rotate()

Rotates a 2D vector by an angle without changing its magnitude.

By convention, the positive x-axis has an angle of 0. Angles increase in the clockwise direction.

If the vector was created with createVector(), `rotate()` uses the units of the current angleMode().

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

Examples

```
function setup() {
  // Create a p5.Vector object.
  let v = createVector(1, 0);

  // Prints "p5.Vector Object : [1, 0, 0]" to the console.
  print(v.toString());

  // Rotate a quarter turn.
  v.rotate(HALF_PI);

  // Prints "p5.Vector Object : [0, 1, 0]" to the console.
  print(v.toString());
}
```

```
function setup() {
  // Use degrees.
  angleMode(DEGREES);

  // Create a p5.Vector object.
  let v = createVector(1, 0);

  // Prints "p5.Vector Object : [1, 0, 0]" to the console.
  print(v.toString());

  // Rotate a quarter turn.
  v.rotate(90);

  // Prints "p5.Vector Object : [0, 1, 0]" to the console.
  print(v.toString());
}
```

```
function setup() {
  // Create a p5.Vector object.
  let v0 = createVector(1, 0);

  // Create a rotated copy.
  let v1 = p5.Vector.rotate(v0, HALF_PI);

  // Prints "p5.Vector Object : [1, 0, 0]" to the console.
  print(v0.toString());
  // Prints "p5.Vector Object : [0, 1, 0]" to the console.
  print(v1.toString());
}
```

```
function setup() {
  // Use degrees.
  angleMode(DEGREES);

  // Create a p5.Vector object.
  let v0 = createVector(1, 0);

  // Create a rotated copy.
  let v1 = p5.Vector.rotate(v0, 90);

  // Prints "p5.Vector Object : [1, 0, 0]" to the console.
  print(v0.toString());

  // Prints "p5.Vector Object : [0, 1, 0]" to the console.
  print(v1.toString());
}
```

```
let v0;
let v1;

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

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

  describe('A black arrow extends from the center of a gray
square. The arrow rotates clockwise.');
}

function draw() {
  background(240);

  // Rotate v1.
  v1.rotate(0.01);

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

// Draws an arrow between two vectors.
function drawArrow(base, vec, myColor) {
  push();
  stroke(myColor);
  strokeWeight(3);
  fill(myColor);
  translate(base.x, base.y);
  line(0, 0, vec.x, vec.y);
  rotate(vec.heading());
```

Syntax

```
rotate(angle)
```

```
rotate(v, angle, [target])
```

Parameters

angle	Number: angle of rotation.
v	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.