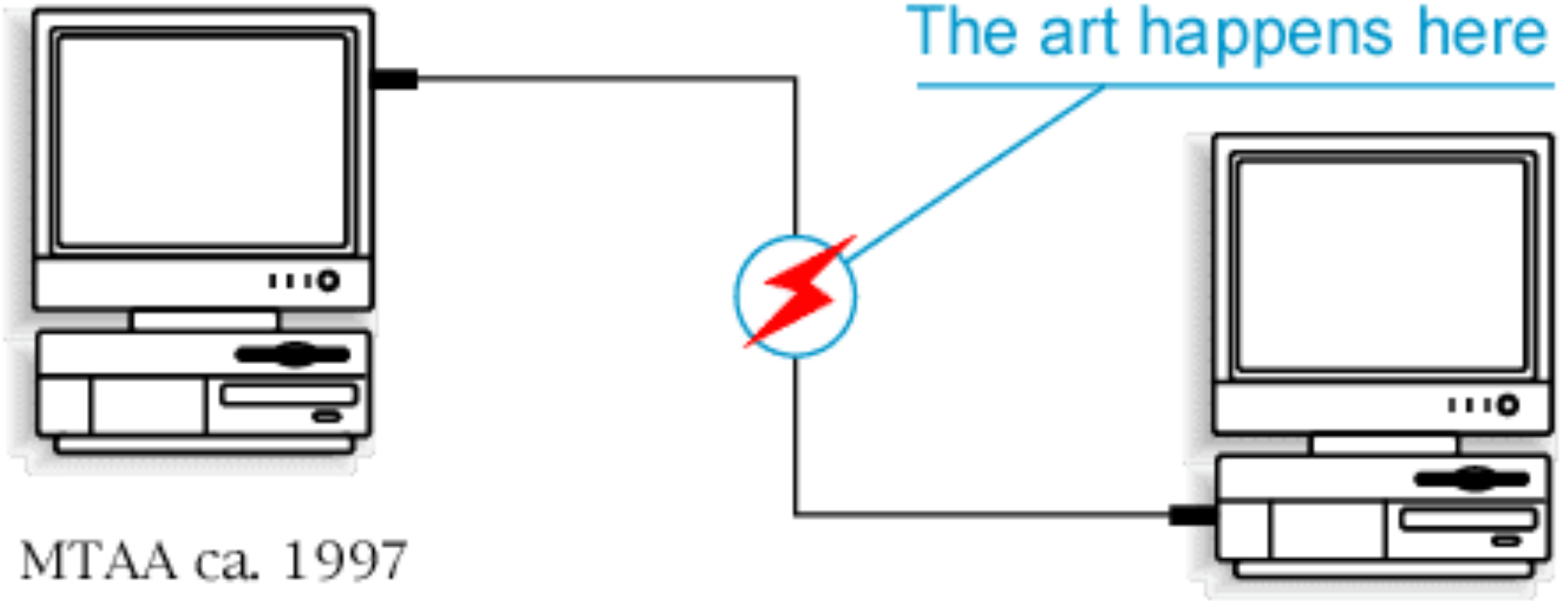
NET.ART



MTAA, 1997

My Boyfriend Came Back From War, 1996
Olia Lialina

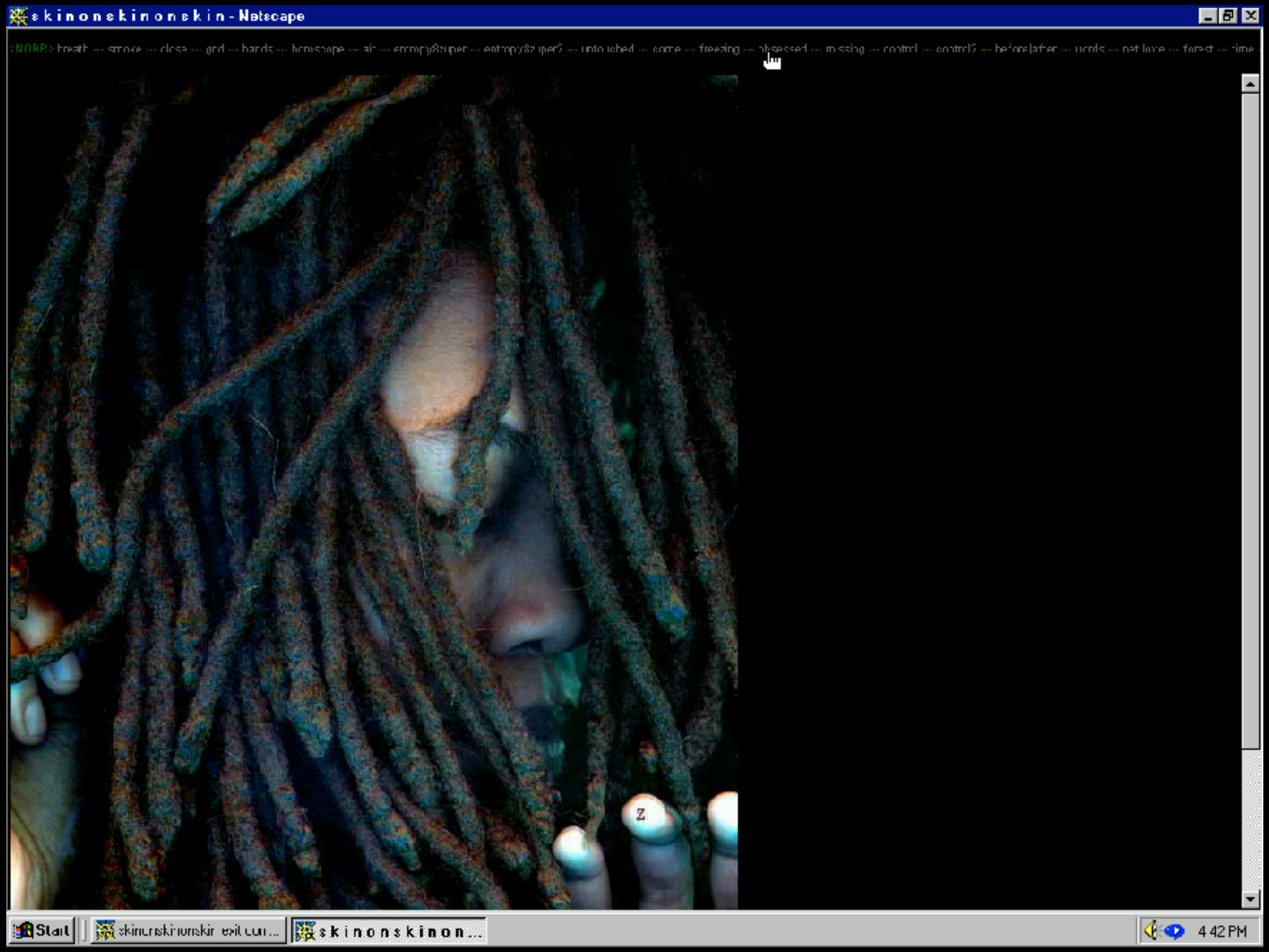
My Boyfriend Came Back From War, 1996
Olia Lialina

Using a secret directory on the hell.com server, /NO/SUCH/PLACE/EXISTS/seasideMOTEL/, they exchanged what they describe as “interactive poems.” Some appear to be made in passionate haste, and others are finely wrought. One, “freezing,” features a scanned image of Auriea’s profile, so that it looks like she is pressed against the computer screen, trying to escape.

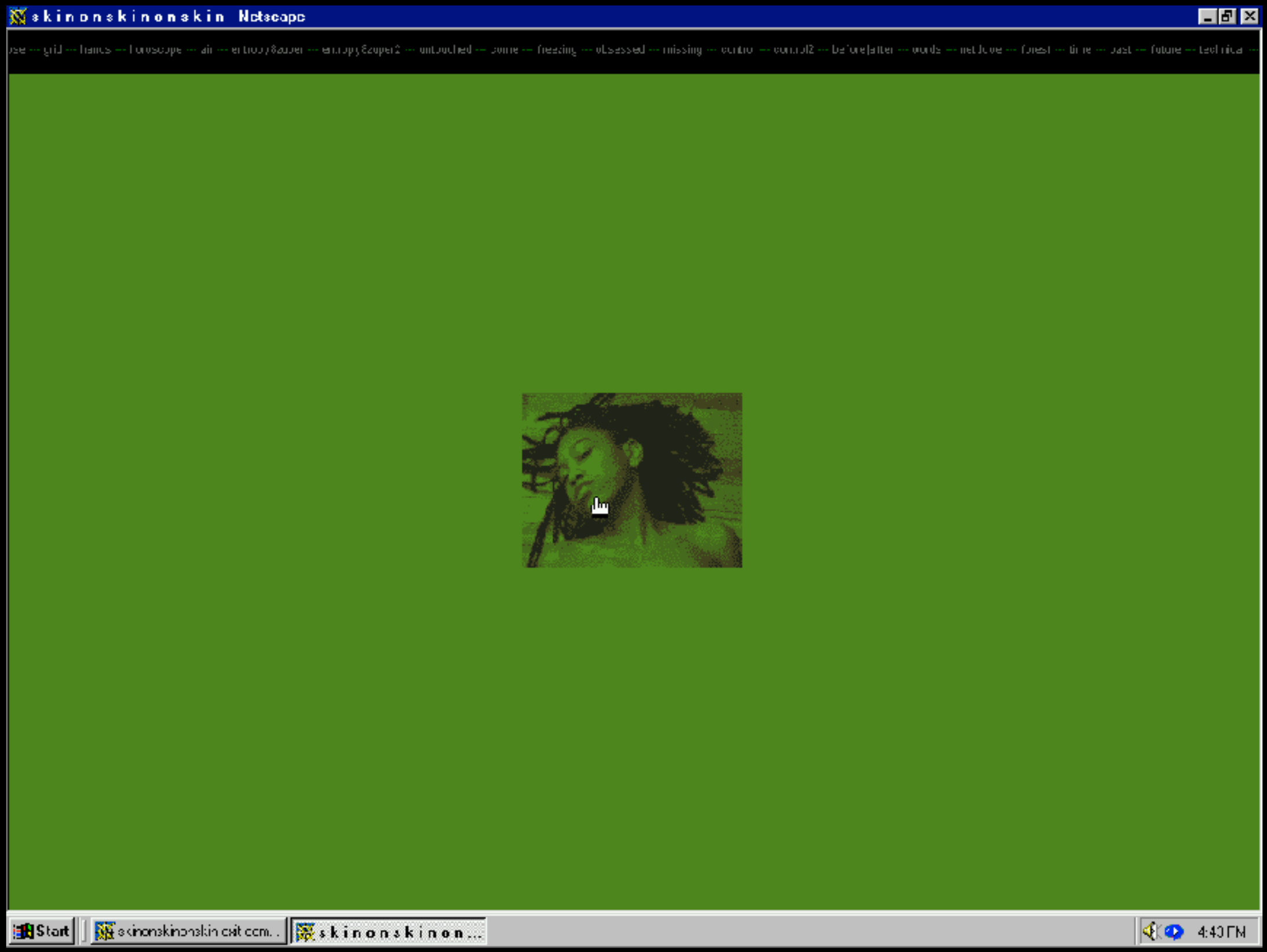
Auriea Harvey (Entropy8) + Michaël Samyn (Zuper!)
Entropy8Zuper!

```
IF ( 1 + 1 == 1 ) { E8Z = TRUE; };
```

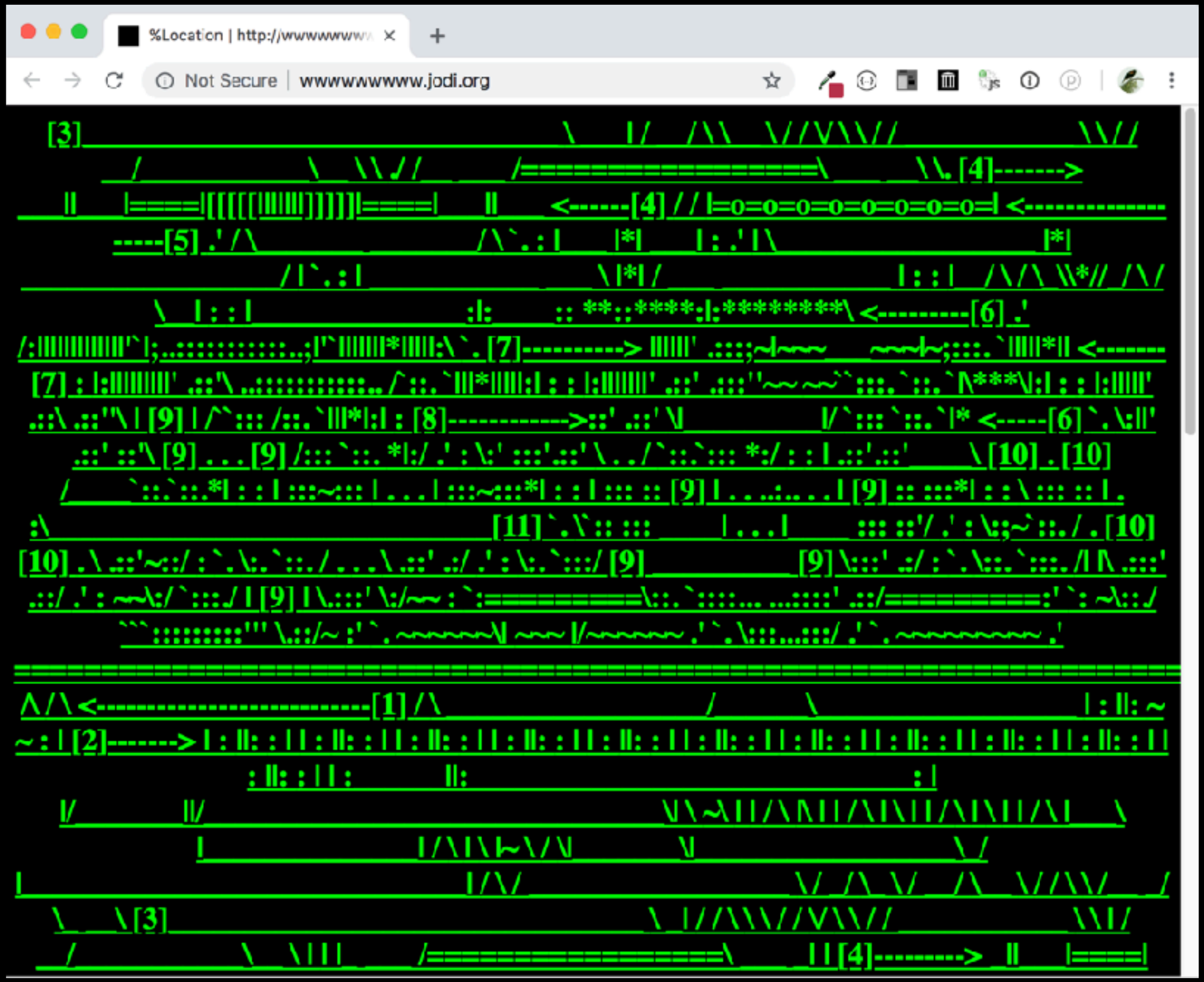
Auriea Harvey (Entropy8) + Michaël Samyn (Zuper!)
Entropy8Zuper!



skinonskinonskin, 1999
Auriea Harvey (Entropy8) + Michaël Samyn (Zuper!)
Entropy8Zuper!



skinonskinonskin, 1999
Auriea Harvey (Entropy8) + Michaël Samyn (Zuper!)
Entropy8Zuper!



