Intro to SVG

Let's start →

Estee Tey

- 💻 Grad Software Developer at Thoughtworks
- ✏ Writes about Web Dev, UI, Dev growth
- 🎨 Experienced in creating mockups & graphics

lyqht estee_tey

Expectations

No Prerequisites

`expect(target_audience).toBeAny()`

Your time to be worth it

`expect(🍚⏱️).toYield(✅)`

Learn something

`expect(🧠).toIncrease();`

Have fun thinking

`expect(🤔).andThen(😄)`

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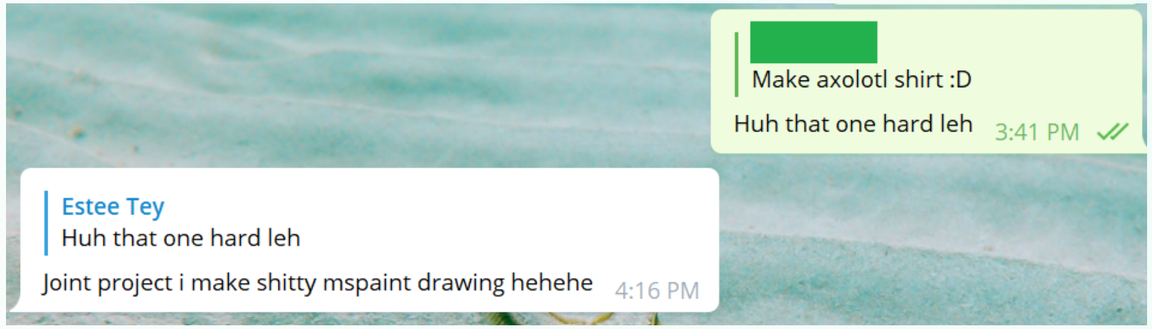
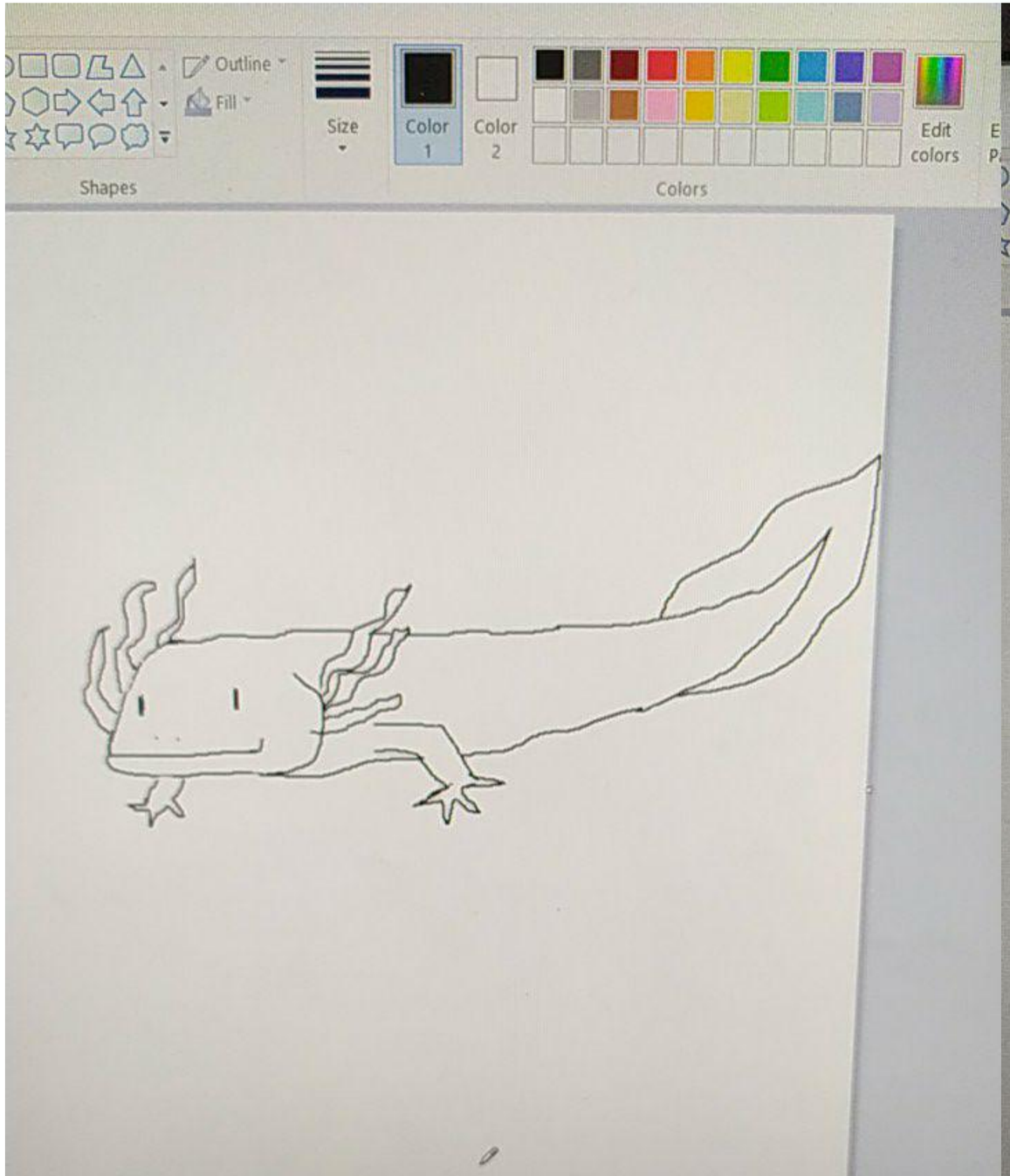
What is SVG?

