quadraticVertex()

Adds a quadratic Bézier curve segment to a custom shape.

`quadraticVertex()` adds a curved segment to custom shapes. The Bézier curve segments it creates are similar to those made by the bezierVertex() function. `quadraticVertex()` must be called between the beginShape() and endShape() functions. The curved segment uses the previous vertex as the first anchor point, so there must be at least one call to vertex() before `quadraticVertex()` can be used.

The first two parameters, `cx` and `cy`, set the curve's control point. The control point "pulls" the curve towards its.

The last two parameters, `x3`, and `y3`, set the last anchor point. The last anchor point is where the curve ends.

Bézier curves can also be drawn in 3D using WebGL mode. The 3D version of `bezierVertex()` has eight arguments because each point has x-, y-, and z-coordinates.

Note: `quadraticVertex()` won't work when an argument is passed to beginShape().

Examples

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

  background(200);

  // Style the curve.
  noFill();

  // Draw the curve.
  beginShape();
  vertex(20, 20);
  quadraticVertex(80, 20, 50, 50);
  endShape();

  describe('A black curve drawn on a gray square. The curve
starts at the top-left corner and ends at the center.');
}
```

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

  background(200);

  // Draw the curve.
  noFill();
  beginShape();
  vertex(20, 20);
  quadraticVertex(80, 20, 50, 50);
  endShape();

  // Draw red lines from the anchor points to the control
point.
  stroke(255, 0, 0);
  line(20, 20, 80, 20);
  line(50, 50, 80, 20);

  // Draw the anchor points in black.
  strokeWeight(5);
  stroke(0);
  point(20, 20);
  point(50, 50);

  // Draw the control point in red.
  stroke(255, 0, 0);
  point(80, 20);

  describe('A black curve that starts at the top-left corner
and ends at the center. Its anchor and control points are
marked with dots. Red lines connect both anchor points to the
control point.');
```

```
// Click the mouse near the red dot in the top-right corne
// and drag to change the curve's shape.

let x2 = 80;
let y2 = 20;
let isChanging = false;

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

  describe('A black curve that starts at the top-left corner
and ends at the center. Its anchor and control points are
marked with dots. Red lines connect both anchor points to the
control point.');
}

function draw() {
  background(200);

  // Style the curve.
  noFill();
  strokeWeight(1);
  stroke(0);

  // Draw the curve.
  beginShape();
  vertex(20, 20);
  quadraticVertex(x2, y2, 50, 50);
  endShape();

  // Draw red lines from the anchor points to the control
point.
```

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

  background(200);

  // Start drawing the shape.
  beginShape();

  // Add the curved segments.
  vertex(20, 20);
  quadraticVertex(80, 20, 50, 50);
  quadraticVertex(20, 80, 80, 80);

  // Add the straight segments.
  vertex(80, 10);
  vertex(20, 10);
  vertex(20, 20);

  // Stop drawing the shape.
  endShape();

  describe('A white puzzle piece drawn on a gray background.');
}
```

```
// Click the and drag the mouse to view the scene from a
different angle.

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

  describe('A white puzzle piece on a dark gray background.
When the user clicks and drags the scene, the outline of a
second puzzle piece is revealed.');
}

function draw() {
  background(50);

  // Enable orbiting with the mouse.
  orbitControl();

  // Style the first puzzle piece.
  noStroke();
  fill(255);

  // Draw the first puzzle piece.
  beginShape();
  vertex(-30, -30, 0);
  quadraticVertex(30, -30, 0, 0, 0, 0);
  quadraticVertex(-30, 30, 0, 30, 30, 0);
  vertex(30, -40, 0);
  vertex(-30, -40, 0);
  vertex(-30, -30, 0);
```

Syntax

```
quadraticVertex(cx, cy, x3, y3)
```

```
quadraticVertex(cx, cy, cz, x3, y3, z3)
```

Parameters

cx	Number: x-coordinate of the control point.
cy	Number: y-coordinate of the control point.
x3	Number: x-coordinate of the anchor point.
y3	Number: y-coordinate of the anchor point.
cz	Number: z-coordinate of the control point.
z3	Number: z-coordinate of the anchor point.

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

Related References

beginContour
Begins creating a hole within a flat shape.

beginShape
Begins adding vertices to a custom shape.

bezierVertex
Adds a Bézier curve segment to a custom shape.

curveVertex
Adds a spline curve segment to a custom shape.