

STATUS OF CSS GRID LAYOUT IMPLEMENTATION

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ABOUT ME

CSS Grid Layout implementor (Chromium/Blink & Safari/WebKit)

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igalia

GRID CONCEPTS

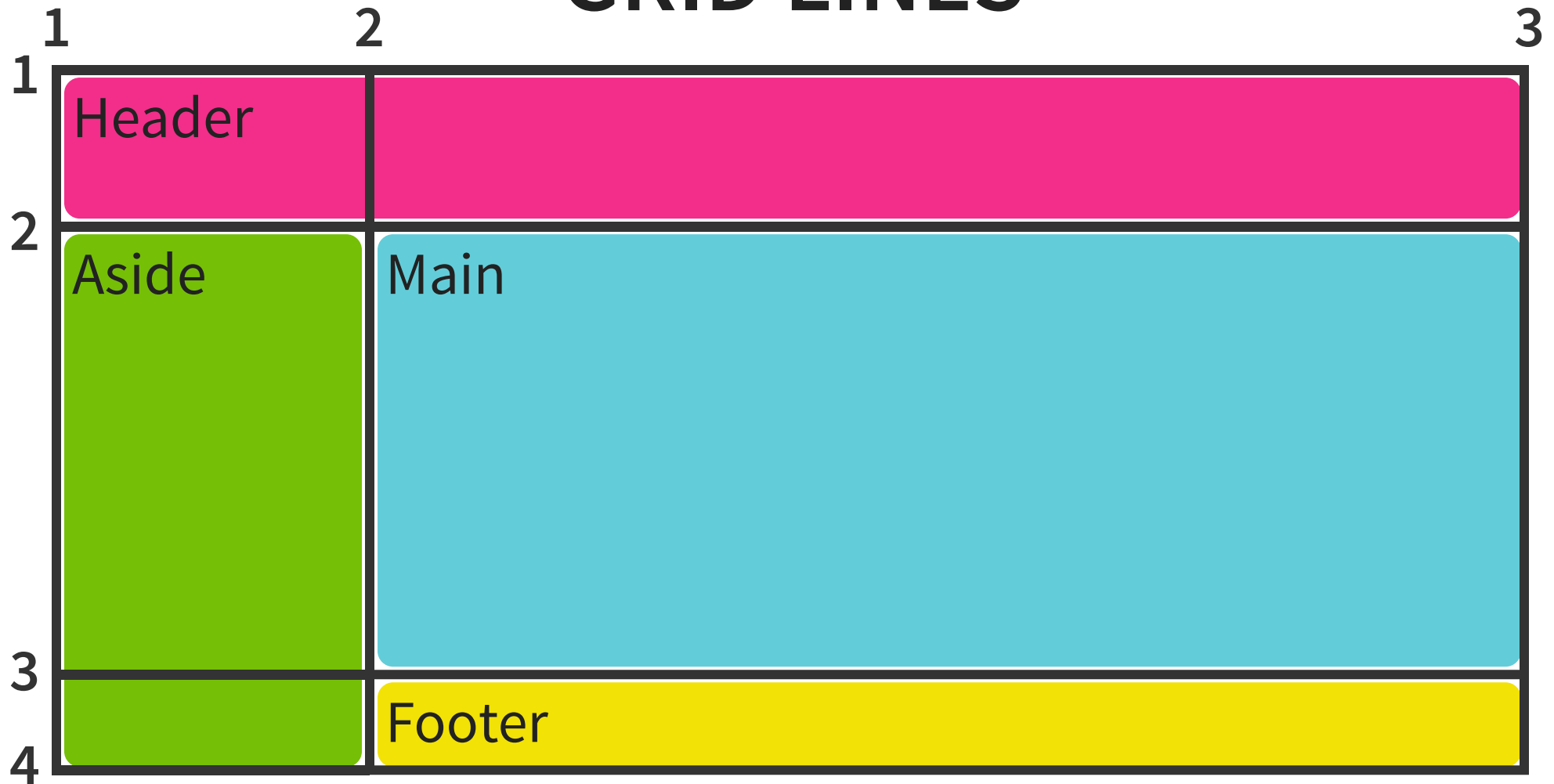
Header

Aside

Main

Footer

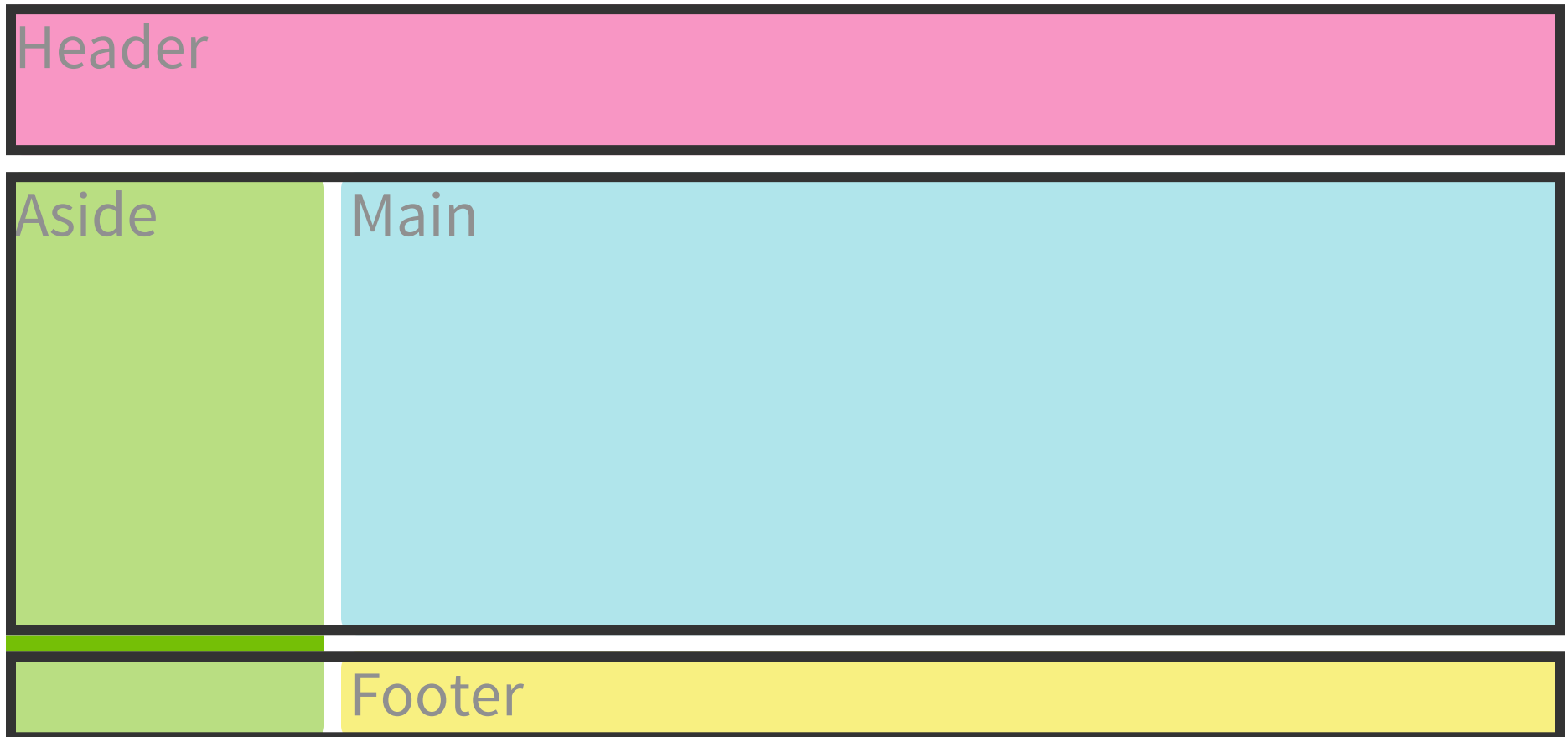
GRID LINES



GRID TRACKS

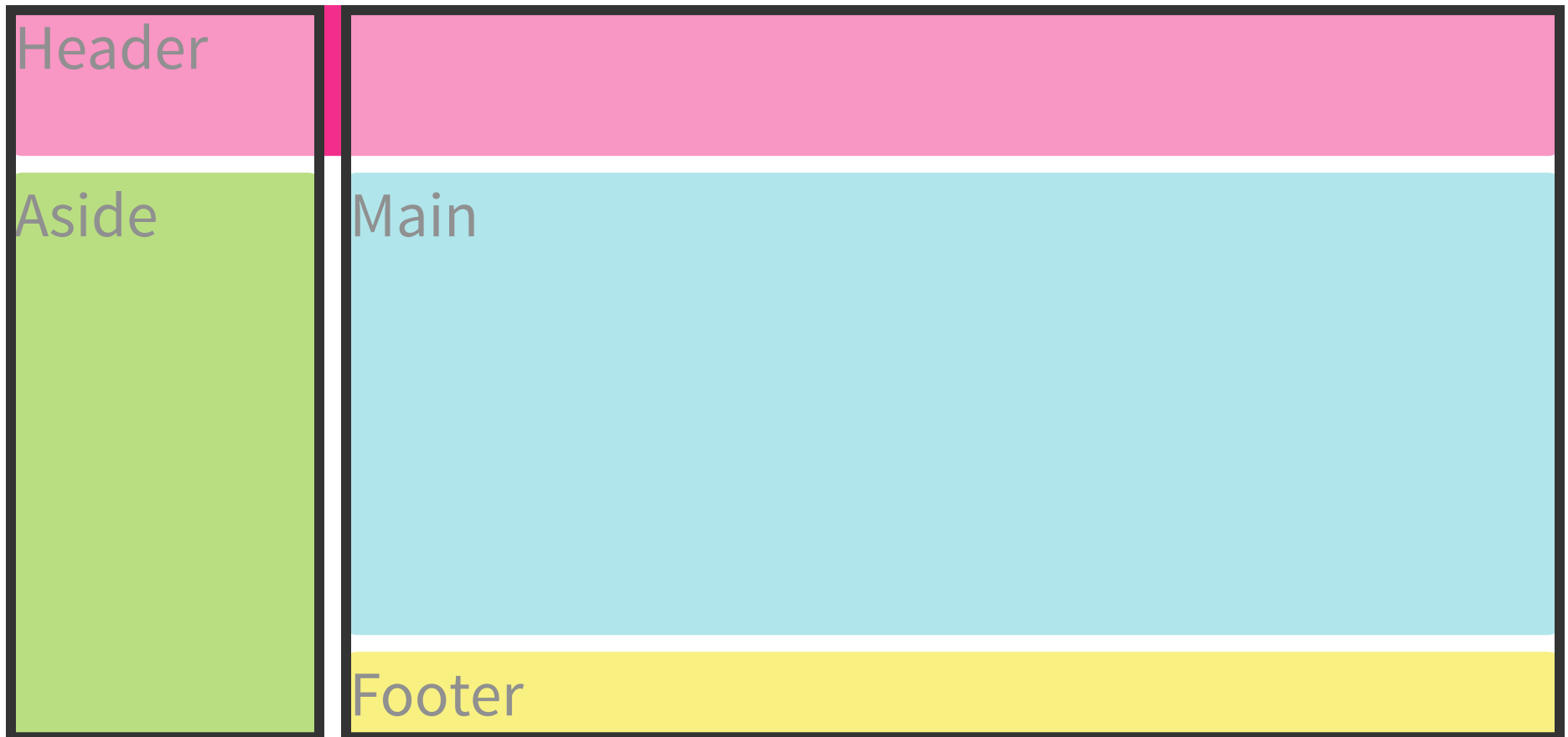
GRID TRACKS

ROWS

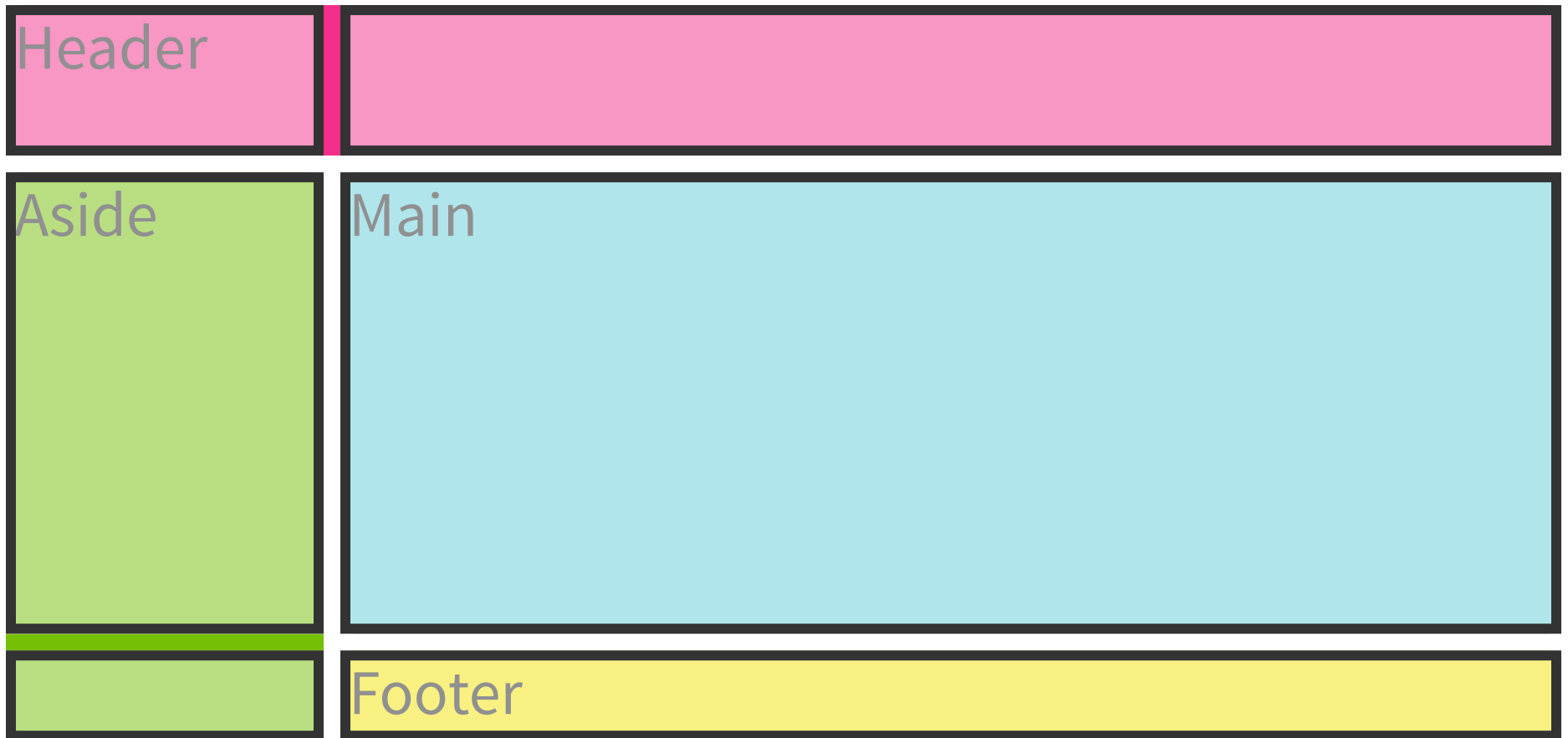


GRID TRACKS

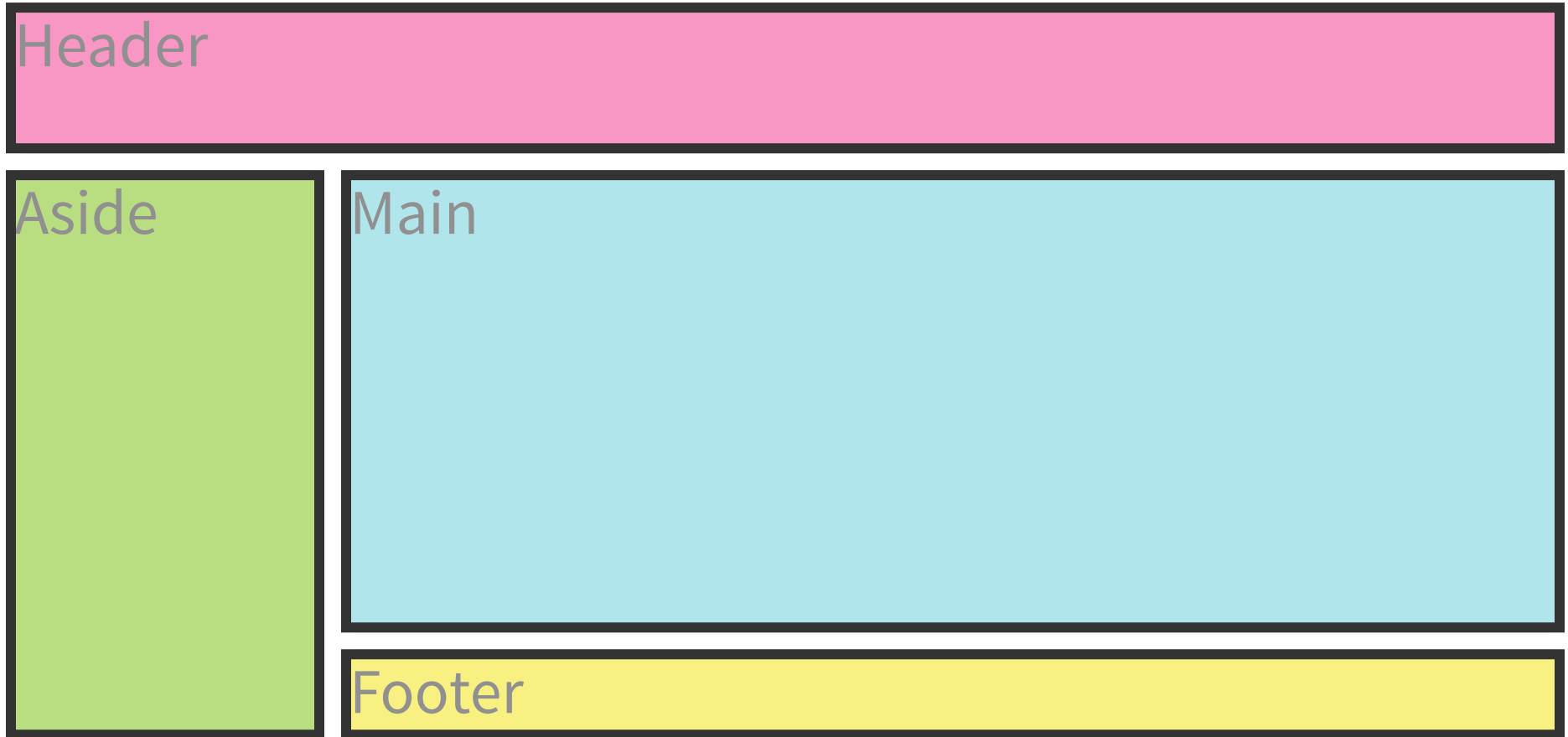
COLUMNS



GRID CELLS



GRID AREAS



LAYOUT

IMPLEMENTATION STATUS

