mag()

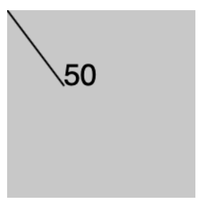
Calculates the magnitude, or length, of a vector.

A vector can be thought of in different ways. In one view, a vector is a point in space. The vector's components, `x` and `y`, are the point's coordinates `(x, y)`. A vector's magnitude is the distance from the origin `(0, 0)` to `(x, y)`. `mag(x, y)` is a shortcut for calling `dist(0, 0, x, y)`.

A vector can also be thought of as an arrow pointing in space. This view is helpful for programming motion. See p5.Vector for more details.

Use p5.Vector.mag() to calculate the magnitude of a p5.Vector object.

Examples




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

  background(200);

  // Set the vector's components.
  let x = 30;
  let y = 40;

  // Calculate the magnitude.
  let m = mag(x, y);

  // Style the text.
  textSize(16);

  // Display the vector and its magnitude.
  line(0, 0, x, y);
  text(m, x, y);

  describe('A diagonal line is drawn from the top left of the canvas. The number 50 is written at the end of the line.');
}
```

Syntax

```
mag(x, y)
```

Parameters

x	Number: first component.
y	Number: second component.

Returns

Number: magnitude of vector.

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.