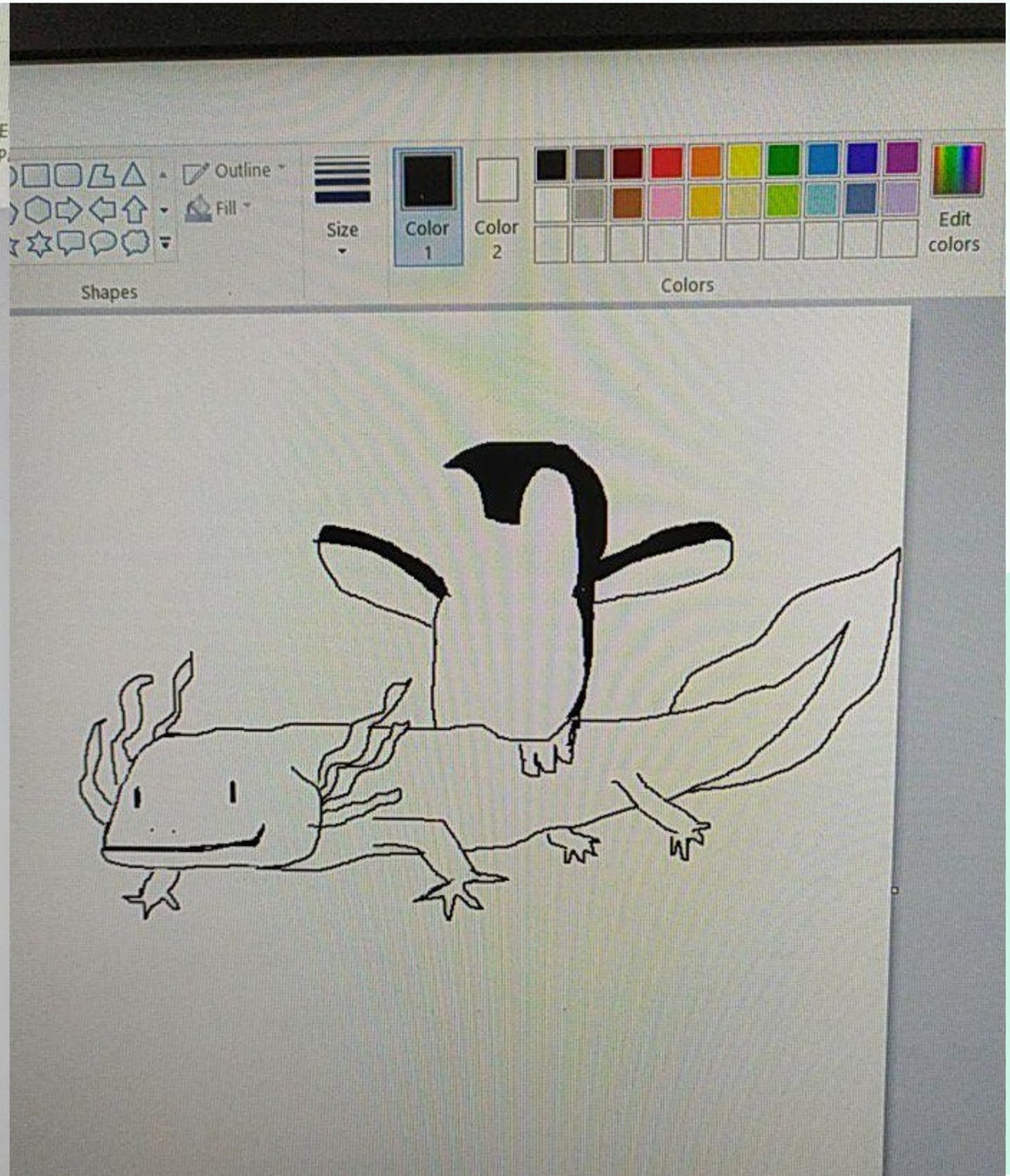
Images

Story Time! →

BESTIE
01
MIA
BESTIE
02
HARPER


Make axolotl shirt :D
Huh that one hard leh
3:41 PM
Estee Tey
Huh that one hard leh
Joint project i make shitty mspaint drawing hehehe
4:16 PM


