

Reference > norm()

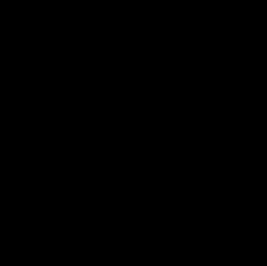
norm()

Maps a number from one range to a value between 0 and 1.

For example, `norm(2, 0, 10)` returns 0.2. 2's position in the original range [0, 10] is proportional to 0.2's position in the range [0, 1]. This is the same as calling `map(2, 0, 10, 0, 1)`.

Numbers outside of the original range are not constrained between 0 and 1. Out-of-range values are often intentional and useful.

Examples



```
function setup() {
  createCanvas(100, 100);

  // Use RGB color with values from 0 to 1.
  colorMode(RGB, 1);

  describe('A square changes color from black to red as the
mouse moves from left to right.');
```

```
function draw() {
  // Calculate the redValue.
  let redValue = norm(mouseX, 0, 100);

  // Paint the background.
  background(redValue, 0, 0);
}
```

Syntax

```
norm(value, start, stop)
```

Parameters

value	Number: incoming value to be normalized.
start	Number: lower bound of the value's current range.
stop	Number: upper bound of the value's current range.

Returns

Number: normalized number.

This page is generated from the comments in [src/math/calculation.js](#) . Please feel free to edit it and submit a pull request!

Related References

abs Calculates the absolute value of a number.	ceil Calculates the closest integer value that is greater than or equal to a number.	constrain Constrains a number between a minimum and maximum value.	dist Calculates the distance between two points.
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