OVERLAPPING 3 COLUMN GRID

GRID CONTAINERS

Property: `display`

Values	Status
<code>grid</code>	DONE
<code>inline-grid</code>	DONE
<code>subgrid</code>	TODO (<i>at-risk</i>) - #618969

GRID ITEMS

Properties	Status
order	DONE
z-index	DONE
min-size: auto	DONE

EXPLICIT GRID (I)

Properties: `grid-template-columns | rows`

Values	Status
<code>auto</code> , length, percentage	DONE
flex (<code>fr</code> unit)	DONE
<code>min-content</code> , <code>max-content</code>	DONE
<code>minmax()</code>	DONE
<code>fit-content()</code>	TODO - #618972

EXPLICIT GRID (I) - EXAMPLE

```
<div class="grid">  
  <div class="a">A</div>  
  <div class="b">B</div>  
  <div class="c">C</div>  
  <div class="d">D</div>  
</div>
```



```
.grid { display: grid;  
        grid-template-columns: ;
```

EXPLICIT GRID (II)

Properties: `grid-template-columns | rows`

Values/Features	Status
<code>repeat(integer,)</code>	DONE
<code>repeat(auto-fill,)</code>	DONE
<code>repeat(auto-fit,)</code>	WIP - #589460
Multiple tracks	TODO - #619930

EXPLICIT GRID (II) - EXAMPLE

```
<div class="grid">  
  <div class="a">A</div>  
  <div class="b">B</div>  
  <div class="c">C</div>  
  <div class="d">D</div>  
  <div class="e">E</div>  
  <div class="f">F</div>  