Outline
Fill
Size
Color 1
Color 2
Edit colors
Shapes
Colors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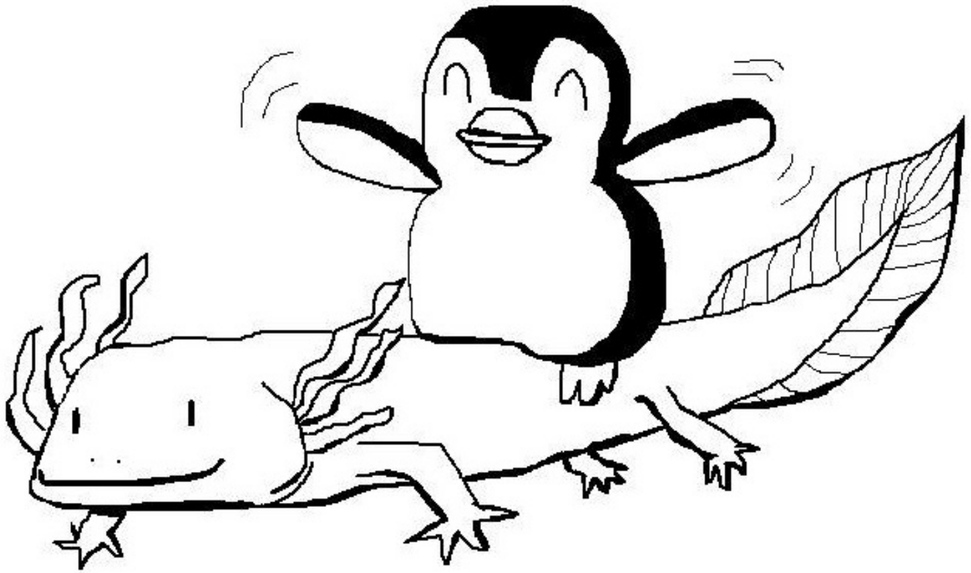
