- JS RegExp
- JS Global

Browser Objects

- Window
- Navigator
- Screen
- History
- Location

HTML DOM Objects

- DOM Document
- DOM Events
- DOM Elements

- DOM Anchor
- DOM Area
- DOM Base
- DOM Body
- DOM Button
- DOM Form
- DOM Frame/IFrame
- DOM Frameset
- DOM Image
- DOM Input Button
- DOM Input Checkbox
- DOM Input File
- DOM Input Hidden
- DOM Input Password
- DOM Input Radio
- DOM Input Reset
- DOM Input Submit
- DOM Input Text
- DOM Link
- DOM Meta
- DOM Object
- DOM Option
- DOM Select
- DOM Style
- DOM Table
- DOM td / th
- DOM tr
- DOM Textarea

JavaScript atan() and atan2() Methods

 [JavaScript Math Object](#)

Definition and Usage

The atan() method returns the arctangent of a number as a numeric value between -PI/2 and PI/2 radians.

The atan2() method returns the arctangent of the quotient of its arguments. The angle returned is a numeric value between PI and -PI and represents the counterclockwise angle in radians (not degrees) between the positive X axis and the point (x, y).

Note: With atan2(), the y coordinate is passed as the first argument and the x coordinate is passed as the second argument!

Syntax

```
Math.atan(x)

Math.atan2(y,x)
```

Parameter	Description
x	Required. A number
y	Required. A number

Browser Support



The atan() and atan2() methods are supported in all major browsers.

Examples

Example 1 - atan2(y,x)

Assume you had a point with the (x,y) coordinates of (4,8), you could calculate the angle in radians between that point and the positive X axis as follows:

```
<script type="text/javascript">

document.write(Math.atan2(8,4));

</script>
```

The output of the code above will be:

```
1.1071487177940904
```

[Try it yourself »](#)

Example 2 - atan(x)

We can also calculate the arctangent of the ratio of the two coordinates above (8/4 = 2), which will produce the same output:

```
<script type="text/javascript">

document.write(Math.atan(2));

</script>
```

The output of the code above will be:

```
1.1071487177940904
```

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 [JavaScript Math Object](#)

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