</div>
```



```
.grid { display: grid;  
        grid-template-columns: repeat(3, 100px) ;
```

EXPLICIT GRID (III)

Properties	Status
<code>grid-template-areas</code>	DONE
<code>grid-template</code> shorthand	DONE

EXPLICIT GRID (III) - EXAMPLE

```
<div class="grid">  
  <div class="a">A</div>  
  <div class="b">B</div>  
  <div class="c">C</div>  
  <div class="d">D</div>  
</div>
```

A

B

C

D

```
.grid { display: grid;  
        grid-auto-columns: 100px; grid-auto-rows: 75px;  
        grid-template-areas: "head head"  
                             "nav  main"  
                             "foot foot"; }  
  
.a { grid-area: head; }  
.b { grid-area: main; }  
.c { grid-area: nav; }  
.d { grid-area: foot; }
```


IMPLICIT GRID (I)

Properties	Status
<code>grid-auto-columns rows</code>	DONE
<code>grid-auto-columns rows</code> multiple tracks	TODO - #618970

IMPLICIT GRID (II)

Properties	Status
<code>grid-auto-flow</code>	DONE
<code>grid</code> shorthand	DONE
<code>grid</code> shorthand new syntax	TODO - #618971

PLACING GRID ITEMS (I)

Properties: `grid-column | row-start | end`

Values	Status
<code>auto</code>	DONE
line name	DONE
<code>span</code>	DONE

PLACING GRID ITEMS (II)