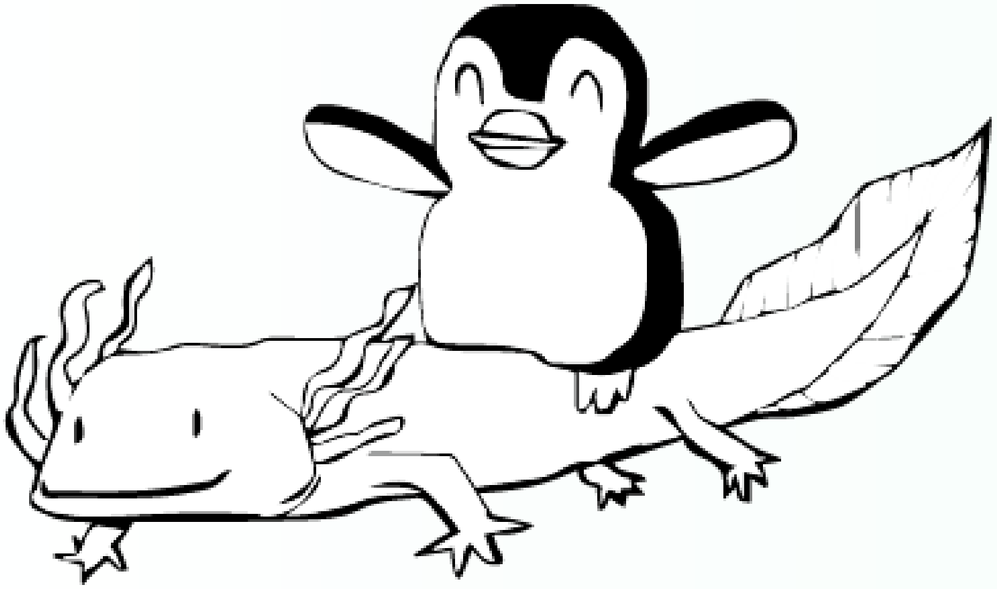
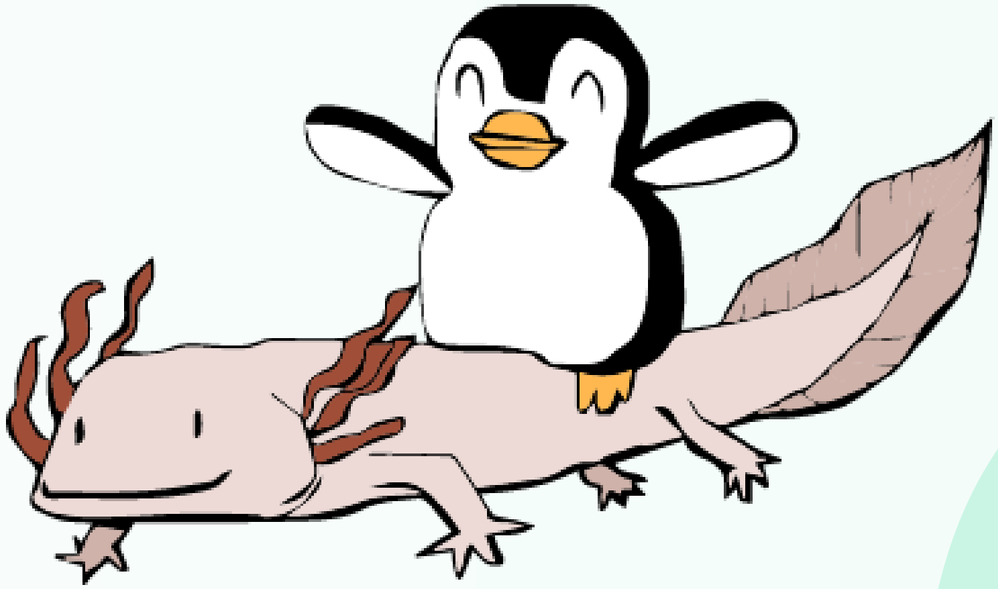
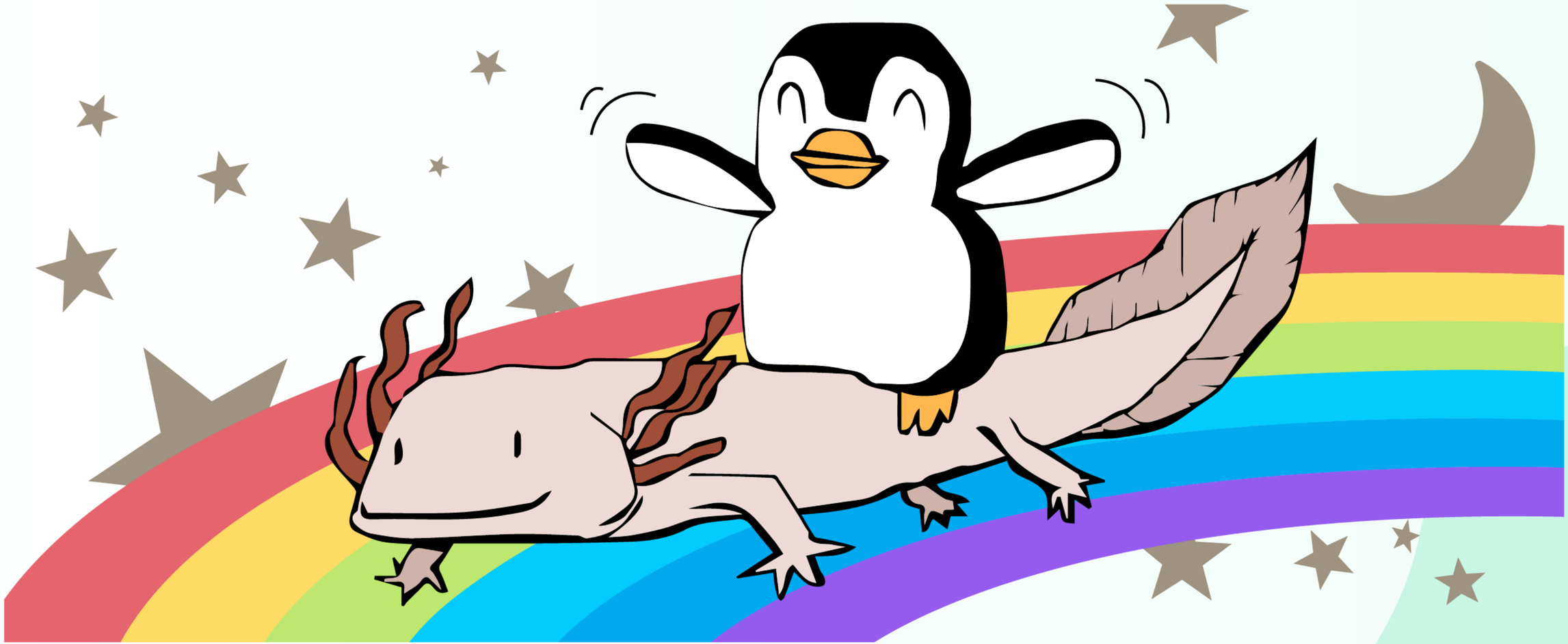