[jodi.org](), 1999 - 2001

89 Steps, 2014
Union Docs

Pool

Not Secure | dinakelberman.com/poolpoem/

[Pool Poem](), 2017
Dina Kelberman

fonts

serif / san serif

Aa Aa

serif

san serif

Default Web Fonts

Verdana
Arial
Arial Narrow
Arial Black
Helvetica
Century Gothic
Courier
Courier New
COPPERPLATE GOTHIC
Times
Times New Roman
Georgia

Geneva
Gill Sans
Tahoma
Trebuchet
Comic Sans
Impact
Palatino Linotype
Book Antiqua
Lucida Console
Lucida Sans Unicode
Serif
Sans-Serif

Font stack

It’s important to understand that the browser will only display font if it’s installed on user’s computer.

Font stack - a collection of more than one typeface in an order of preference to be displayed in the browser if some of the typefaces are not found.

```
{
  font-family: Georgia, Courier, serif;
}
```

font-family property sets the font in your CSS

Presented as a hierarchy of choices (1st choice, 2nd choice, 3rd choice) so it's good to have a fallback for older browsers that can't render

```
body {
    font-family: Georgia, Courier, serif;
}
h1, h2, h3 {
    font-family: Arial, Verdana, sans-serif;
}
```

Font

Padding is the space btw the border + the content.

Some Properties:

- font-family
- color
- font-size
- line-height
- text-align

Font

Padding is the space btw the border + the content.

text-decoration — underline, strike thru or none (eg to unset underline on hyperlinks

text-transform — change font **case** (eg uppercase, lower, capitalize, none)

font-style — set to italic or normal

font-weight — set to bold or normal

letter-spacing — controls the space btw letters

Google Font API

Add link in **<head>** of HTML

```
<link href="https://fonts.googleapis.com/css?
family=Roboto" rel=“stylesheet">
```

Use with font-family property in CSS

```
font-family: 'Roboto', sans-serif;
```

responsive

"A pixel is not a pixel"

— Peter Paul Koch

“If the pixel density of the output device is very different from that of a typical computer display, the user agent should rescale pixel values. It is recommended that the pixel unit refer to the whole number of device pixels that best approximates the reference pixel. It is recommended that the reference pixel be the visual angle of one pixel on a device with a pixel density of 96dpi and a distance from the reader of an arm's length.” — w3 consortium

```
<!
—  - Tells the browser to match the device's width for the viewport
    - Sets an initial zoom value -->

<meta name="viewport" content="width=device-width, initial-scale=1.0”>
```

<!- Moving forward this line of code should be in EVERY web page you author. —>

<meta name="viewport" content="width=device-width, initial-scale=1.0”>

```
<!DOCTYPE html>
<html>

 <head>
  <title> 🖥️ Web Dev Week 06</title>
  <link href="https://fonts.googleapis.com/css?family=Spartan|Trade+Winds&display=swap" rel="stylesheet">
  <meta charset="utf-8">
  <meta name="viewport" content="width=device-width, initial-scale=1">
  <link rel="stylesheet" type="text/css" href="theStyle.css">
 </head>

 <body>
```

```
<!-- upcoming question - what is this? -->
```

<meta charset=“utf-8”>

<meta name="viewport" content="width=device-width, initial-scale=1.0”>

without

with

Metadata: `viewport`

The user's visible area of a web page

HTML5 introduced a method to let web designers take control over the viewport, through the **<meta>** tag.

Let's breakdown the `content` value:

+ Values are comma separated, letting you specify a list of values for `content`
+ The `width` value is set to `device-width`. This will cause the browser to render the page at the same width of the device's screen size.
+`initial-scale` set to `1` indicates the "zoom" value if your web page when it is first loaded. `1` means "no zoom."

There are other values you can specify for the `content` list -

```
<meta name="viewport" content="width=device-width, initial-scale=1.0”>
```

Metadata: `viewport`

There are other values you can specify for the `content` attribute -

```
<meta name="viewport" content="width=device-width, initial-scale=1.0”>
```

500px

minimum-scale
maximum-scale
user-scalable

```
1   <!DOCTYPE html>
2   <html>
3
4     <head>
5       <title> 🖥️ Web Dev Week 06</title>
6       <link href="https://fonts.googleapis.com/css?family=Spartan|Trade+Winds&display=swap" rel="stylesheet">
7       <meta charset="utf-8">
8       <meta name="viewport" content="width=device-width, initial-scale=1">
9       <link rel="stylesheet" type="text/css" href="theStyle.css">
10    </head>
11
12    <body>
```

<meta charset="utf-8">

responsive units of measurement

vw + vh

VIEWPORT WIDTH // VIEWPORT HEIGHT

- Use units **vh** and **vw** to set height and width to the percentage of the viewport's height and width, respectively

- 1vh = 1/100th of the viewport height
- 1vw = 1/100th of the viewport width

```
div {
   width:10vw;
   height: 10vw;
 }
```

responsive text

The text size can be set with a "vw" unit, which means the "viewport width".

That way the text size will follow the size of the browser window.

```
div {
 font-size:10vw
 }
```

Media Queries

the @media rule tells the browser to include a block of CSS properties only if a certain condition is true.

So this:

```
@media only screen and (max-width: 500px)  {
    body {
        background-color: light blue;
    }
}
```

Translates to:

```
if (the maximum width of the web page is 500 pixels) {
        then do this stuff
}
```

Media Queries

Breakpoint

```
/* For mobile phones: */
[class*="col-"] {
    width: 100%;
}
@media only screen and (min-width: 768px) {
    /* For desktop: */
    .col-1 {width: 8.33%;}
    .col-2 {width: 16.66%;}
    .col-3 {width: 25%;}
    .col-4 {width: 33.33%;}
    .col-5 {width: 41.66%;}
    .col-6 {width: 50%;}
    .col-7 {width: 58.33%;}
    .col-8 {width: 66.66%;}
    .col-9 {width: 75%;}
    .col-10 {width: 83.33%;}
    .col-11 {width: 91.66%;}
    .col-12 {width: 100%;
}
```

add a **breakpoint** where certain parts of the design will behave differently on each side of the breakpoint

many examples: https://www.w3schools.com/Css/css_rwd_mediaqueries.asp

Mobile-first! (Images)

```
/* For width smaller than 400px: */
body {
    background-image: url(‘void_newspaper.jpg’);
}

/* For width 400px and larger: */
@media only screen and (min-width: 400px) {
    body {
        background-image: url('void.jpg');
    }
}
```

Display Property

```
display: none;   —- html elements default visible

                 —- override default html position
display: inline;
display: block;

          —- responsive way to deal with positioning
display: flex;
display: grid;
```

Overriding Default Display

Changing an inline element to a block element, or vice versa, can be useful for making the page look a specific way, and still follow the web standards.

```
li {
    display: inline;
}

span {
    display: block;
}
```

Note: Setting the display property of an element only changes how the element is displayed, NOT what kind of element it is. So, an inline element with display: block; is not allowed to have other block elements inside it.

flex display

Flex - different rendering model

When you set a container to **display: flex**, the direct children in that container are **flex items** + follow a new set of rules.

Flex items are not block or inline; they have different rules for their height, width + layout.

- The **contents** of a flex item follow the usual block/inline rules, relative to the flex item's boundary.

Flex Basics

Flex layouts are composed of:

a **Flex container**, which contains one or more:

Flex item(s)

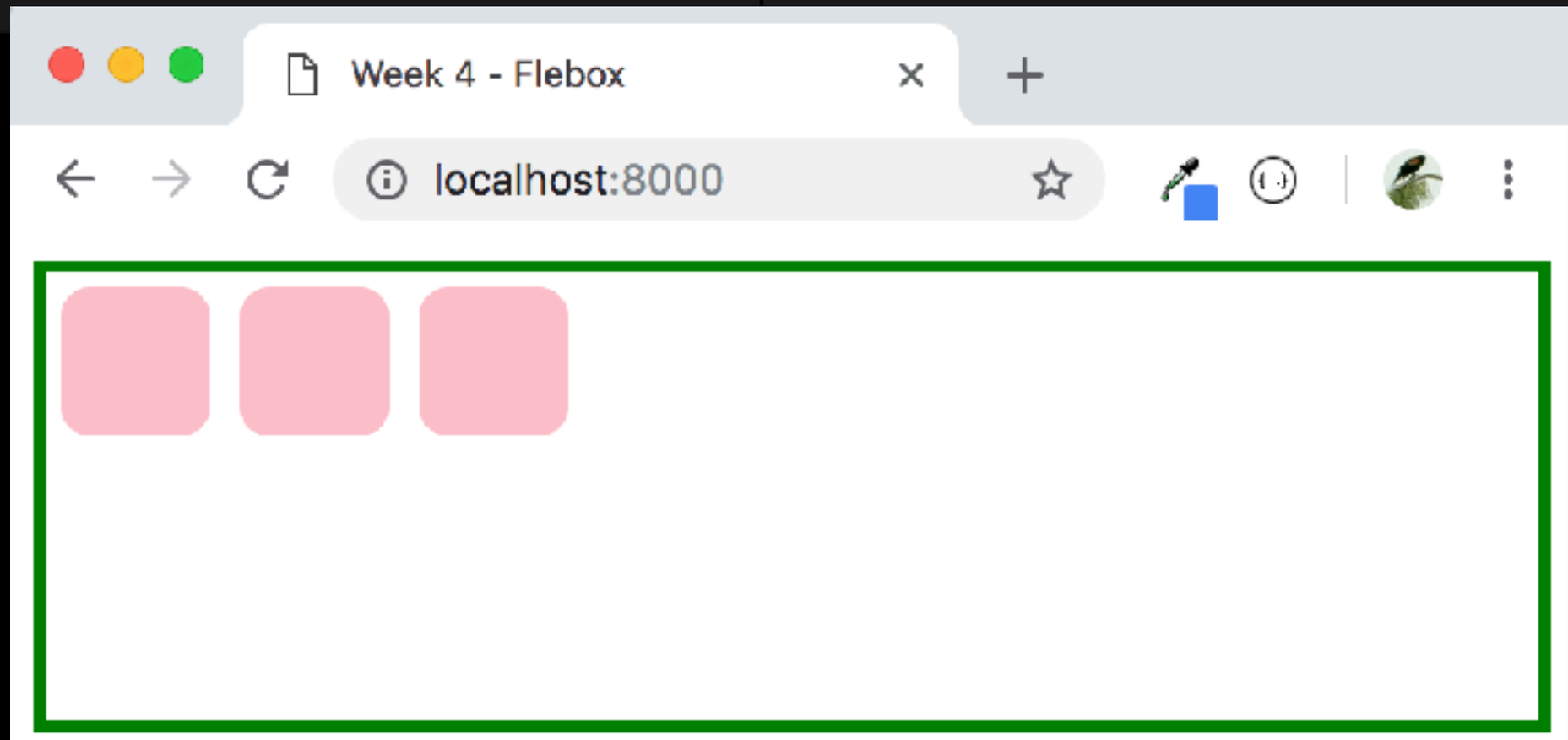
To make an element a flex container, change display:

- Block container: display: flex;
- Inline container: display: inline-flex;

Flex Basics

```
</head>

<body>

    <div id="flexBox">
     <div class="flexThing"></div>
     <div class="flexThing"></div>
     <div class="flexThing"></div>

    </div>
</body>
```

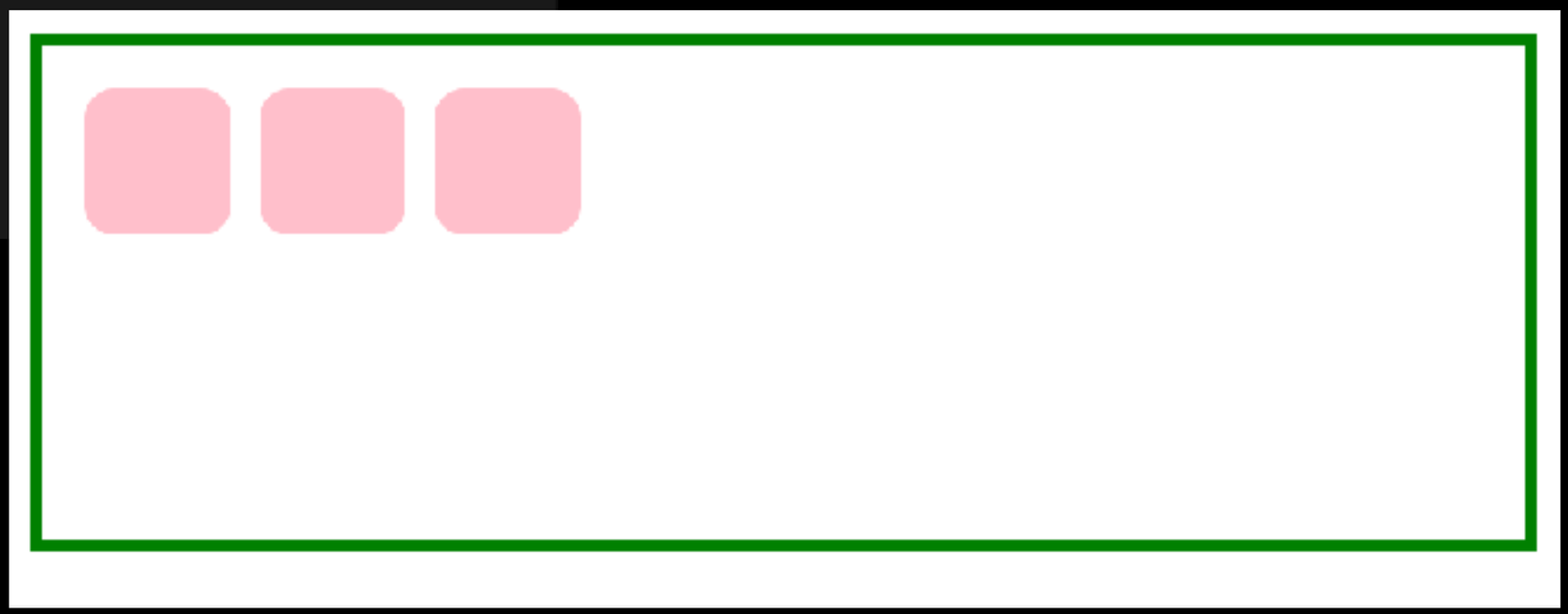
```
#flexBox {
    display: flex;
    border: 4px solid Green;
    height: 150px;
}

.flexThing {
    border-radius: 10px;
    background-color: pink;
    height: 50px;
    width: 50px;
    margin: 5px;
}
```



Flex Basics: justify-content

You can control where the item is horizontally in the box by setting **justify-content** in the flex container.

