

# vertex()

Adds a vertex to a custom shape.

`vertex()` sets the coordinates of vertices drawn between the `beginShape()` and `endShape()` functions.

The first two parameters, `x` and `y`, set the x- and y-coordinates of the vertex.

The third parameter, `z`, is optional. It sets the z-coordinate of the vertex in WebGL mode. By default, `z` is 0.

The fourth and fifth parameters, `u` and `v`, are also optional. They set the u- and v-coordinates for the vertex's texture when used with `endShape()`. By default, `u` and `v` are both 0.

## Examples



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

  background(200);

  // Style the shape.
  strokeWeight(3);

  // Start drawing the shape.
  // Only draw the vertices.
  beginShape(POINTS);

  // Add the vertices.
  vertex(30, 20);
  vertex(85, 20);
  vertex(85, 75);
  vertex(30, 75);

  // Stop drawing the shape.
  endShape();

  describe('Four black dots that form a square are drawn on a gray background.');
}
```



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

  background(200);

  // Start drawing the shape.
  beginShape();

  // Add vertices.
  vertex(30, 20);
  vertex(85, 20);
  vertex(85, 75);
  vertex(30, 75);

  // Stop drawing the shape.
  endShape(CLOSE);

  describe('A white square on a gray background.');
}
```



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

  background(200);

  // Start drawing the shape.
  beginShape();

  // Add vertices.
  vertex(-20, -30, 0);
  vertex(35, -30, 0);
  vertex(35, 25, 0);
  vertex(-20, 25, 0);

  // Stop drawing the shape.
  endShape(CLOSE);

  describe('A white square on a gray background.');
}
```



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

  describe('A white square spins around slowly on a gray background.');
}

function draw() {
  background(200);

  // Rotate around the y-axis.
  rotateY(frameCount * 0.01);

  // Start drawing the shape.
  beginShape();

  // Add vertices.
  vertex(-20, -30, 0);
  vertex(35, -30, 0);
  vertex(35, 25, 0);
  vertex(-20, 25, 0);

  // Stop drawing the shape.
  endShape(CLOSE);
}
```



```
let img;

// Load an image to apply as a texture.
function preload() {
  img = loadImage('/assets/laDefense.jpg');
}

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

  describe('A photograph of a ceiling rotates slowly against a gray background.');
}

function draw() {
  background(200);

  // Rotate around the y-axis.
  rotateY(frameCount * 0.01);

  // Style the shape.
  noStroke();

  // Apply the texture.
  texture(img);
  textureMode(NORMAL);

  // Start drawing the shape.
  beginShape();

  // Add vertices.
  vertex(-20, -30, 0, 0, 0);
  vertex(35, -30, 0, 1, 0);
  vertex(35, 25, 0, 1, 0);
  vertex(-20, 25, 0, 1, 0);

  // Stop drawing the shape.
  endShape(CLOSE);
}
```

## Syntax

```
vertex(x, y)
```

```
vertex(x, y, [z])
```

```
vertex(x, y, [z], [u], [v])
```

## Parameters

`x` Number: x-coordinate of the vertex.

`y` Number: y-coordinate of the vertex.

`z` Number: z-coordinate of the vertex. Defaults to 0.

`u` Number: u-coordinate of the vertex's texture. Defaults to 0.

`v` Number: v-coordinate of the vertex's texture. Defaults to 0.

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.

`startShape` Starts a new shape.

`endShape` Ends a shape.

`endShape(CLOSE)` Closes a shape.

`endShape(OPEN)` Does not close a shape.

`endShape(SMOOTH)` Closes a shape and smooths the vertices.

`endShape(SQUARE)` Closes a shape and creates a square vertex.

`endShape(ANGLE)` Closes a shape and creates an angled vertex.

`endShape(ROUND)` Closes a shape and creates a rounded vertex.

`endShape(SMOOTHANGLE)` Closes a shape and creates a smooth angled vertex.

`endShape(SMOOTHROUND)` Closes a shape and creates a smooth rounded vertex.

`endShape(SMOOTHANGLEROUND)` Closes a shape and creates a smooth angled rounded vertex.

`endShape(SMOOTHANGLEROUND2)` Closes a shape and creates a smooth angled rounded vertex.

`endShape(SMOOTHANGLEROUND3)` Closes a shape and creates a smooth angled rounded vertex.

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