Raster vs Vector Images

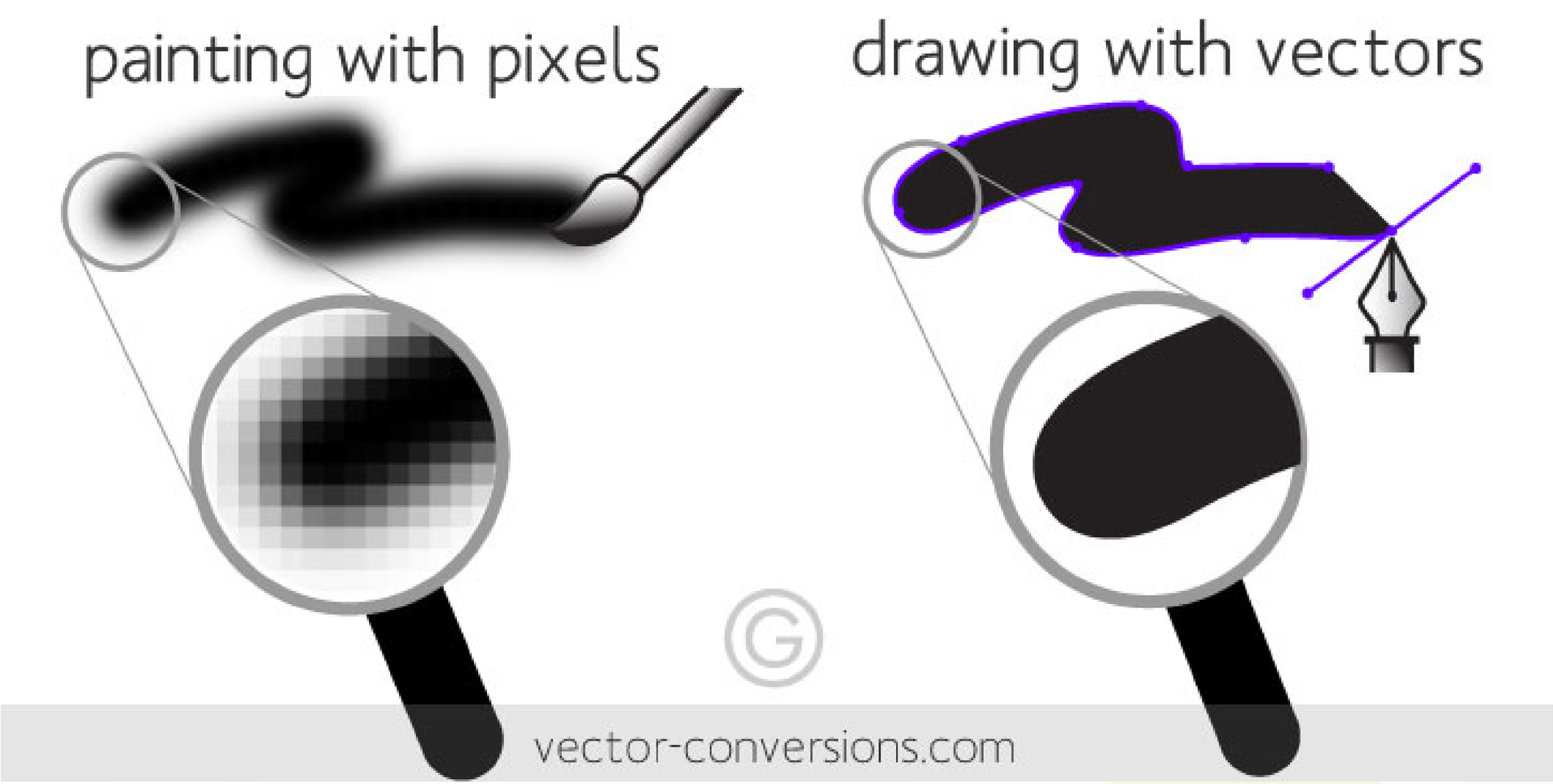


Image File Types

File Extension	Description
`.gif`	Graphics Interchange Format
`.png`	Portable Network Graphic
`.jpg` / `.jpeg`	Image format by Joint Photographic Experts Group
`.webp`	A superior image format of `.png` & `.jpg`
`.svg`	Scalable Vector Graphics