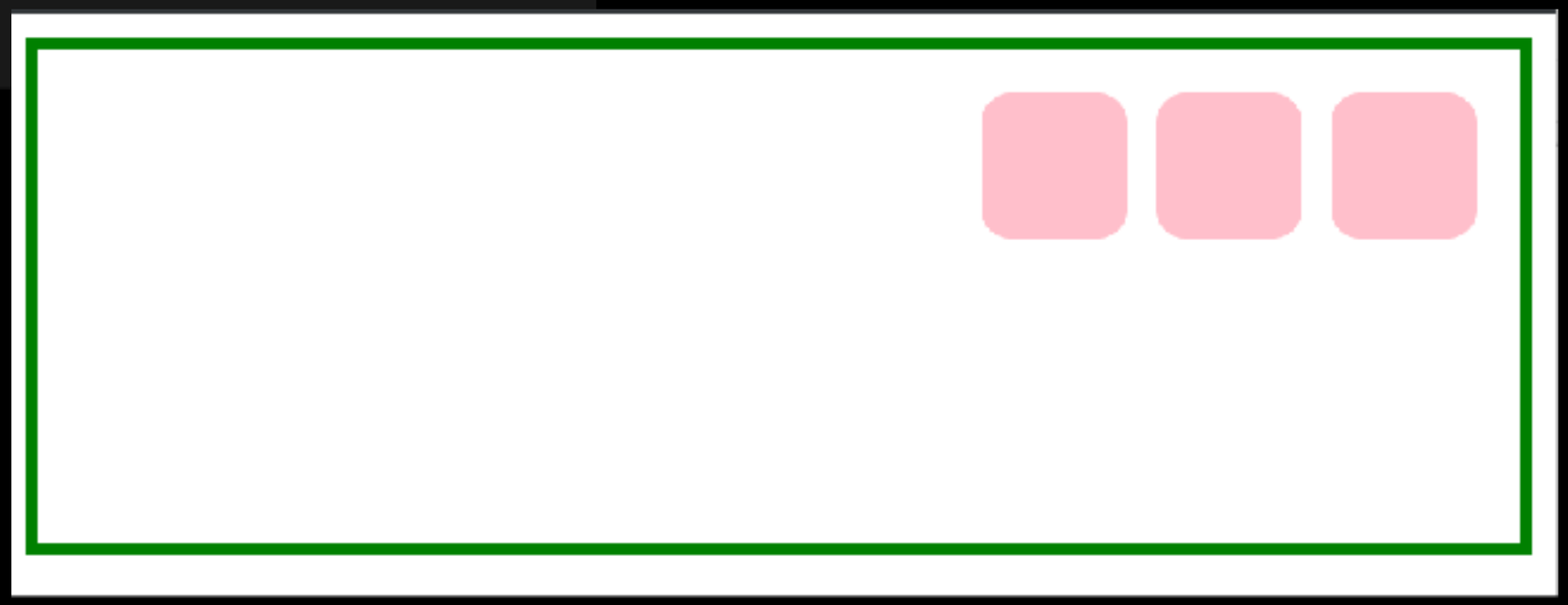
```
#flexBox {
    display: flex;
    border: 4px solid Green;
    justify-content: flex-start;
    padding: 10px;
    height: 150px;
}
```



Flex Basics: justify-content

You can control where the item is horizontally in the box by setting **justify-content** in the flex container.

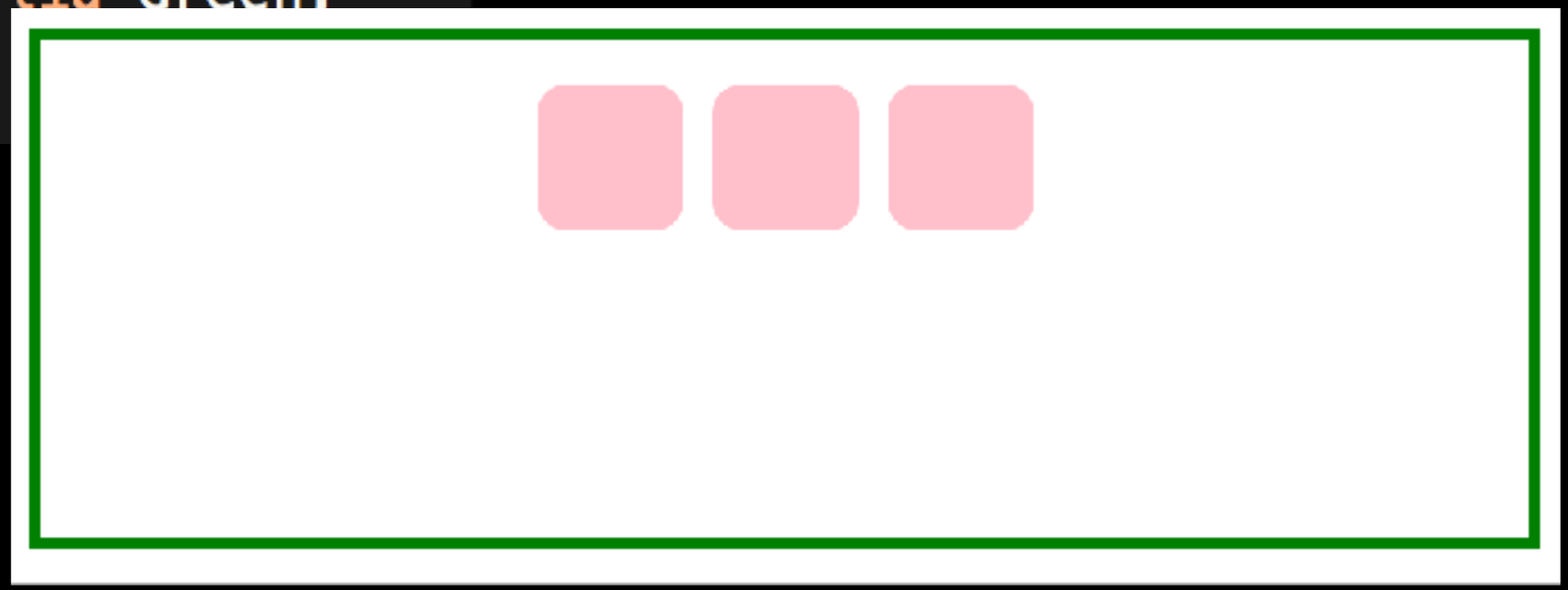
```
#flexBox {
    display: flex;
    justify-content: flex-end;
    padding: 10px;
    height: 150px;
    border: 4px solid Green;
}
```



Flex Basics: justify-content

You can control where the item is horizontally in the box by setting **justify-content** in the flex container.

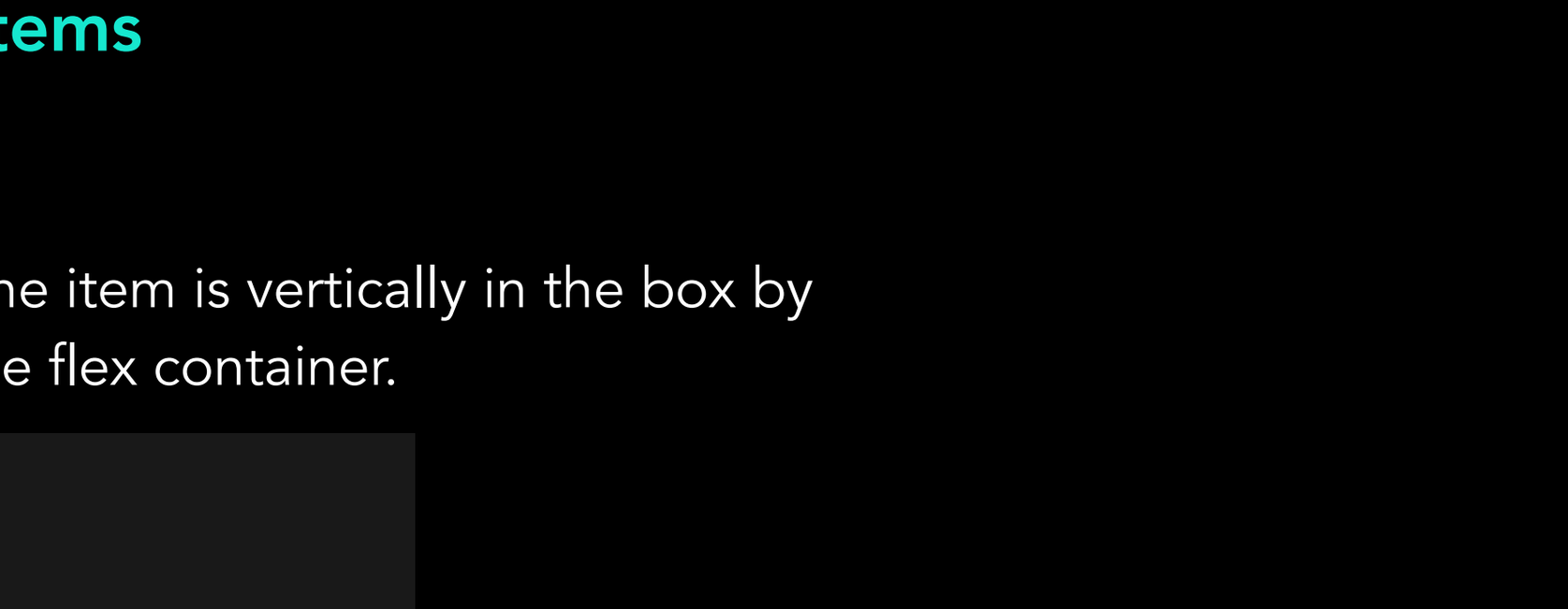
```
#flexBox {
    display: flex;
    justify-content: center;
    padding: 10px;
    height: 150px;
    border: 4px solid Green;
}
```



Flex Basics: align-items

You can control where the item is vertically in the box by setting **align-items** in the flex container.

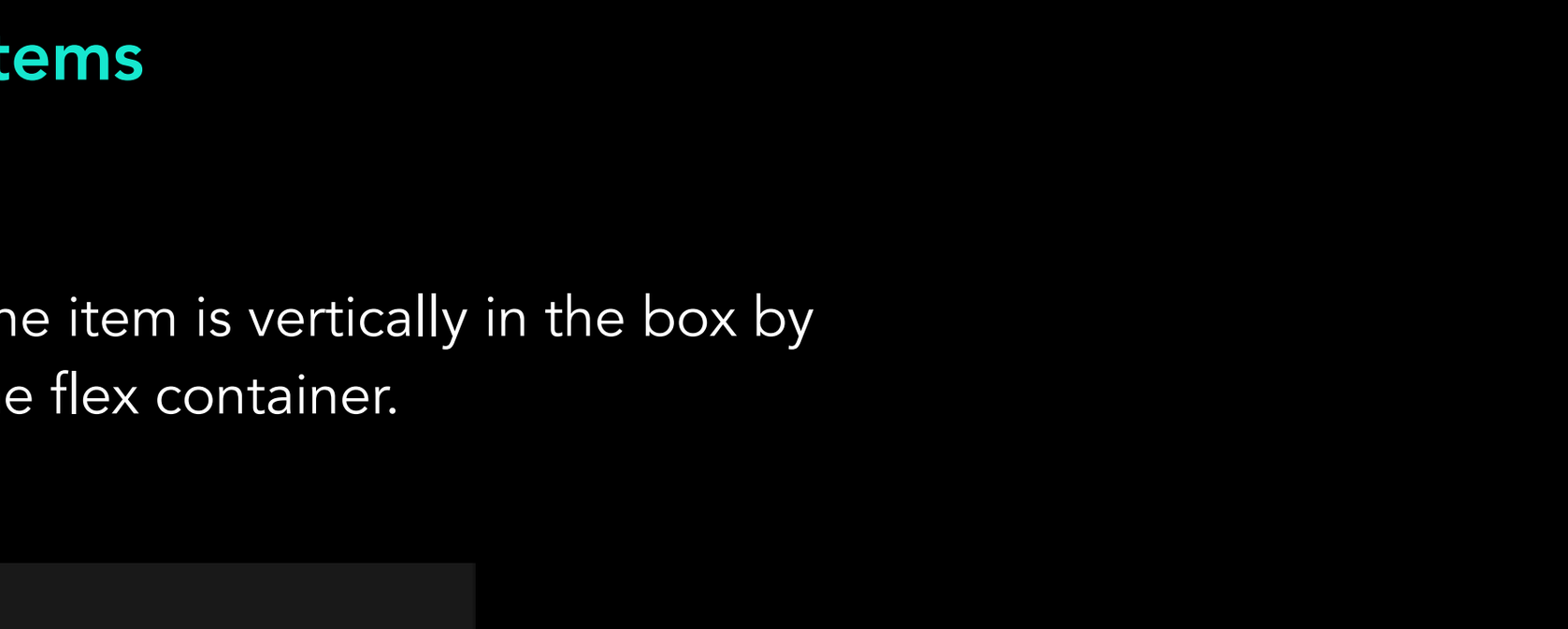
```
#flexBox {
    display: flex;
    align-items: flex-start;
    padding: 10px;
    height: 150px;
    border: 4px solid Green;
}
```



Flex Basics: align-items

You can control where the item is vertically in the box by setting **align-items** in the flex container.

