lerp()

Calculates new `x`, `y`, and `z` components that are proportionally the same distance between two vectors.

The `amt` parameter is the amount to interpolate between the old vector and the new vector. 0.0 keeps all components equal to the old vector's, 0.5 is halfway between, and 1.0 sets all components equal to the new vector's.

The static version of `lerp()`, as in `p5.Vector.lerp(v0, v1, 0.5)`, returns a new p5.Vector object and doesn't change the original.

Examples

```
function setup() {
  // Create a p5.Vector object.
  let v0 = createVector(1, 1, 1);
  let v1 = createVector(3, 3, 3);

  // Interpolate.
  v0.lerp(v1, 0.5);

  // Prints "p5.Vector Object : [2, 2, 2]" to the console.
  print(v0.toString());
}
```

```
function setup() {
  // Create a p5.Vector object.
  let v = createVector(1, 1, 1);

  // Interpolate.
  v.lerp(3, 3, 3, 0.5);

  // Prints "p5.Vector Object : [2, 2, 2]" to the console.
  print(v.toString());
}
```

```
function setup() {
  // Create p5.Vector objects.
  let v0 = createVector(1, 1, 1);
  let v1 = createVector(3, 3, 3);

  // Interpolate.
  let v2 = p5.Vector.lerp(v0, v1, 0.5);

  // Prints "p5.Vector Object : [2, 2, 2]" to the console.
  print(v2.toString());
}
```

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

  describe('Three arrows extend from the center of a gray
square. A red arrow points to the right, a blue arrow points
down, and a purple arrow points to the bottom right.');
}
function draw() {
  background(200);

  // Create p5.Vector objects.
  let v0 = createVector(50, 50);
  let v1 = createVector(30, 0);
  let v2 = createVector(0, 30);

  // Interpolate.
  let v3 = p5.Vector.lerp(v1, v2, 0.5);

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

  // Draw the blue arrow.
  drawArrow(v0, v2, 'blue');

  // Draw the purple arrow.
  drawArrow(v0, v3, 'purple');
}

// Draws an arrow between two vectors.
function drawArrow(base, vec, myColor) {
```

Syntax

```
lerp(x, y, z, amt)
```

```
lerp(v, amt)
```

```
lerp(v1, v2, amt, [target])
```

Parameters

x	Number: x component.
y	Number: y component.
z	Number: z component.
amt	Number: amount of interpolation between 0.0 (old vector) and 1.0 (new vector). 0.5 is halfway between.
v	p5.Vector: p5.Vector to lerp toward.
v1	p5.Vector:
v2	p5.Vector:
target	p5.Vector: The vector to receive the result

This page is generated from the comments in src/math/p5.Vector.js . Please feel free to edit it and submit a pull request!

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.