Image File Types

File Extension	Color Modes	Compression	Usage
`.gif`	Indexed Color	Loseless	Animated images
`.png`	Greyscale, True Color, Alpha	Loseless (better than .GIF)	Static Line art, iconic graphics where transparency matters.
`.jpg` / `.jpeg`	True Color	Lossy	Photographs, realistic images of people, venues etc.
`.webp`	Depends on compression	Loseless / Lossy	A superior image format of `.png` & `.jpg`
`.svg`	Anything that can be specified using CSS color syntax.	NA	UI that requires to be redrawn accurately at different sizes

How to get SVG

1. Create SVG from scratch
2. Generate SVG
3. Extract from websites

Create SVG with 3 basic elements

`<rectangle />`

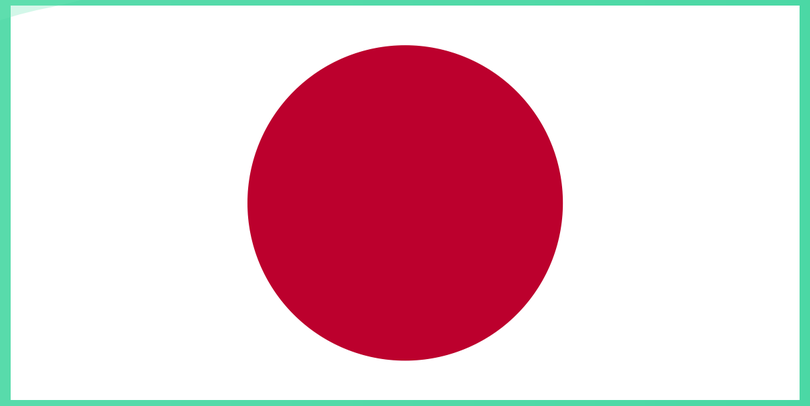
`<circle />`

`<polygon />`

Code Time! →

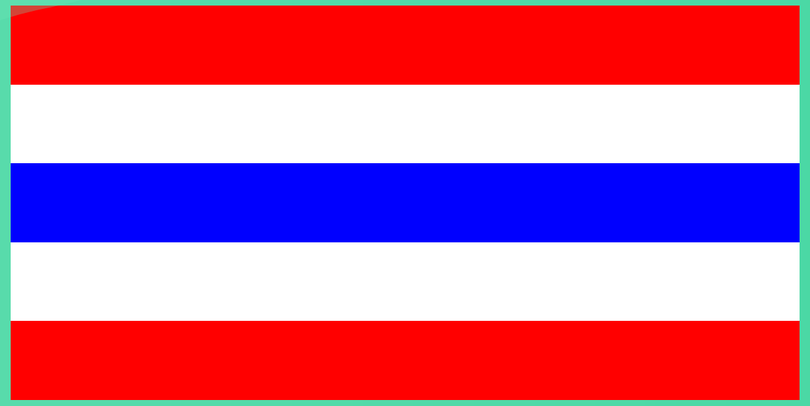
Create SVG with 3 simple shapes in code

JP flag in SVG



```svg
<svg>
    <rect width="100%" height="100%" fill="white" />
    <circle cx="50%" cy="50%" r=60 fill="#BC002D" />
</svg>
```

TH flag in SVG



```svg
<svg>
    <rect width="100%" height="20%" y="0" fill="red" />
    <rect width="100%" height="20%" y="20%" fill="white" />
    <rect width="100%" height="20%" y="40%" fill="blue" />
    <rect width="100%" height="20%" y="60%" fill="white" />
    <rect width="100%" height="20%" y="80%" fill="red" />
</svg>
```

VN flag in SVG

```svg
<svg>
  <defs>
    <polygon id="star" fill="yellow"
      points="100,10 40,198 190,78 10,78 160,198" />
  </defs>
  <rect width="100%" height="100%" fill="red" />
  <svg viewBox="100 0 600 600" x="25%" y="25%">
    <use href="#star">
    </use>
  </svg>
</svg>
```

Polygon vs Polyline

```
<polygon points="100,10 40,198 190,78 10,78 160,198" fill='#abcbca' stroke='#123123' stroke-width='5'  />
```

```
<polyline points="100,10 40,198 190,78 10,78 160,198"  fill='#abcbca' stroke='#123123' stroke-width='5'  />
```