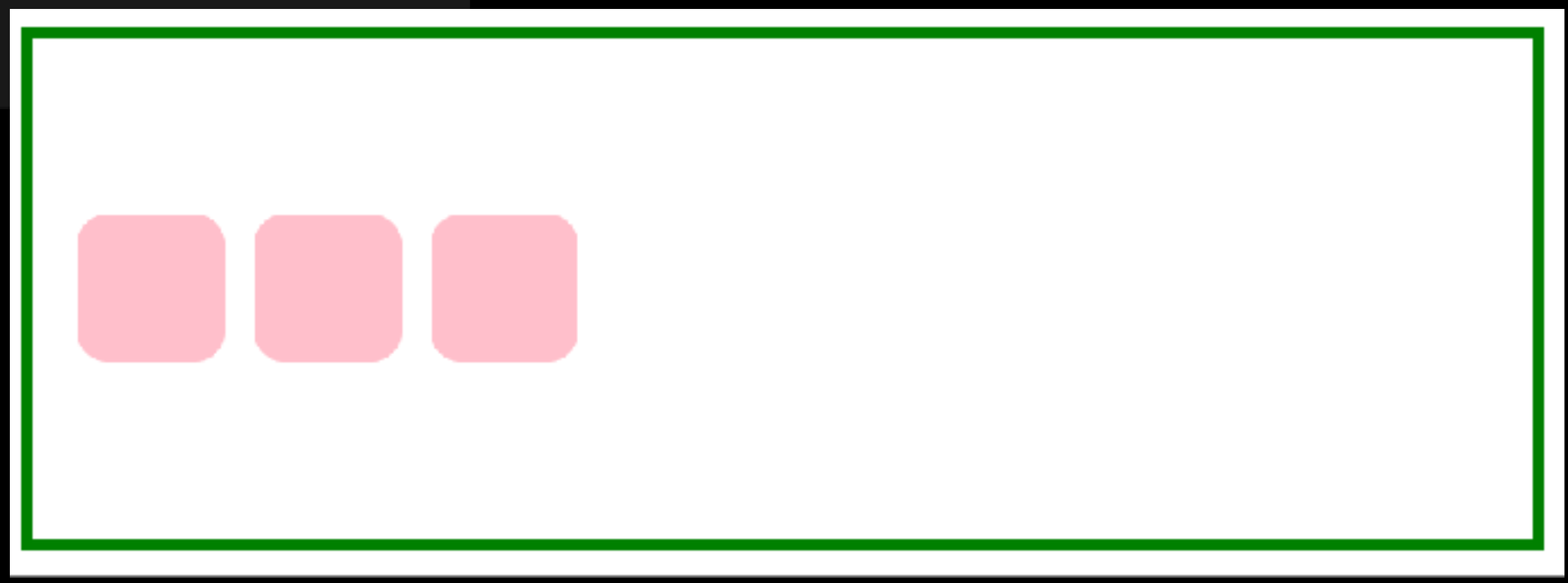
```
#flexBox {
    display: flex;
    align-items: flex-end;
    padding: 10px;
    height: 150px;
    border: 4px solid
}
```



Flex Basics: align-items

You can control where the item is vertically in the box by setting **align-items** in the flex container.

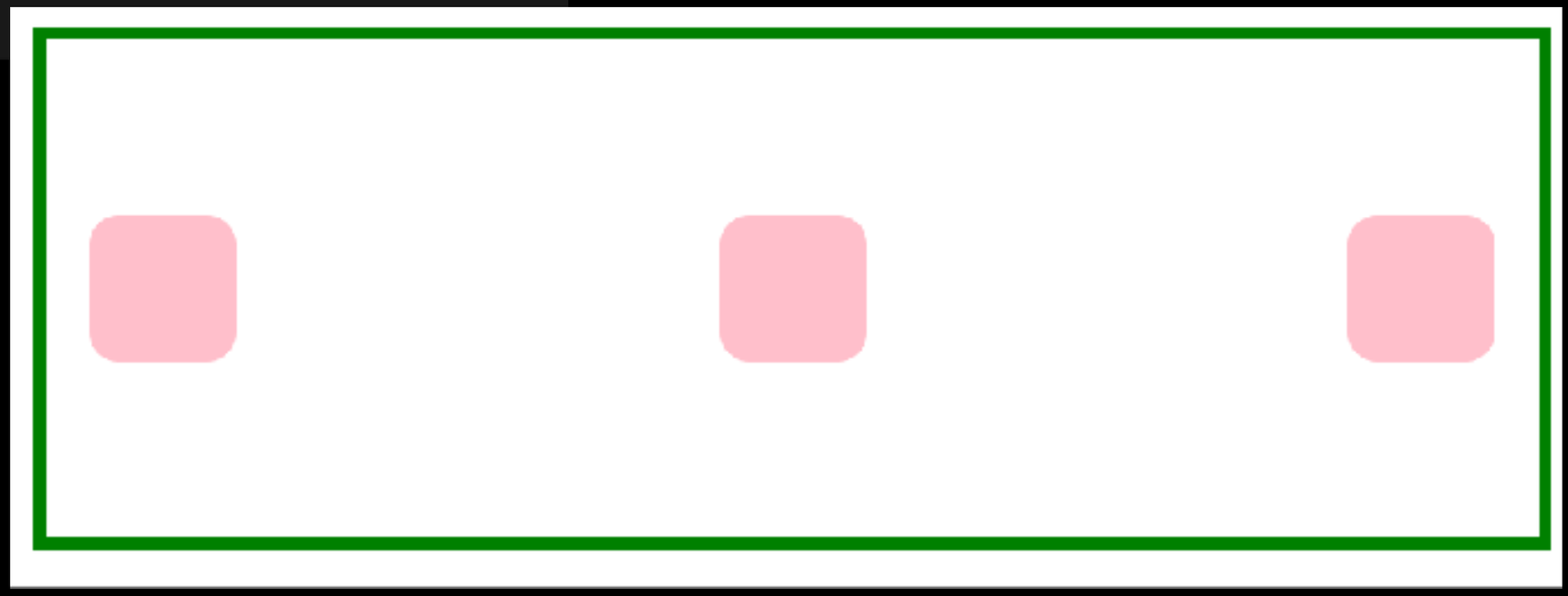
```
#flexBox {
    display: flex;
    align-items: center;
    padding: 10px;
    height: 150px;
    border: 4px solid Green;
}
```



Flex Basics:

justify-content: space-between + space-around

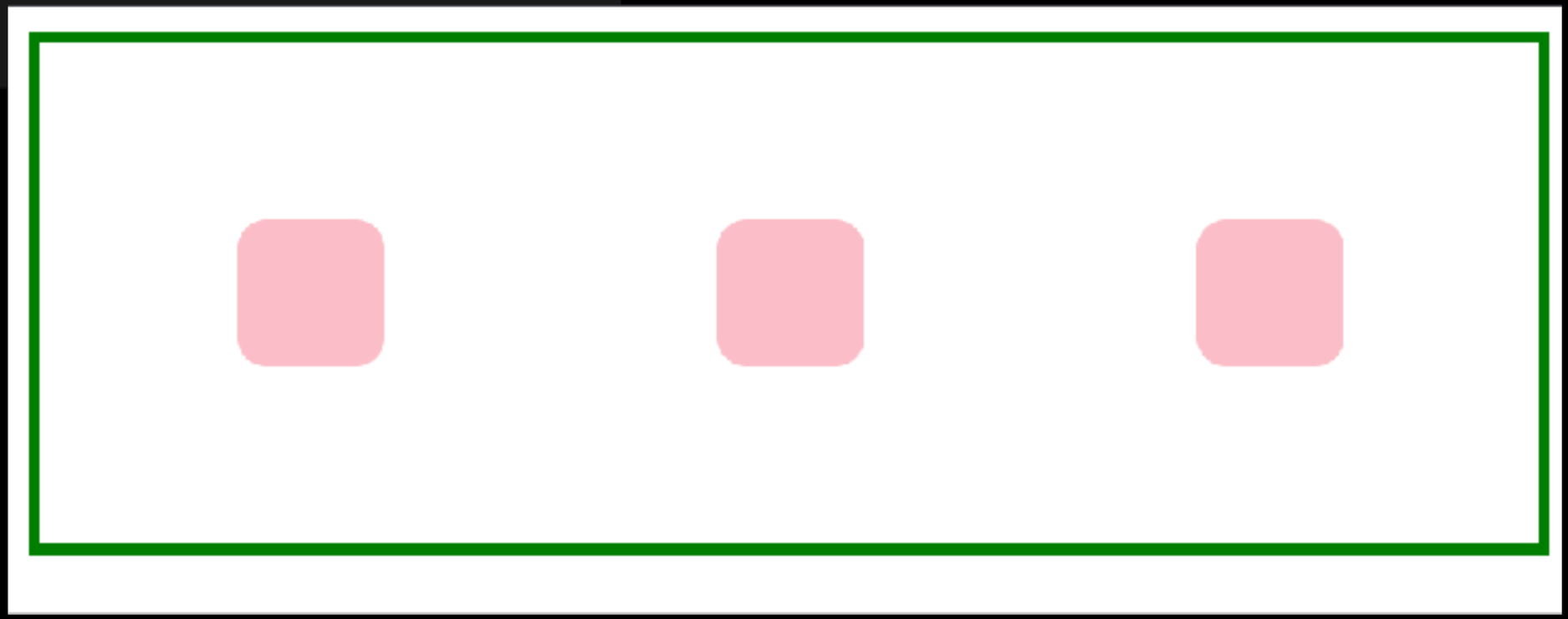
```
#flexBox {
    display: flex;
    justify-content: space-between;
    align-items: center;
    padding: 10px;
    height: 150px;
    border: 4px solid Green;
}
```



Flex Basics:

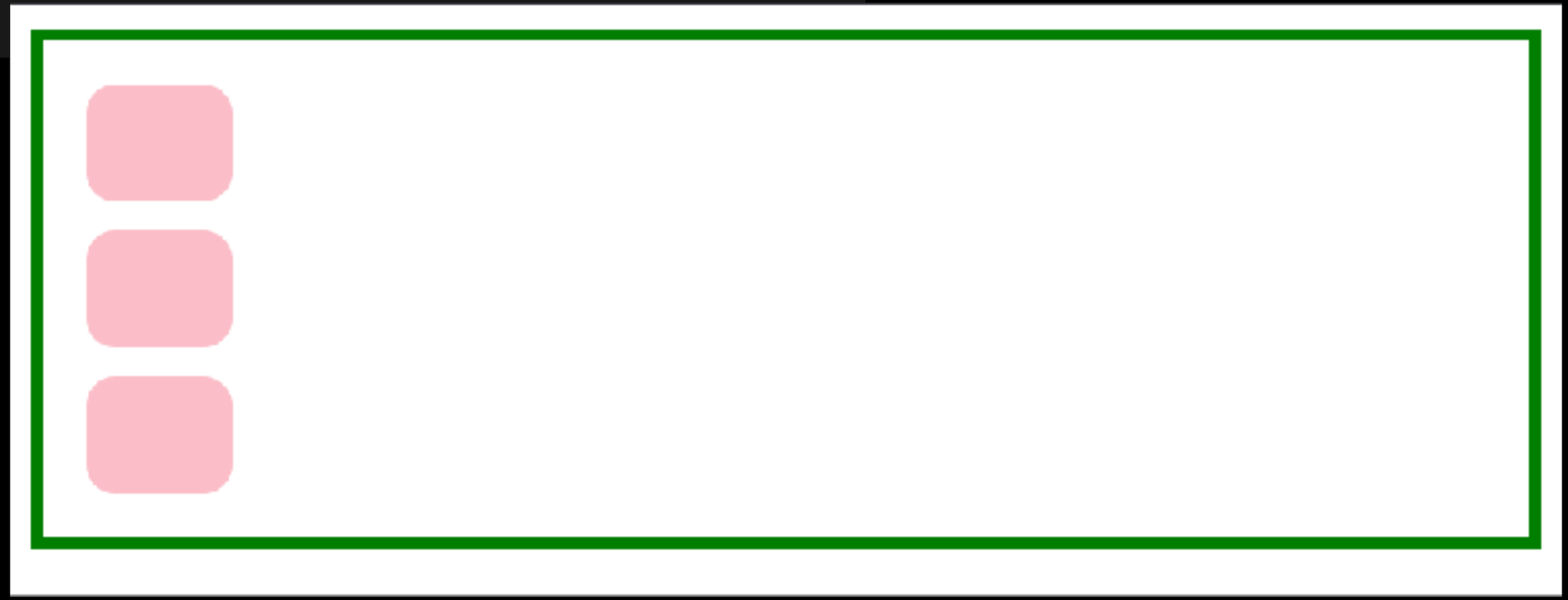
justify-content: space-between + space-around

```
#flexBox {
    display: flex;
    justify-content: space-around;
    align-items: center;
    padding: 10px;
    height: 150px;
    border: 4px solid Green;
}
```



Flex Basics: flex-direction

```
#flexBox {
    display: flex;
    flex-direction: column;
    padding: 10px;
    height: 150px;
    border: 4px solid Green;
}
```



Flex Basics: flex-direction

```
#flexBox {
    display: flex;
    flex-direction: column;
    justify-content: center;
    padding: 10px;
    height: 300px;
    border: 4px solid Green;
}
```

Now **justify-content** controls where the column is vertically in the box.

Flex Basics: flex-direction

```
#flexBox {
    display: flex;
    flex-direction: column;
    justify-content: space-around;
    padding: 10px;
    height: 300px;
    border: 4px solid Green;
}
```

And you can also lay out columns instead of rows.