Properties/Features	Status
<code>grid-column rows</code> shorthands	DONE
<code>grid-area</code> shorthand	DONE
Placement algorithm	DONE

PLACING GRID ITEMS - EXAMPLE

```
<div class="grid">  
  <div class="a">A</div>  
  <div class="b">B</div>  
  <div class="c">C</div>  
</div>
```

A

B

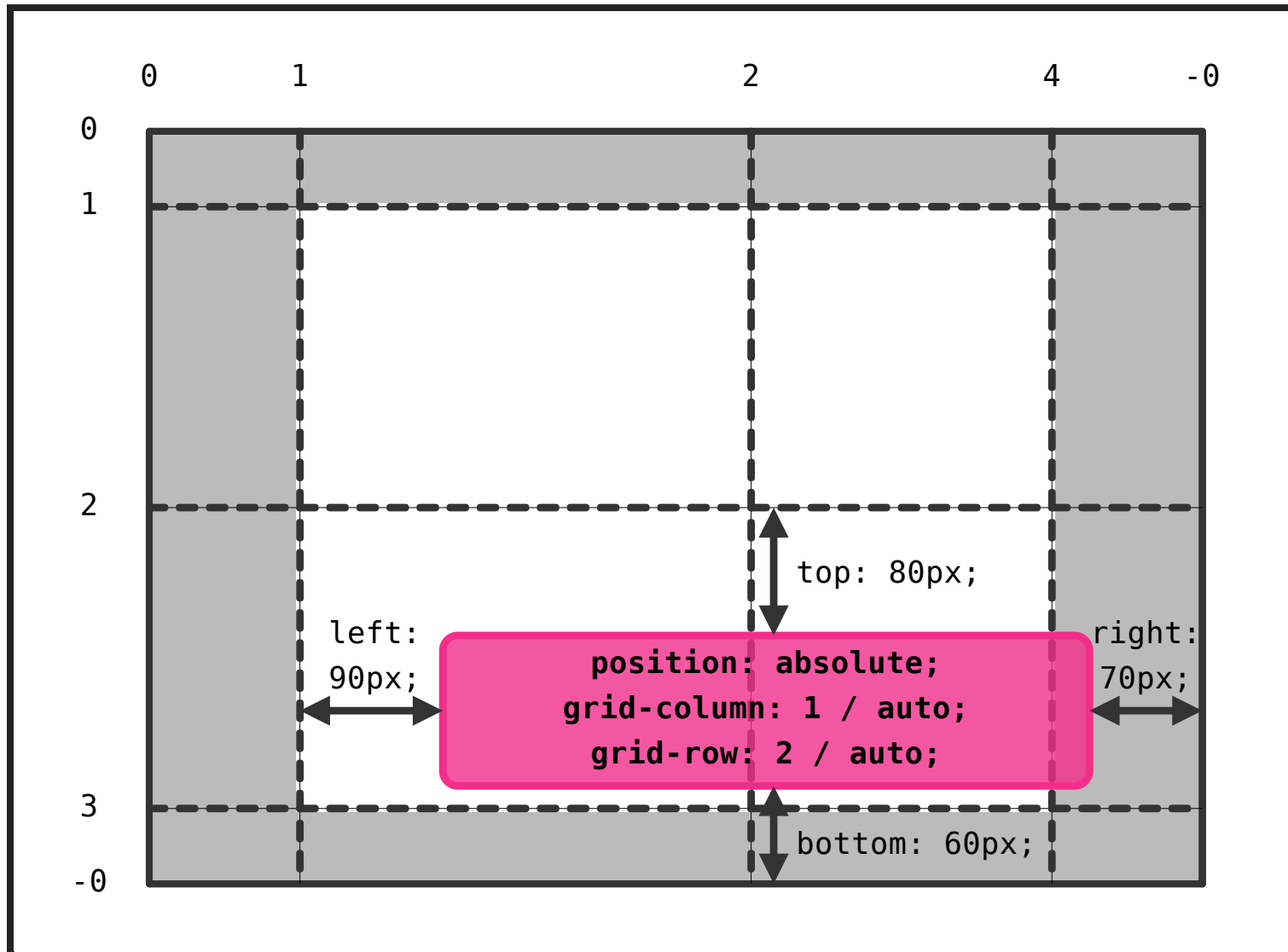
C

```
.grid { display: grid;  
        grid: 100px 100px / 200px 200px; }
```


ABSOLUTE POSITIONING

Features	Status
Placement	DONE
Alignment	TODO - #603423

ABSOLUTE POSITIONING - EXAMPLE



GUTTERS

Properties/Values	Status
<code>grid-column row-gap</code> length	DONE
<code>grid-column row-gap</code> percentage	WIP (<i>at risk</i>) - #615248
<code>grid-gap</code> shorthand	DONE

