

# gridOutput()

Creates a screen reader-accessible description of shapes on the canvas.

`gridOutput()` adds a general description, table of shapes, and list of shapes to the web page. The general description includes the canvas size, canvas color, and number of shapes. For example, `gray canvas, 100 by 100 pixels, contains 2 shapes: 1 circle 1 square.`

`gridOutput()` uses its table of shapes as a grid. Each shape in the grid is placed in a cell whose row and column correspond to the shape's location on the canvas. The grid cells describe the color and type of shape at that location. For example, `red circle`. These descriptions can be selected individually to get more details. This is different from `textOutput()`, which uses its table as a list.

A list of shapes follows the table. The list describes the color, type, location, and area of each shape. For example, `red circle, location = middle, area = 3 %`.

The `display` parameter is optional. It determines how the description is displayed. If `LABEL` is passed, as in `gridOutput(LABEL)`, the description will be visible in a `div` element next to the canvas. Using `LABEL` creates unhelpful duplicates for screen readers. Only use `LABEL` during development. If `FALLBACK` is passed, as in `gridOutput(FALLBACK)`, the description will only be visible to screen readers. This is the default mode.

Read [Writing accessible canvas descriptions](#) to learn more about making sketches accessible.

`gridOutput()` generates descriptions in English only. Text drawn with `text()` is not described. Shapes created with `beginShape()` are not described. WEBGL mode and 3D shapes are not supported.

Use `describe()` and `describeElement()` for more control over canvas descriptions.

## Examples

```
▶ □ ⌂ ⌂
function setup() {
  // Add the grid description.
  gridOutput();

  // Draw a couple of shapes.
  background(200);
  fill(255, 0, 0);
  circle(20, 20, 20);
  fill(0, 0, 255);
  square(50, 50, 50);

  // Add a general description of the canvas.
  describe('A red circle and a blue square on a gray background.');
}
```

```
▶ □ ⌂ ⌂
function setup() {
  // Add the grid description and
  // display it for debugging.
  gridOutput(LABEL);

  // Draw a couple of shapes.
  background(200);
  fill(255, 0, 0);
  circle(20, 20, 20);
  fill(0, 0, 255);
  square(50, 50, 50);

  // Add a general description of the canvas.
  describe('A red circle and a blue square on a gray background.');
}
```

```
▶ □ ⌂ ⌂
function setup() {
  createCanvas(100, 100);
}

function draw() {
  // Add the grid description.
  gridOutput();

  // Draw a moving circle.
  background(200);
  let x = frameCount * 0.1;
  fill(255, 0, 0);
  circle(x, 20, 20);
  fill(0, 0, 255);
  square(50, 50, 50);

  // Add a general description of the canvas.
  describe('A red circle moves from left to right above a blue square.');
}
```

```
▶ □ ⌂ ⌂
function setup() {
  createCanvas(100, 100);
}

function draw() {
  // Add the grid description and
  // display it for debugging.
  gridOutput(LABEL);

  // Draw a moving circle.
  background(200);
  let x = frameCount * 0.1;
  fill(255, 0, 0);
  circle(x, 20, 20);
  fill(0, 0, 255);
  square(50, 50, 50);

  // Add a general description of the canvas.
  describe('A red circle moves from left to right above a blue square.');
}
```

## Syntax

```
gridOutput([display])
```



## Parameters

`display` Constant: either `FALLBACK` or `LABEL`.

This page is generated from the comments in [src/accessibility/outputs.js](#). Please feel free to edit it and submit a pull request!

## Related References

`cursor` Changes the cursor's appearance.

`deltaTime` A Number variable that tracks the number of milliseconds it took to draw the last frame.

`describe` Creates a screen reader-accessible description of the canvas.

`describeElement` Creates a screen reader-accessible description of elements in the canvas.

`gridOutput` Creates a screen reader-accessible description of shapes on the canvas.

`textOutput` Creates a screen reader-accessible description of text on the canvas.

`text` Prints text to the canvas.

`textFont` Sets the font for text output.

`textSize` Sets the size of text output.

`textColor` Sets the color of text output.

`textBaseline` Sets the baseline for text output.

`textAlign` Sets the alignment for text output.

`textWidth` Returns the width of text output.

`textHeight` Returns the height of text output.

`textX` Returns the x position of text output.

`textY` Returns the y position of text output.

`textBaselineX` Returns the x position of the baseline of text output.

`textBaselineY` Returns the y position of the baseline of text output.

`textXOffset` Returns the x offset of text output.

`textYOffset` Returns the y offset of text output.

`textFontStyle` Returns the font style of text output.

`textColorStyle` Returns the color style of text output.

`textBaselineStyle` Returns the baseline style of text output.

`textAlignStyle` Returns the alignment style of text output.

`textSizeStyle` Returns the size style of text output.

`textWidthStyle` Returns the width style of text output.

`textHeightStyle` Returns the height style of text output.

`textXStyle` Returns the x style of text output.

`textYStyle` Returns the y style of text output.

`textBaselineXStyle` Returns the x style of the baseline of text output.

`textBaselineYStyle` Returns the y style of the baseline of text output.

`textXOffsetStyle` Returns the x style offset of text output.

`textYOffsetStyle` Returns the y style offset of text output.

`textFontStyleStyle` Returns the font style style of text output.

`textColorStyleStyle` Returns the color style style of text output.

`textBaselineStyleStyle` Returns the baseline style style of text output.

`textAlignStyleStyle` Returns the alignment style style of text output.

`textSizeStyleStyle` Returns the size style style of text output.

`textWidthStyleStyle` Returns the width style style of text output.

`textHeightStyleStyle` Returns the height style style of text output.

`textXStyleStyle` Returns the x style style of text output.

`textYStyleStyle` Returns the y style style of text output.

`textBaselineXStyleStyle` Returns the x style style of the baseline of text output.

`textBaselineYStyleStyle` Returns the y style style of the baseline of text output.

`textXOffsetStyleStyle` Returns the x style style offset of text output.

`textYOffsetStyleStyle` Returns the y style style offset of text output.

`textFontStyleStyleStyle` Returns the font style style style of text output.

`textColorStyleStyleStyle` Returns the color style style style of text output.

`textBaselineStyleStyleStyle` Returns the baseline style style style of text output.

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`textYStyleStyleStyle` Returns the y style style style of text output.

`textBaselineXStyleStyleStyle` Returns the x style style style of the baseline of text output.

`textBaselineYStyleStyleStyle` Returns the y style style style of the baseline of text output.

`textXOffsetStyleStyleStyle` Returns the x style style style offset of text output.

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