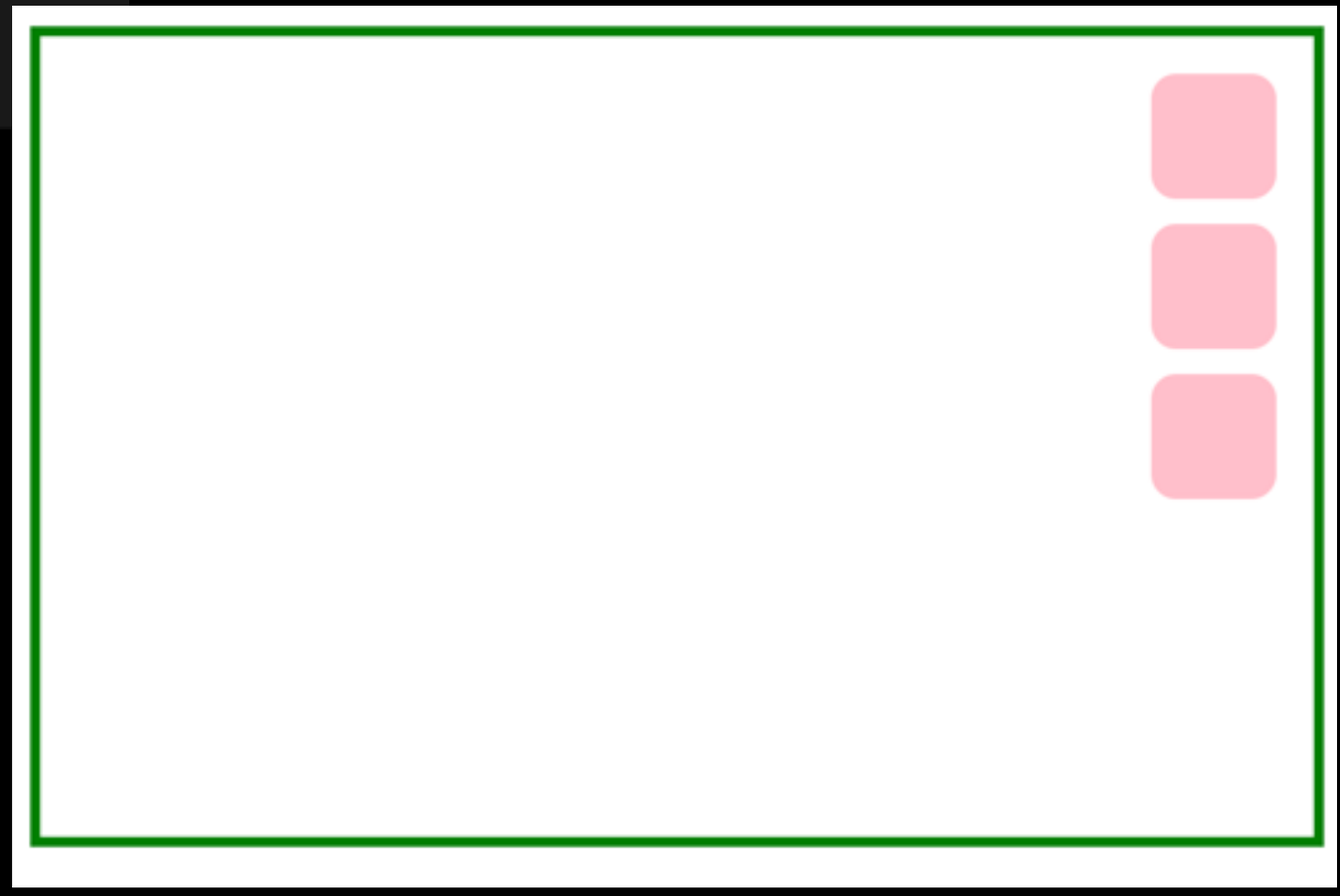
Now **justify-content** controls where the column is vertically in the box.

Flex Basics: flex-direction

```
#flexBox {
    display: flex;
    flex-direction: column;
    align-items: flex-end;
    padding: 10px;
    height: 300px;
    border: 4px solid Green;
}
```

And you can also lay out columns instead of rows.

Now **align-items** controls where the column is horizontally in the box.



Flex Basis

Flex items have an initial width*, which, by default is either:

- The content width, or
- The explicitly set **width** property of the element, or
- The explicitly set **flex-basis** property of the element

This initial width* of the flex item is called the **flex basis**.

The explicit width of a flex item is respected **for all flex items**, regardless of whether the flex item is inline, block, or inline-block.*

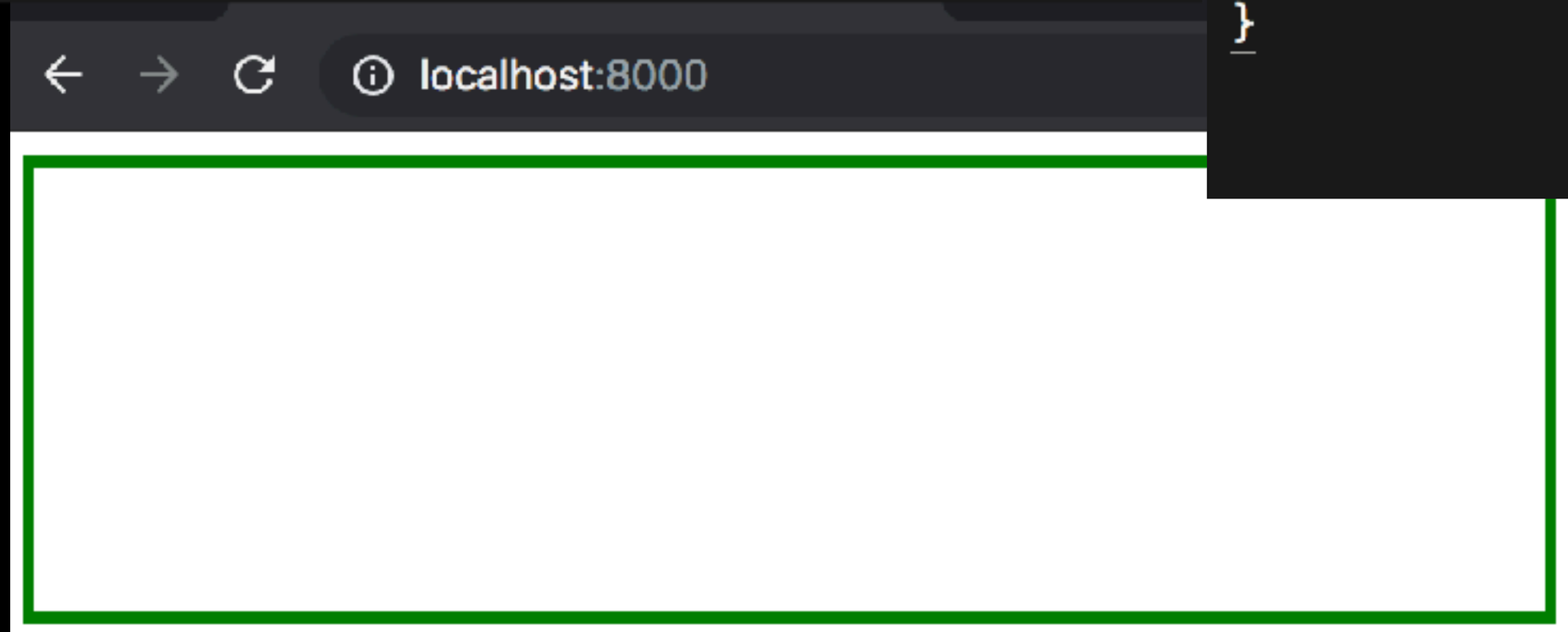
*width in the case of rows; height in the case of columns

Flex Basis

If we unset the height and width, our flex items disappears, because the **flex basis** is now the content size, which is empty:

```
<div id="flexBox">
 <span class="flexThing"></span>
 <div class="flexThing"></div>
 <span class="flexThing"></span>
</div>
```

```
#flexBox {
    display: flex;
    border: 4px solid Green;
    height: 150px;
}

.flexThing {
    border-radius: 10px;
    background-color: pink;
    margin: 5px;
}
```



flex-shrink

The width* of the flex item can automatically shrink **smaller** than the **flex basis** via the **flex-shrink** property:

flex-shrink:

- If set to **1**, the flex item shrinks itself as small as it can in the space available
- If set to **0**, the flex item does not shrink.

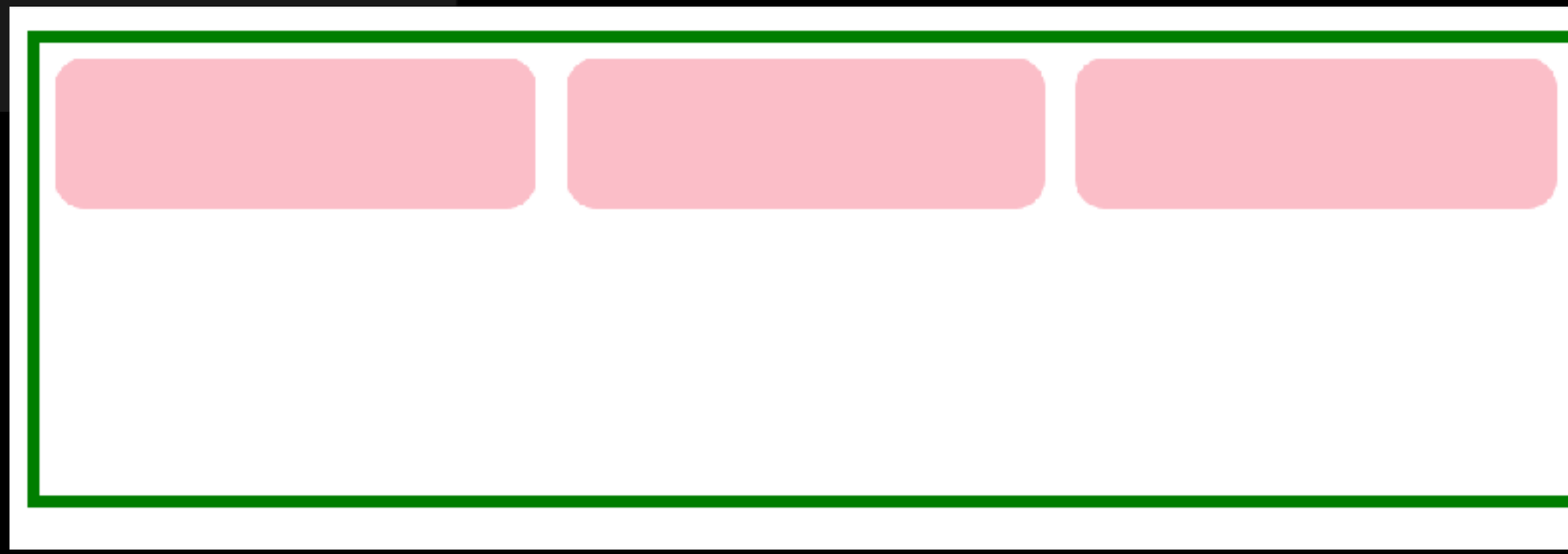
Flex items have **flex-shrink**: **1 by default**.

*width in the case of rows;
height in the case of columns

flex-shrink

```
#flexBox {
    display: flex;
    align-items: flex-start;
    border: 4px solid Green;
    height: 150px;
}

.flexThing {
    width: 500px;
    height: 50px;
    border-radius: 10px;
    background-color: pink;
    margin: 5px;
}
```

The flex items' widths all shrink to fit the width of the container.



flex-shrink

```
.flexThing {
    width: 500px;
    height: 50px;
    flex-shrink: 0;
    border-radius: 10px;
    background-color: pink;
    margin: 5px;
}
```

Setting **flex-shrink**: **0**;
undoes the shrinking behavior,
and the flex items do not
shrink in any circumstance:

flex-grow

The width* of the flex item can automatically **grow larger** than the **flex basis** via the **flex-grow** property:

flex-grow:

- If set to **1**, the flex item grows itself as large as it can in the space remaining
- If set to **0**, the flex item does not grow

Flex items have **flex-grow**: **0 by default**.

*width in the case of rows;
height in the case of columns

flex-grow

Let’s unset the height + width of our flex items again.