SG flag in SVG

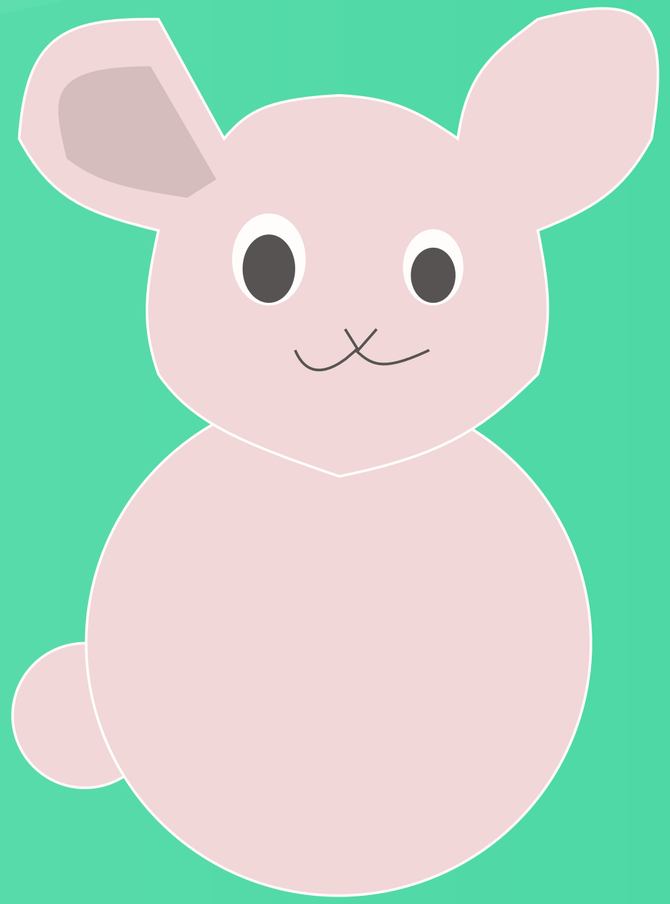
```svg
<svg>
  <rect width="100%" height="50%" fill="red" />
  <rect width="100%" height="50%" y="50%" fill="white" />
  <circle cx='15%' cy='25%' r='30' fill='white' />
  <circle cx='20%' cy='25%' r='30' fill='red' />
  <svg viewBox="600 -100 1000 1800">
    <use href="#white-star" />
    <use href="#white-star" x="-20%" y="10%" />
    <use href="#white-star" x="20%" y="10%" />
    <use href="#white-star" x="-12.5%" y="22%" />
    <use href="#white-star" x="12.5%" y="22%" />
  </svg>
</svg>
```

Create SVG with Design Tools

Figma Demo

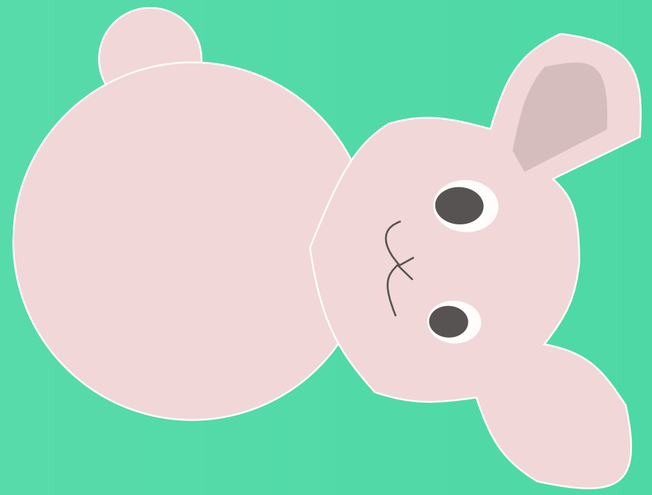
Ellipse, Polygon, Paths, Bezier Curves

Setting SVG File as an image source



```
1   <img src="/svg/animals/Rabbit.svg"/>
```

Setting SVG File as an image source



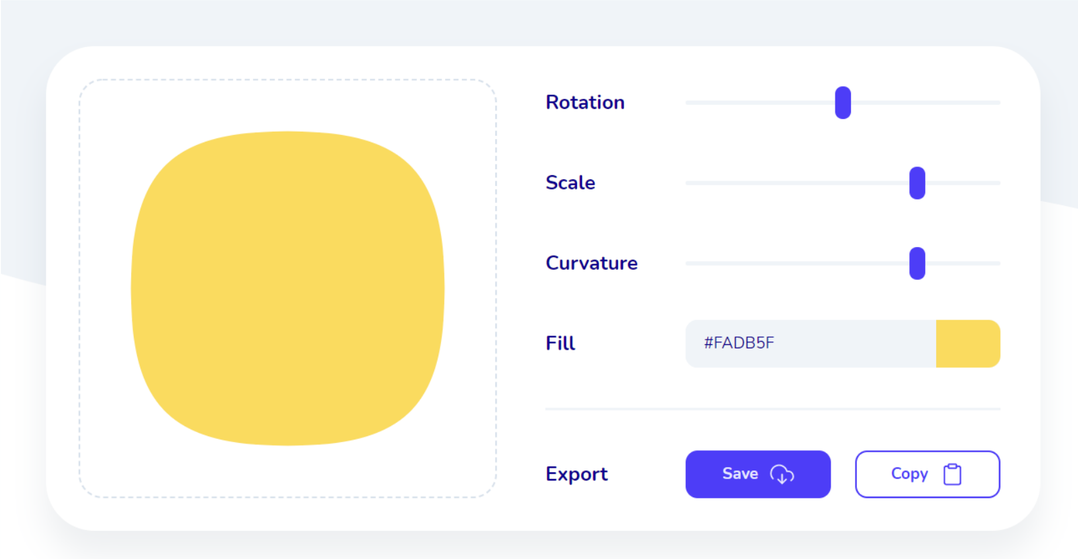
```
<img src="/svg/animals/Rabbit.svg"
  class="special-image" />
```

```
.special-image {
  height:240px;
  animation:spin 4s linear infinite;
}

@keyframes spin {
  100% {
      transform:rotate(360deg);
  }
}
```