GUTTERS - EXAMPLE

```
<div class="grid">  
  <div class="a">A</div>  
  <div class="b">B</div>  
  <div class="c">C</div>  
  <div class="d">D</div>  
  <div class="e">E</div>  
</div>
```

A

B

C

D

E

```
.grid { display: grid;  
        grid: 100px 100px / 100px 100px 100px;
```

ALIGNMENT (I)

Properties	Status
<code>auto</code> margins	DONE
<code>justify align-self</code>	DONE
<code>justify align-items</code>	DONE
<code>justify align-content</code>	DONE

ALIGNMENT (I) - EXAMPLE (I)

```
<div class="grid">  
  <div class="a">A</div>  
  <div class="b">B</div>  
  <div class="c">C</div>  
</div>
```



```
.grid { display: grid; grid: 100px 100px / 200px 200px;  
        align-items: ; justify-items: ; }
```

ALIGNMENT (I) - EXAMPLE (II)

```
<div class="grid">  
  <div class="a">A</div>  
  <div class="b">B</div>  
  <div class="c">C</div>  
</div>
```



```
.grid { display: grid; grid: 100px 100px / 150px 150px;  
  align-content: ;
```

ALIGNMENT (II)

Features	Status
<code>normal</code> value	WIP - #565883
Overflow alignment	DONE
Baseline alignment	WIP - #412410

GRID SIZING

Features	Status
Track sizing algorithm	DONE
Orthogonal flows support	WIP - #445742

FRAGMENTATION

Features

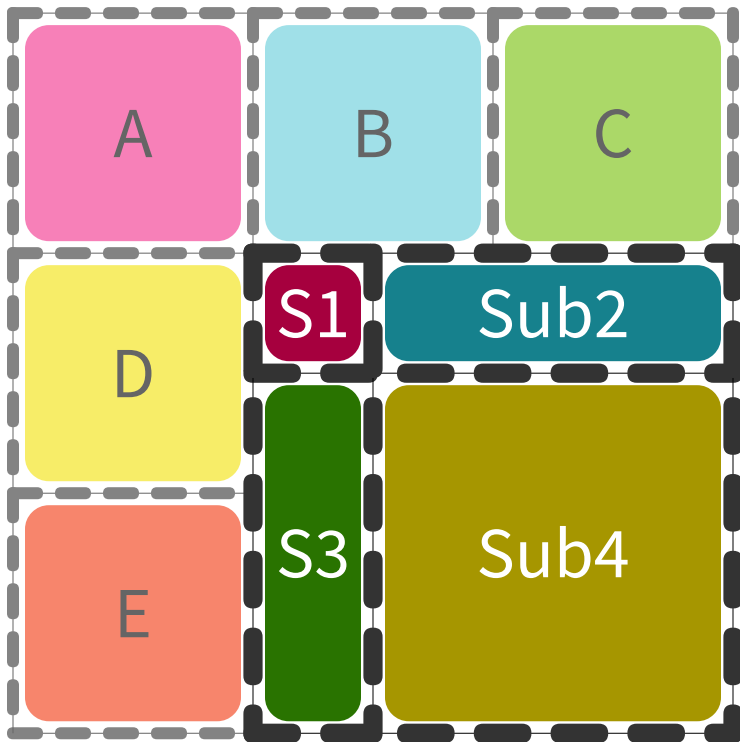
Status

Fragmentation algorithm	TODO - #614667
-------------------------	--------------------------------