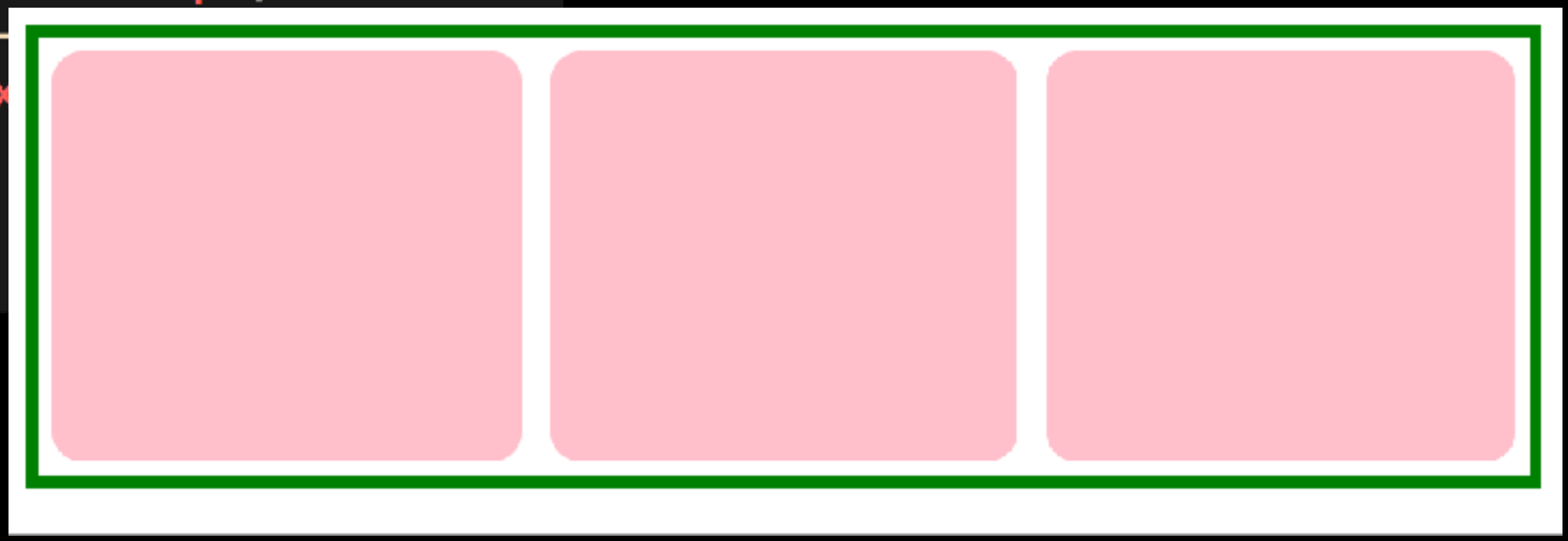
```
<div id="flexBox">
 <span class="flexThing"></span>
 <div class="flexThing"></div>
 <span class="flexThing"></span>
</div>
```

```
#flexBox {
    display: flex;
    border: 4px solid Green;
    height: 150px;
}

.flexThing {
    border-radius: 10px;
    background-color: pink;
    margin: 5px;
}
```

flex-grow

if we set **flex-grow: 1;**
the flex items fill the empty space.

```
#flexBox {
    display: flex;
    border: 4px solid Green;
    height: 150px;
}

.flexThing {
    flex-grow: 1;
    border-radius: 10px;
    background-
    margin: 5px
}
```

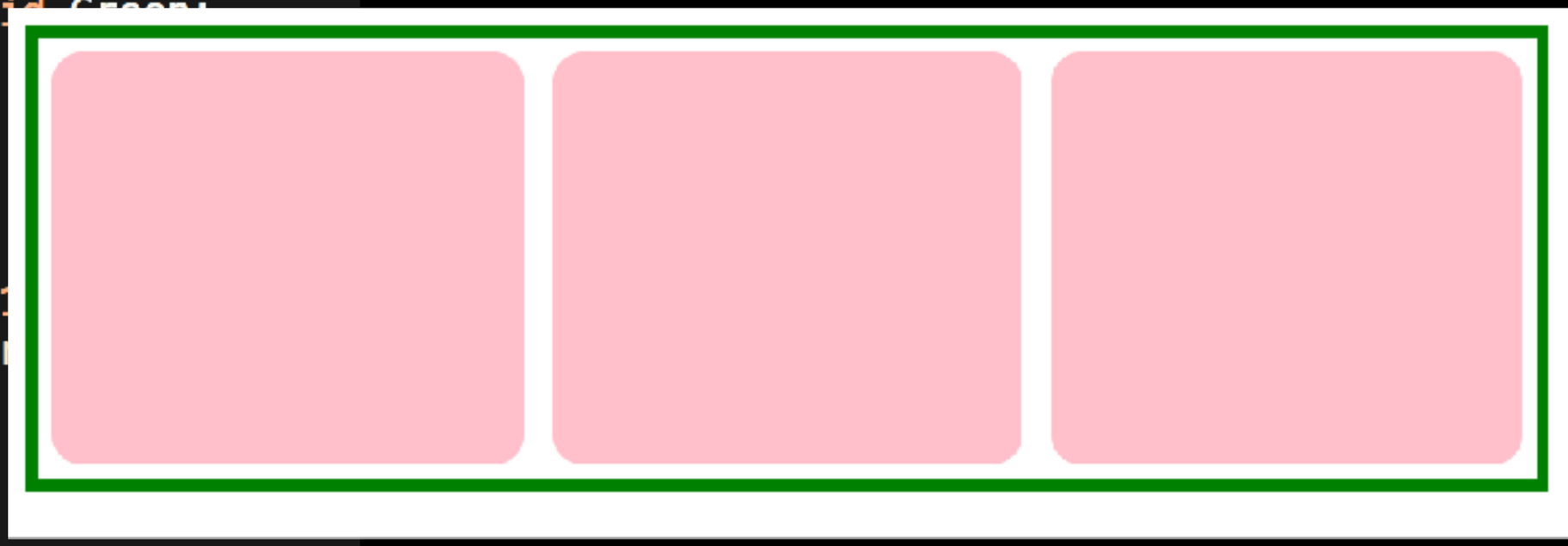


flex item height?**

note that **flex-grow** only controls width*

So why does the height** of the flex items seem to ‘grow’ as well?

```
#flexBox {
    display: flex;
    border: 4px soli
    height: 150px;
}

.flexThing {
    flex-grow: 1;
    border-radius:
    background-colo
    margin: 5px;
}
```



*width in the case of rows; height in the case of columns

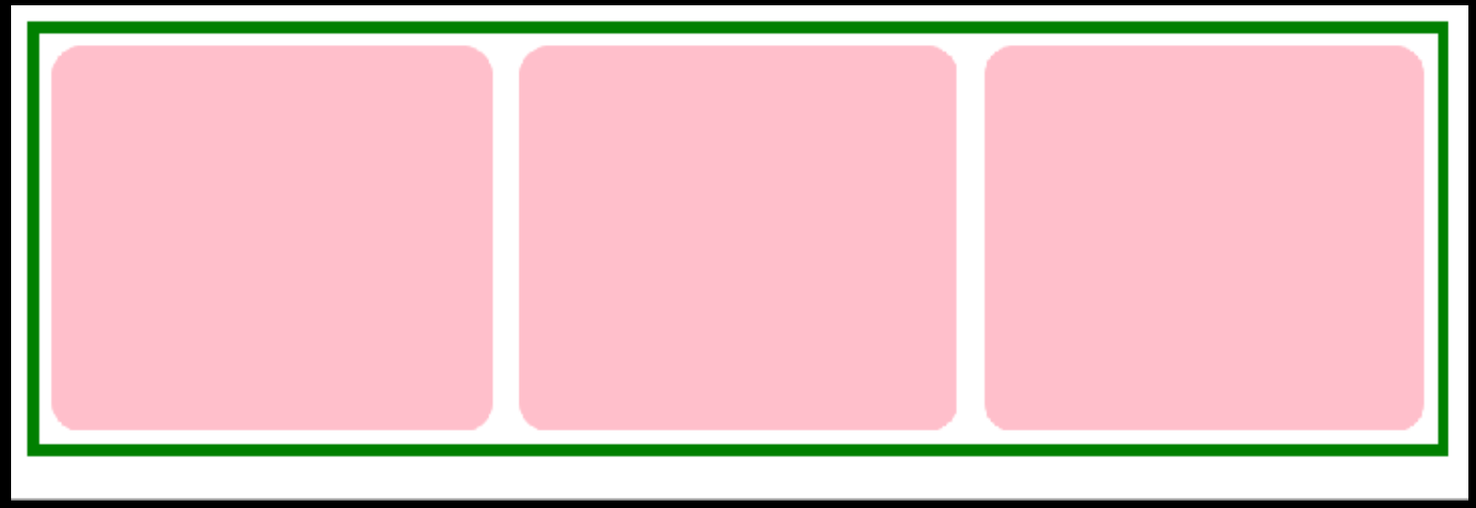
**height in the case of rows; width in the case of columns

align-items: stretch;

The default value of **align-items** is stretch, which means every flex item grows vertically* to fill the container by default.

(This will not happen if the height on the flex item is set)

```
#flexBox {
    display: flex;
    border: 4px solid Green;
    height: 150px;
}

.flexThing {
    flex-grow: 1;
    border-radius: 10px;
    background-color: pink;
    margin: 5px;
}
```



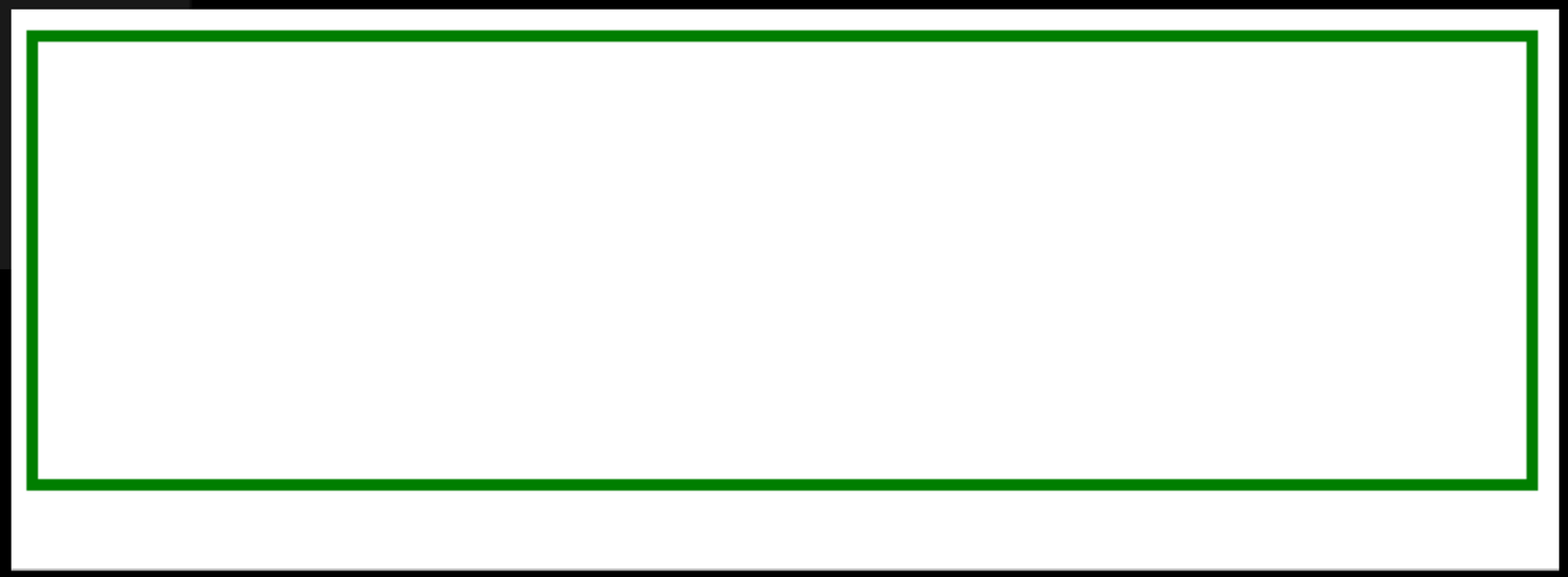
*veritcally in the case of rows; horizontally in the case of columns

align-items: stretch;

If we set another value for align-items, the flex items disappear again because the height is now content height, which is 0:

```
#flexBox {
    display: flex;
    align-items: flex-start;
    border: 4px solid Green;
    height: 150px;
}
```

```
.flexThing {
    flex-grow: 1;
    border-radius: 10px;
    background-color: pink;
    margin: 5px;
}
```



css grids

Flexbox & CSS Grid

"The basic difference between CSS Grid Layout and CSS Flexbox Layout is that flexbox was designed for layout in one dimension - either a row or a column. Grid was designed for two-dimensional layout - rows, and columns at the same time. The two specifications share some common features, however, and if you have already learned how to use flexbox, the similarities should help you get to grips with Grid."

MDN

The flex-direction property defines in which direction the container wants to stack the flex items - either flex-direction: row or flex-direction: column. However, by using flex-wrap property. Read all about **CSS Flexbox @ W3**.

CSS Grid

A grid is an intersecting set of horizontal and vertical lines - one set defining columns and the other rows. Elements can be placed onto the grid, respecting these column and row lines.

How Grid Layout Works

The process for using the CSS Grid Layout Module is fundamentally simple:

+ Use the display property to turn an element into a grid container. The element's children automatically become grid items.
+ Set up the columns and rows for the grid. You can set them up explicitly and/or provide directions for how rows and columns should get created on the fly (the css grid is very flexible).
+ Assign each grid item to an area on the grid. If you don't assign them explicitly, they flow into the cells sequentially.

The element that has the display: **grid property** applied to it becomes the grid container and defines the context for grid formatting. All of its direct child elements automatically become grid items that end up positioned in the grid. You can define an explicit grid with grid layout but the specification also deals with the content added outside of a declared grid, which adds additional rows and columns when needed. Features such as adding "as many columns that will fit into a container" are included.

Grid line

The horizontal and vertical dividing lines of the grid are called grid lines.

Grid cell

The smallest unit of a grid is a grid cell, which is bordered by four adjacent grid lines with no grid lines running through it.

Grid area

A grid area is a rectangular area made up of one or more adjacent grid cells.

Grid track

The space between two adjacent grid lines is a grid track, which is a generic name for a grid column or a grid row. Grid columns are said to go along the block axis, which is vertical (as block elements are stacked) for languages written horizontally. Grid rows follow the inline (horizontal) axis.

The structure established for the grid is independent from the number of grid items in the container. You could place 4 grid items in a grid with 12 cells, leaving 8 of the cells as 'whitespace.' That's the flexibility of grids. You can also set up a grid with fewer cells than grid items, and the browser adds cells to the grid to accommodate them.

Grid Container Properties:

display

grid-template-columns

grid-template-rows

grid-template-areas

grid-template

grid-column-gap

grid-row-gap

grid-gap

justify-items

align-items

place-items

justify-content

align-content

place-content

grid-auto-columns

grid-auto-rows

grid-auto-flow

grid

CSS Tricks w/ links!