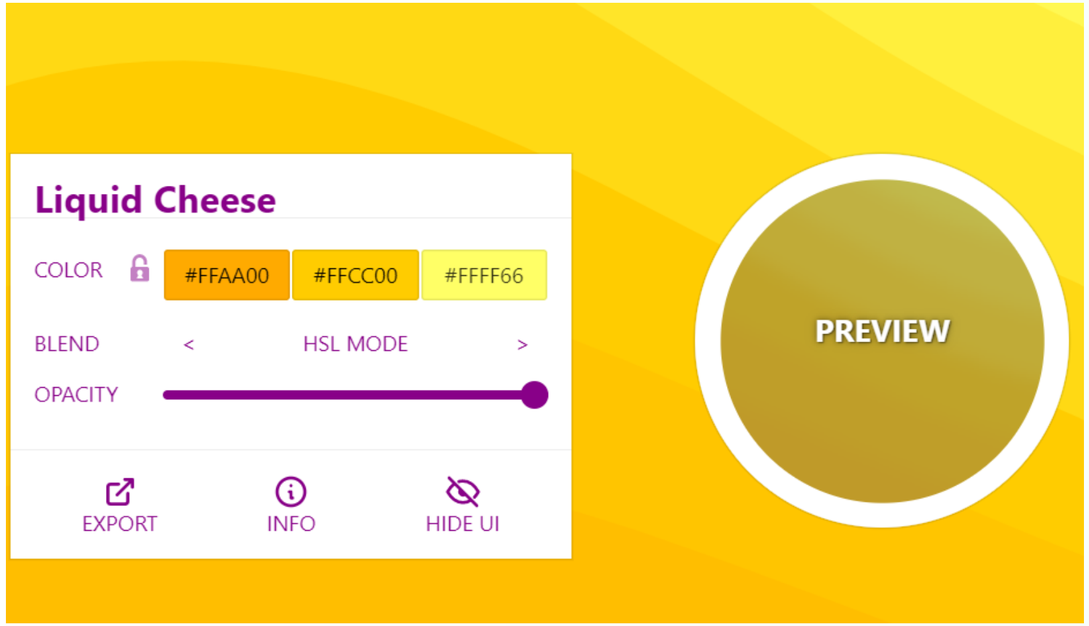
Generate SVG

1. Squicley for generating Squircles



Generate SVG

2. SVGBackgrounds.com for generating backgrounds



Extract from websites

Demo with Hacktoberfest’s SVG

> P.S. If you use any extracted images for your own websites or apps, please remember to give **attribution**.

Bonus: Optimization of SVG

SVGOMG

Bonus for React Devs: convert from SVG to JSX

SVG to JSX Demo

Summary

1. What is SVG?
2. Why do we use SVG?
3. How do we get SVG?
4. How to use SVG?

SVG Element Cheatsheet

	Shape	Usage Example
1.	Square	`<rect width="40" height="40" />`
2.	Rectangle	`<rect width="80" height="40" />`
3.	Circle	`<circle cx="50%" cy="50%" r="60" />`
4.	Ellipse	`<ellipse cx="100" cy="50" rx="80" ry="40" />`
5.	Polygon	`<polygon points="100,10 40,198 190,78 10,78 160,198" />`
6.	Polyline	`<polyline points="100,10 40,198 190,78 10,78 160,198" />`

Topics for you to explore more

- More complex SVG elements such as patterns, filters, paths
- Accessibility of SVGs
- Performance of SVGs

More Resources

- MDN Web Docs on SVG
- CSS Tricks - how to scale SVG
- Smashing Magazine - SVG Generators
- Frontend Masters - SVG Essentials & Animations v2

Thank you!

Hope you enjoyed the L&L 😄

Any questions?

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Feedback form