

limit()

Limits a vector's magnitude to a maximum value.

The static version of `limit()`, as in `p5.Vector.limit(v, 5)`, returns a new `p5.Vector` object and doesn't change the original.

Examples

```
function setup() {
  // Create a p5.Vector object.
  let v = createVector(10, 20, 2);

  // Limit its magnitude.
  v.limit(5);

  // Prints "p5.Vector Object : [2.227..., 4.454..., 0.445...]" to the
  // console.
  print(v.toString());
}
```

```
function setup() {
  // Create a p5.Vector object.
  let v0 = createVector(10, 20, 2);

  // Create a copy and limit its magnitude.
  let v1 = p5.Vector.limit(v0, 5);

  // Prints "p5.Vector Object : [2.227..., 4.454..., 0.445...]" to the
  // console.
  print(v1.toString());
}
```

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

  describe("A red and blue arrow extend from the center of a
  circle. Both arrows follow the mouse, but the blue arrow never
  crosses the circle's edge.");
}

function draw() {
  background(240);

  // Vector to the center.
  let v0 = createVector(50, 50);

  // Vector from the center to the mouse.
  let v1 = createVector(mouseX - 50, mouseY - 50);

  // Circle's radius.
  let r = 25;

  // Draw the red arrow.
  drawArrow(v0, v1, 'red');

  // Draw the blue arrow.
  drawArrow(v0, v1.limit(r), 'blue');

  // Draw the circle.
  noFill();
  circle(50, 50, r * 2);
}

// Draws an arrow between two vectors.
```

Syntax

`limit(max)`

`limit(v, max, [target])`

Parameters

<code>max</code>	Number: maximum magnitude for the vector.
<code>v</code>	<code>p5.Vector</code> : the vector to limit
<code>target</code>	<code>p5.Vector</code> : the vector to receive the result (Optional)

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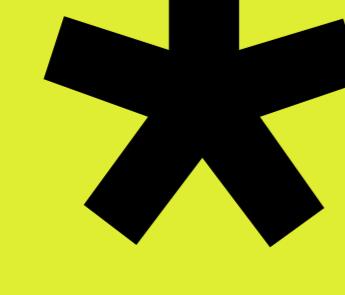
Related References

`add`
Adds to a vector's x, y, and z components.

`angleBetween`
Calculates the angle between two vectors.

`array`
Returns the vector's components as an array of numbers.

`clampToZero`
Replaces the components of a `p5.Vector` that are very close to zero with zero.



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