Grid Item Properites

grid-column-start

grid-column-end

grid-row-start

grid-row-end

grid-column

grid-row

grid-area

justify-self

align-self

place-self

CSS Grid Functions

repeat ( )

minmax ( )

fit-content ( )

Fr unit

flexible length

image files for the web

SVG

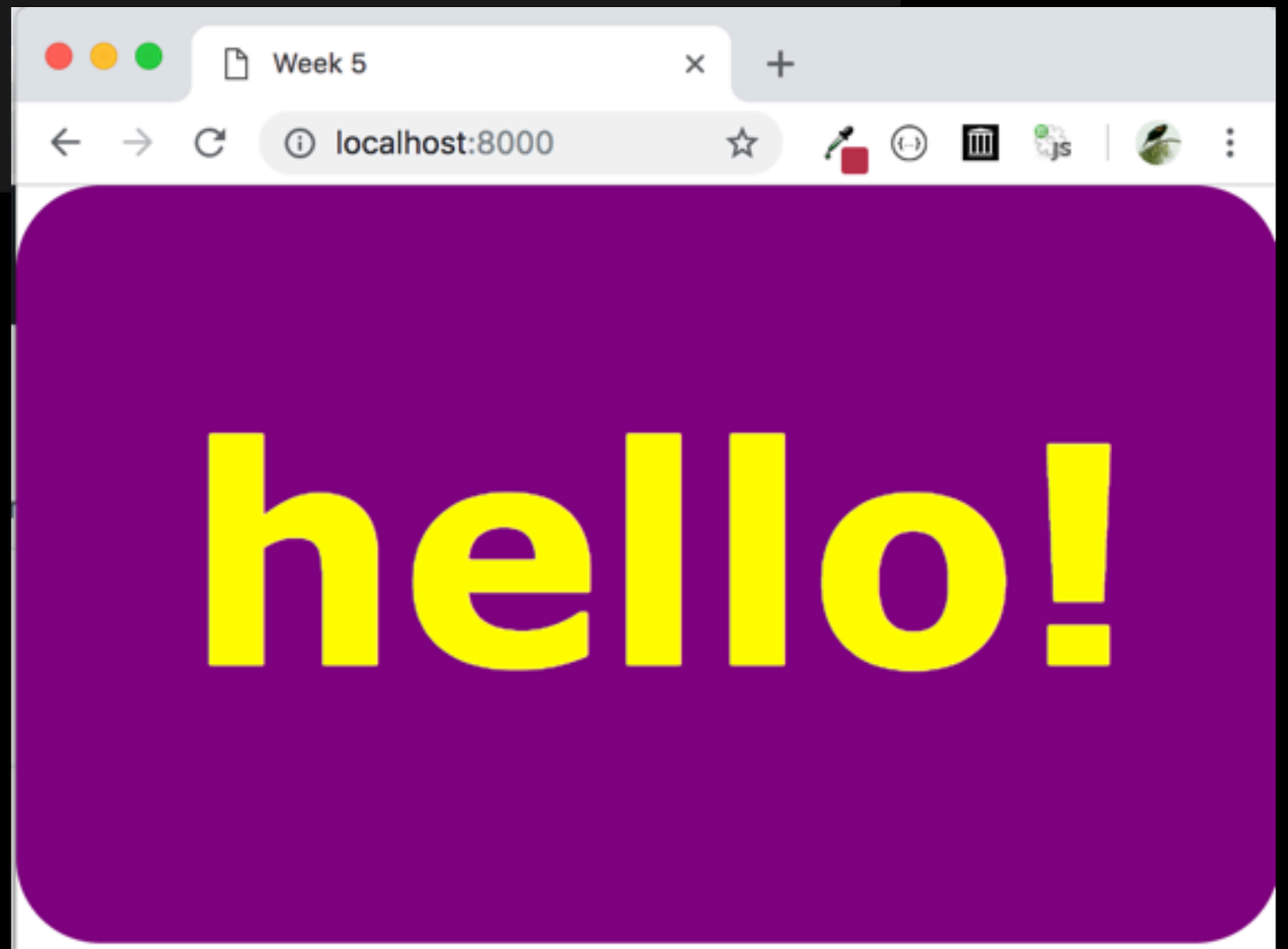
SVG is a 2D vector imaged based on an **XML** (Extensible Markup Language) syntax. It provides the rules and standards for how markup languages should be written and work together. As a result, SVG works well with HTML content.

In SVGs shapes and paths are specified by instructions written out in a text file. Let that sink in: they are images that are written out in text! All of the shapes and paths as well as their properties are written out in the standardized SVG markup language. As HTML has elements for paragraphs **<p>** and navigation **<table>**, SVG has elements that define shapes like rectangle **(rect)**, circle **(circle)**, and paths **(path)**.

A simple example will give you the general idea. Here is the SVG code that describes a rectangle **(rect)** with rounded corners (rx and ry, for x-radius and y-radius) and the word "hello" set as text with attributes for the font and color. Browsers that support SVG read the instructions and draw the image exactly as designed:

```
<svg xmlns="http://www.w3.org/2000/svg" viewBox="0 0 300 180">
  <rect width="300" height="180" fill="purple" rx="20" ry="20"/>
  <text x="40" y="114" fill="yellow" font-family="'Verdana-Bold'"
  font-size="72">
     hello!
  </text>
</svg>
```

```
rect:hover{
   fill:green;
}
```



SVG

Advantages of SVGs over bitmapped counterparts for certain image types:

Because they save only instructions for what to draw, they generally require **less data** than an image saved in a bitmapped format. That means faster downloads and better performance.

Because they are **vectors,** they can resize as needed in a responsive layout without loss of quality. An SVG is always nice and crisp. No fuzzy edges.

Because they are text, they integrate well with HTML/XML and can be compressed with tools like Gzip and Brotli, just like HTML files.

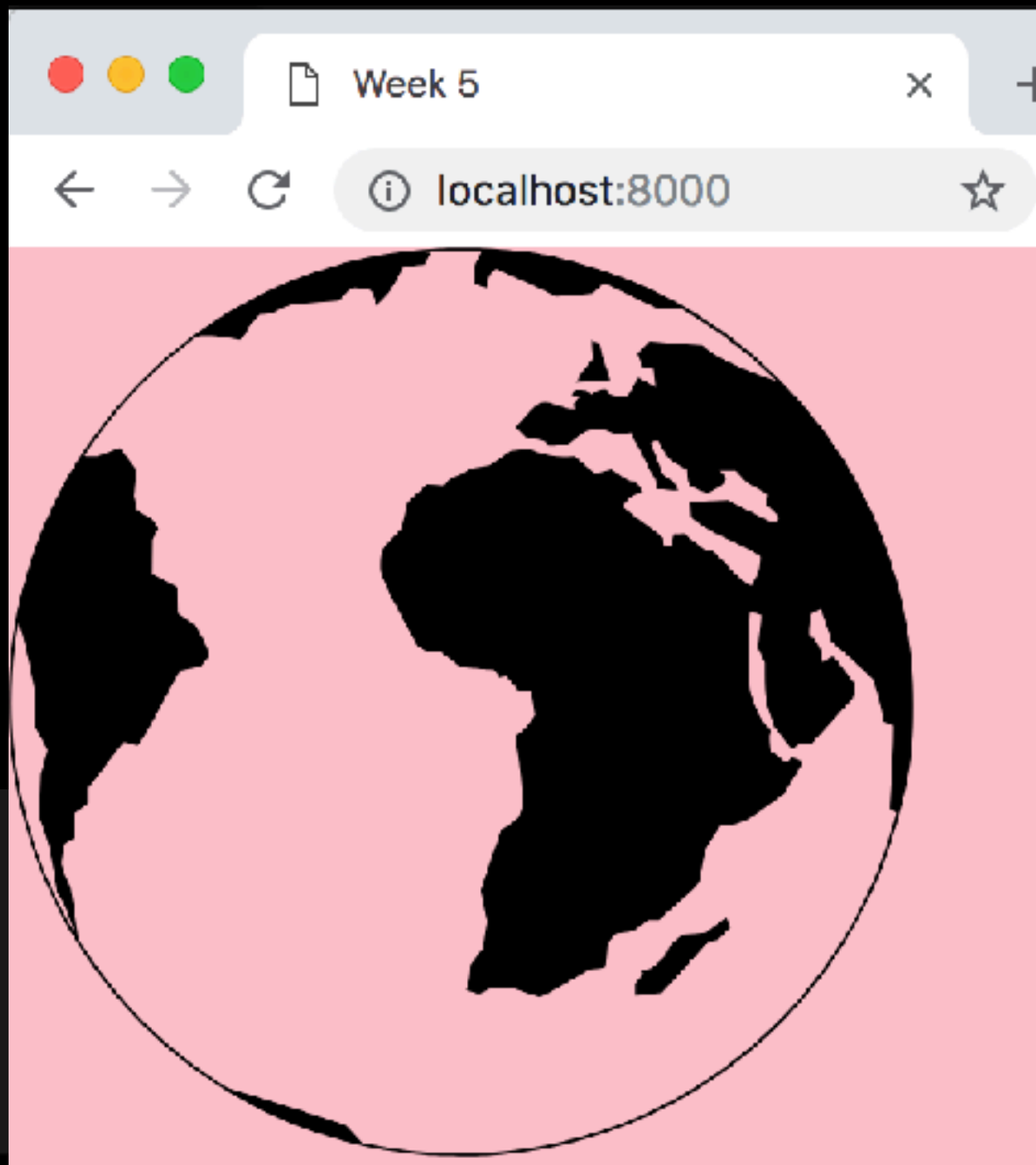
They can be animated.

You can change how they look with CSS.

You can add interactivity with JavaScript so you can add interaction design.

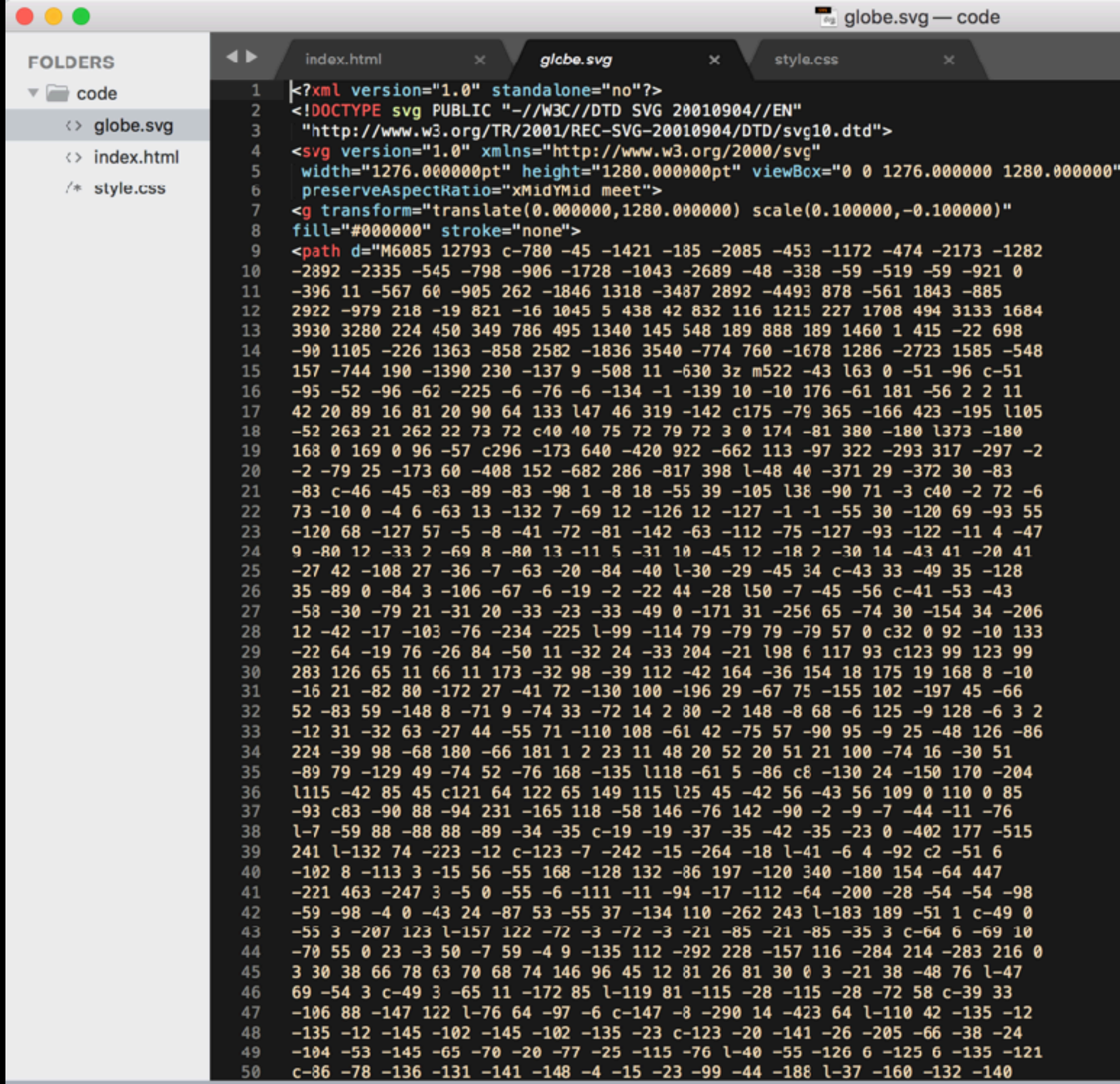
SVG

Embedded with the img element - this will act as a static image.
You can not apply styles, animation or javascript:



