lerp()

Calculates a number between two numbers at a specific increment.

The `amt` parameter is the amount to interpolate between the two numbers. 0.0 is equal to the first number, 0.1 is very near the first number, 0.5 is half-way in between, and 1.0 is equal to the second number. The `lerp()` function is convenient for creating motion along a straight path and for drawing dotted lines.

If the value of `amt` is less than 0 or more than 1, `lerp()` will return a number outside of the original interval. For example, calling `lerp(0, 10, 1.5)` will return 15.

Examples

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

  background(200);

  // Declare variables for coordinates.
  let a = 20;
  let b = 80;
  let c = lerp(a, b, 0.2);
  let d = lerp(a, b, 0.5);
  let e = lerp(a, b, 0.8);

  strokeWeight(5);

  // Draw the original points in black.
  stroke(0);
  point(a, 50);
  point(b, 50);

  // Draw the lerped points in gray.
  stroke(100);
  point(c, 50);
  point(d, 50);
  point(e, 50);

  describe('Five points in a horizontal line. The outer points
are black and the inner points are gray.');
}
```

```
let x = 50;
let y = 50;
let targetX = 50;
let targetY = 50;

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

  background(200);

  describe('A white circle at the center of a gray canvas. The
circle moves to where the user clicks, then moves smoothly
back to the center.');
}

function draw() {
  background(220);

  // Move x and y toward the target.
  x = lerp(x, targetX, 0.05);
  y = lerp(y, targetY, 0.05);

  // Draw the circle.
  circle(x, y, 20);
}

// Set x and y when the user clicks the mouse.
function mouseClicked() {
  x = mouseX;
  y = mouseY;
}
```

Syntax

```
lerp(start, stop, amt)
```

Parameters

start	Number: first value.
stop	Number: second value.
amt	Number: number.

Returns

Number: lerped value.

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.