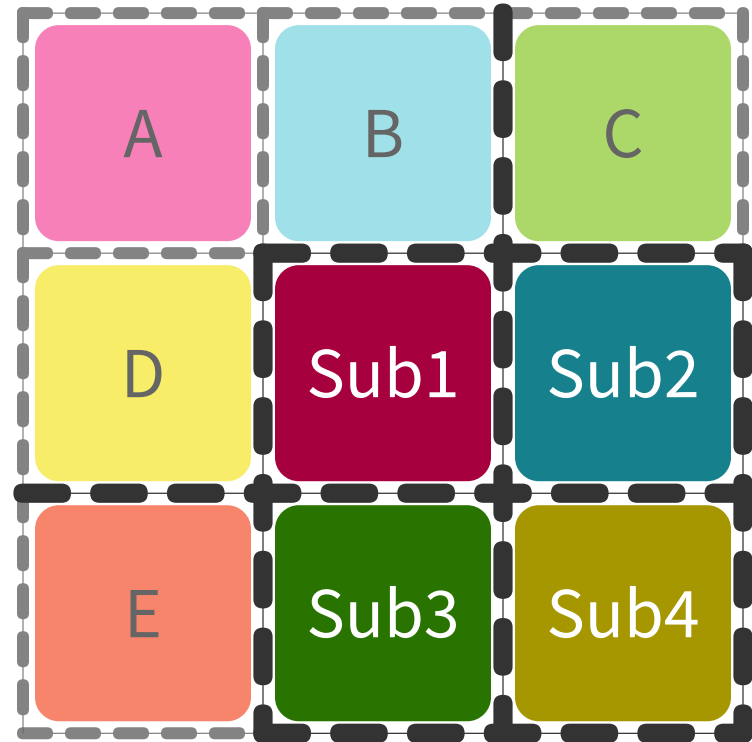
SUBGRIDS

SUBGRIDS

Nested Grid



Subgrid



REDUCED PROPOSAL

DISPLAY: SUBGRID;

- Track sizing definition from the parent grid
(no `grid-template-columns | rows`)
- Subgrids have no implicit grid
(no `grid-auto-columns | rows`)
- `grid-template-area` can be used within the subgrid

SUBGRIDS - EXAMPLE

```
<form><ul>
  <li><label>Input</label><input></li>
  <li><label>Checkbox</label><input type="checkbox"></li>
  <li><button>Submit form</button></li>
</ul></form>
```

Input

Checkbox ☐

Submit form

```
ul { display: grid; }
li { display: grid; }
```

A row of seven dark reddish-brown wooden blocks, each with a white letter, spelling out the word 'FUTURE'. The blocks are arranged diagonally from the bottom-left towards the top-right on a light-colored wooden surface. The letters are F, U, T, U, R, E, S. The word 'PERFORMANCE' is overlaid in large, bold, black capital letters across the middle of the image, partially obscuring the 'T', 'U', and 'R' blocks.

PERFORMANCE

Optimizations to avoid re-layout in some situations

W3C TEST SUITE

Complete the test suite

Currently [117 tests](#) (most unreviewed)

Import test suite once it's ready

CHROME DEVTOOLS

Add grid layout support

Ideas: show grid lines, highlight item's grid area, etc.

DISPLAY: CONTENTS;

Avoid box generation

Useful for other things (not only Grid Layout)

Already supported on Firefox

A top-down view of a white ceramic cup filled with a brown, frothy beverage, likely coffee. The surface of the coffee is covered in a fine layer of foam. In the center of the cup, there is a white, stylized latte art design that resembles a heart or a simple face. A semi-transparent white horizontal band is overlaid across the middle of the cup, containing the text "SPEC STATUS" in a bold, black, sans-serif font.

SPEC STATUS

W3C SPECIFICATION

CSS Grid Layout - <https://drafts.csswg.org/css-grid/>

Started by Microsoft in 2010

Last *Working Draft* 19 May 2016

W3C Test Suite

CAN I USE GRID? 🤖

CSS Grid Layout 📄 - WD

Method of using a grid concept to lay out content, providing a mechanism for authors to divide available space for lay out into columns and rows using a set of predictable sizing behaviors

Global

0% + 7.46% = 7.46%

unprefixed:

0%

Current aligned

Usage relative

Show all

IE	Edge *	Firefox	Chrome	Safari	Opera	iOS Safari *	Opera Mini *	Android Browser *	Chrome for Android
			1 29						
			1 45						
			1 48					4.3	
		3 45	1 49			8.4		4.4	
8		3 46	1 50			9.2		4.4.4	
2 11	2 13	3 47	1 51	9.1	1 37	9.3	8	50	50
	2 14	3 48	1 52	TP	1 38				
		3 49	1 53		1 39				
		3 50	1 54						

BROWSERS ADOPTION 🤖



Old
implementation
since IE 10

Prefixed: **-ms**



Getting ready

🚩 *Experimental Web Platform
Features*



Very close to
Chrome

Enabled by default on Safari
Technology Preview



Getting ready too

🚩 *layout.css.grid.enabled*

Polyfill: <https://github.com/FremyCompany/css-grid-polyfill>

EXAMPLES

- <http://igalia.github.io/css-grid-layout/> by Igalia
- <http://gridbyexample.com/> by Rachel Andrew

ACKNOWLEDGEMENTS



igalia

Bloomberg

Igalia and Bloomberg working together to build a better web

C S S C G R I D

THANK YOU!

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L A Y O U T