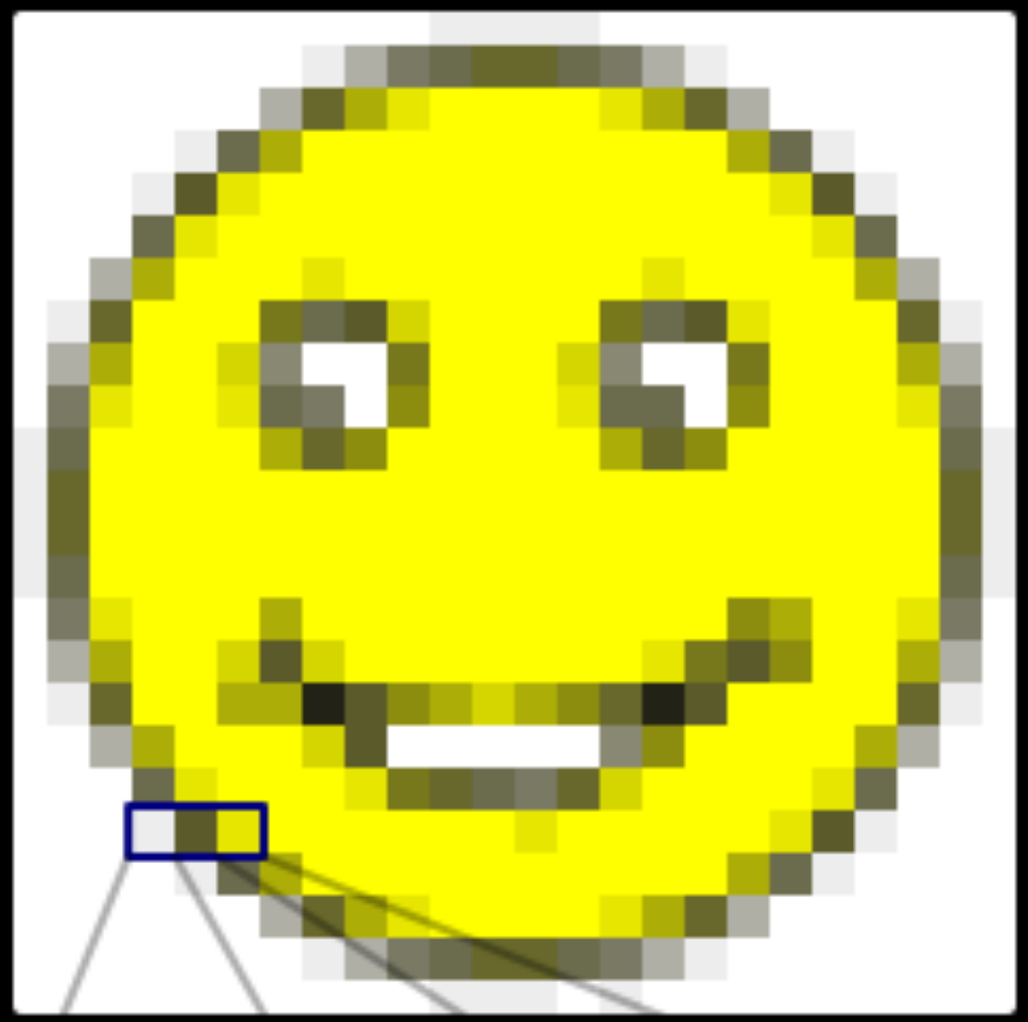

```
<img src="globe.svg" width=300>
```

text editor can
interpret +
display XML



A raster image is a grid of pixels. Each discreet pixel has a red, green, blue + sometimes an alpha (transparency) value.

values: 0 - 255
0 = black
255 = white



rgb (255, 253, 56)

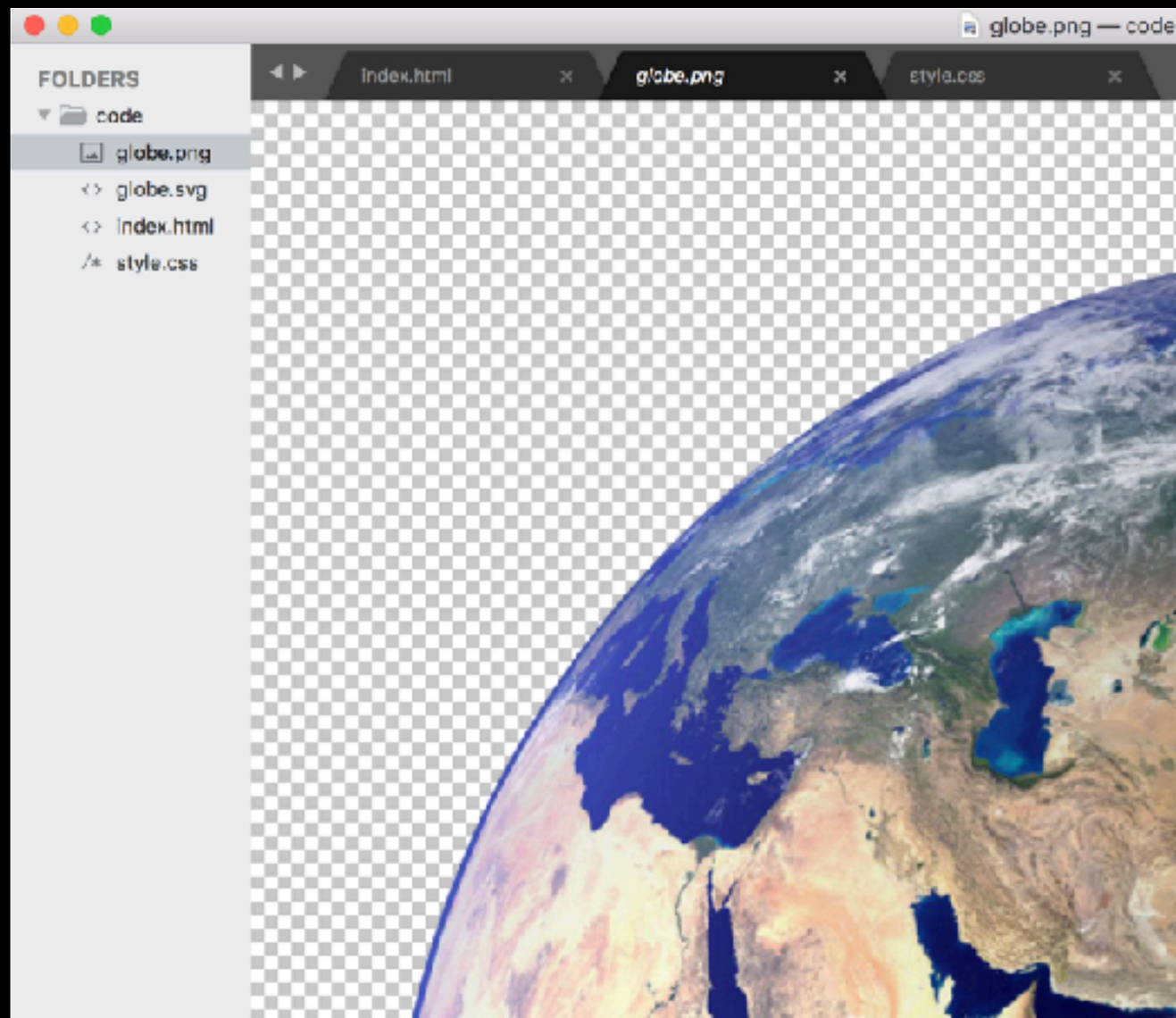
PNG

Portable Network Graphics

is a **raster-**graphics file-format that supports lossless data compression. PNG was developed as an improved, non-patented replacement for Graphics Interchange Format (GIF)

Lempel-Ziv Welch
compression algo
1997, Unisys

text editor (like browser) interprets as image.

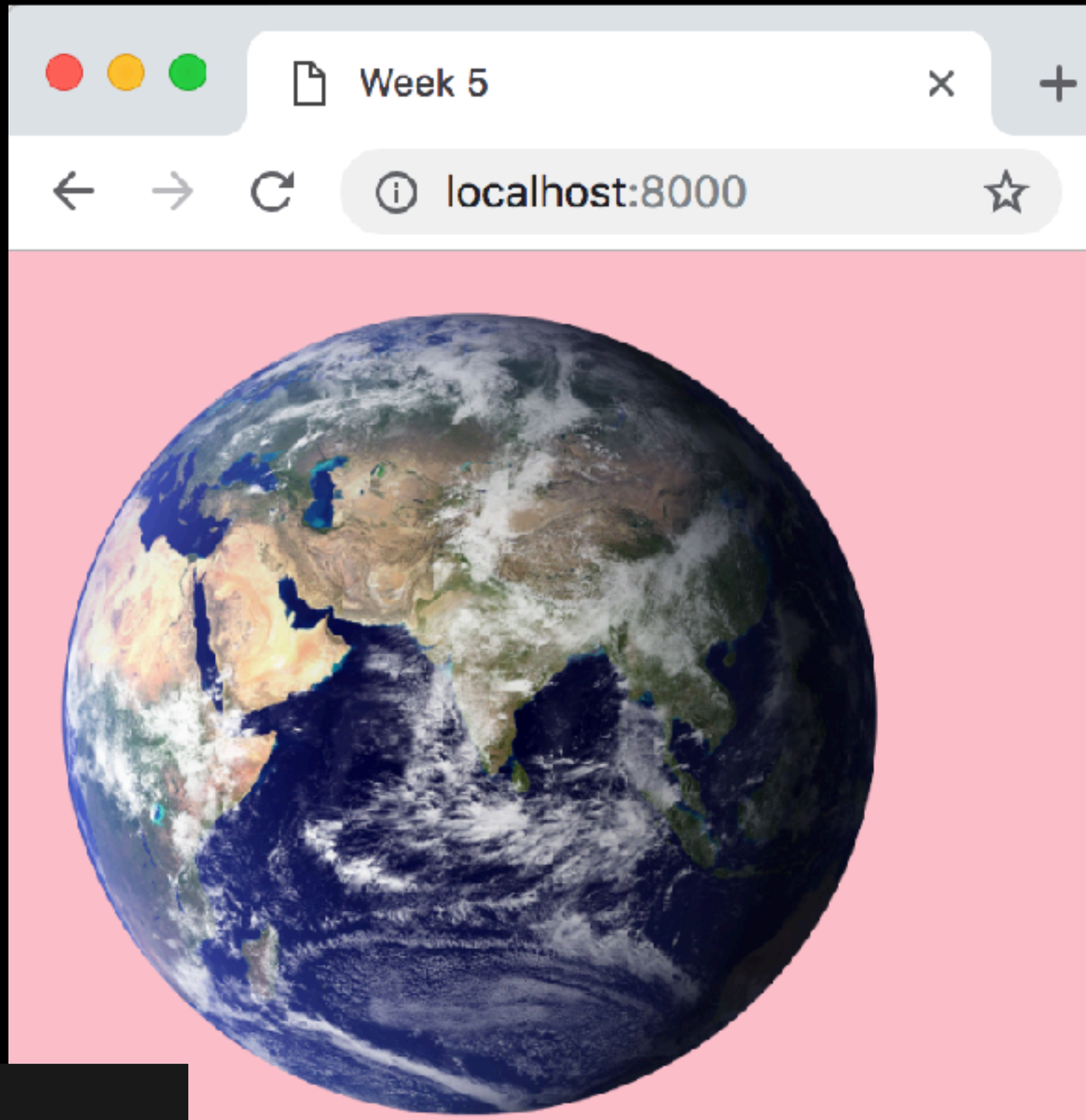


PNG

A raster image is a grid of pixels. Each discreet pixels each have an (R,G,B,A)

red
green
blue
alpha - transparency,
0 -1
in this case it is set to 0.

Using the Canvas we can start to manipulate pixels using Javascript.



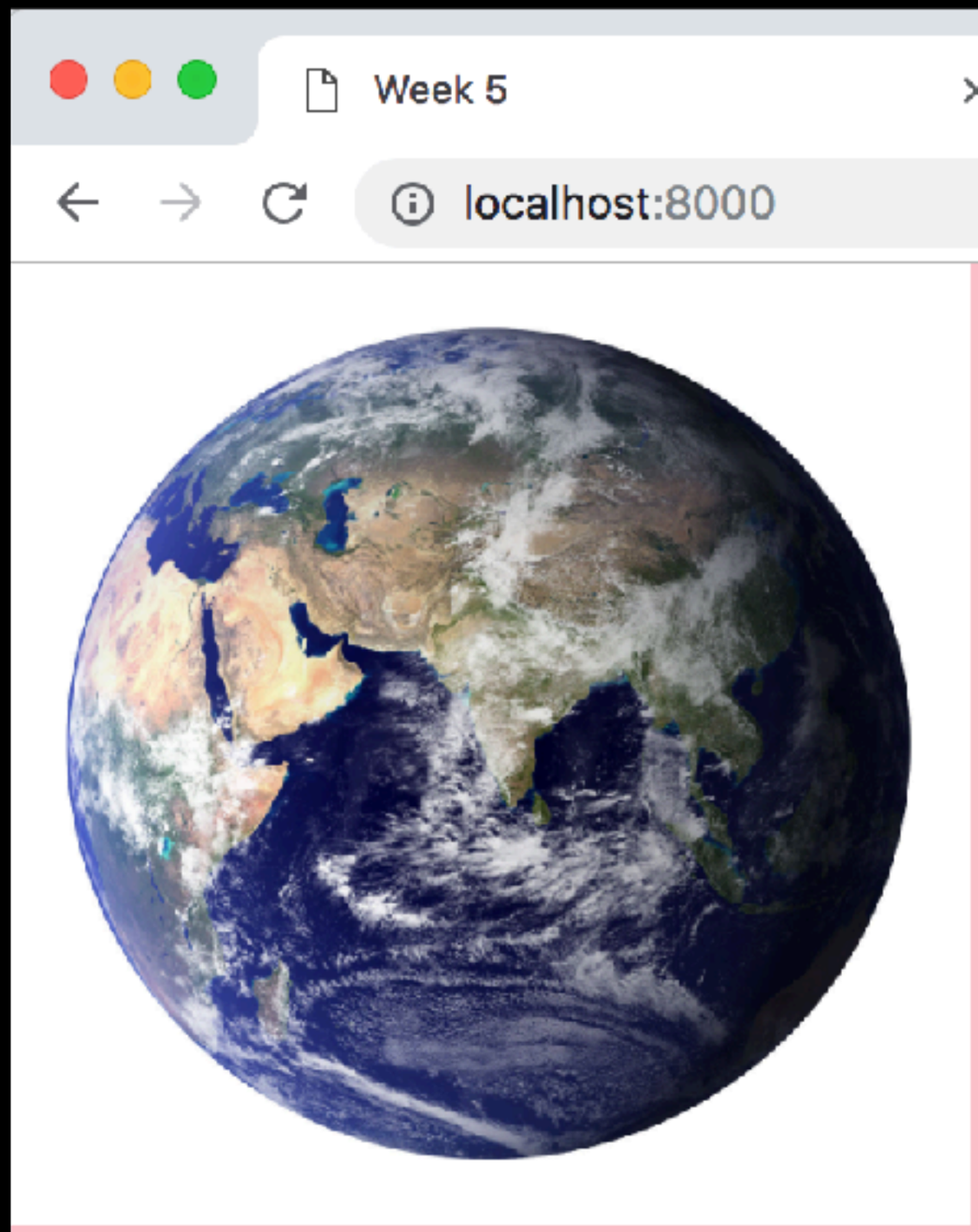

```
<img src="globe.png" width="300">
```

JPG

Joint Photographic Networks Group

a commonly used method of **lossy compression** for digital images, particularly for those images produced by digital photography. The degree of compression can be adjusted, allowing a selectable tradeoff between storage size and image quality.

.jpg files have no alpha channel.




```
<img src="globe.jpg" width="300">
```

GIF

Graphic Interchange Format

Steve Whilhite

1987, CompuServe