

12 maart 2018, Utrecht
welkombijpuurutrecht / tijdvoorkoffie

CSS Layout

WORKSHOP

Hidde de Vries
@hdv

Voorstellen

hiddedevries.nl

moz://a

En jullie?

Hoe heet je?
Waar ben je vandaan gereisd?
Wat is je favoriete CSS property?

programma

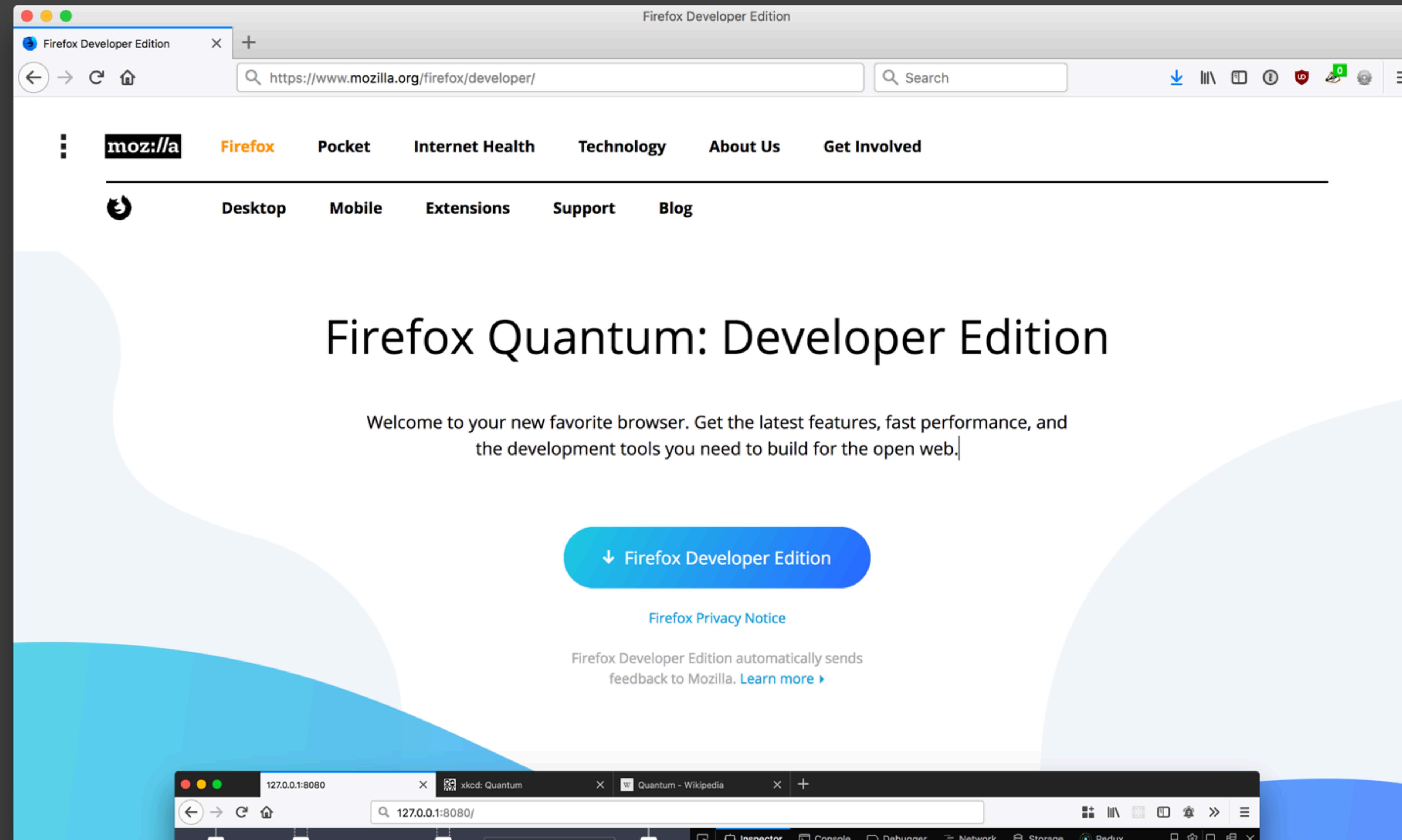
- 09.30-09.45** CSS layout in context
- 09.45-10.15** Flexbox 101
- 10.15-12.30** Oefeningen met Flexbox
- 11.00-12.30** Grid Layout 101, deel 1
 - lunch –
- 13.30-14.15** Grid Layout 101, deel 2
- 14.15-16.00** Oefeningen met Grid Layout
- 16.00-17.00** Grid in productie, fallbacks

**Wat heb je
nodig?**

Wat heb je nodig?

Je favoriete text editor; Codepen/JSBin mag ook
Een browser met goede layout-tools

<https://www.mozilla.org/firefox/developer/>



Wat heb je nodig?

Je favoriete text editor; Codepen/JSBin mag ook

Een browser met goede grid-tools

Voorbeeldcode

<https://github.com/hidde/workshop-css-layout/>

Wat heb je nodig?

Je favoriete text editor; Codepen/JSBin mag ook

Een browser met goede grid-tools

Voorbeeldcode

**Geen conventies... style gerust op ID's, gebruik gerust
verkeerde markup, en let niet op onderhoudbaarheid.**

CSS Layout in context



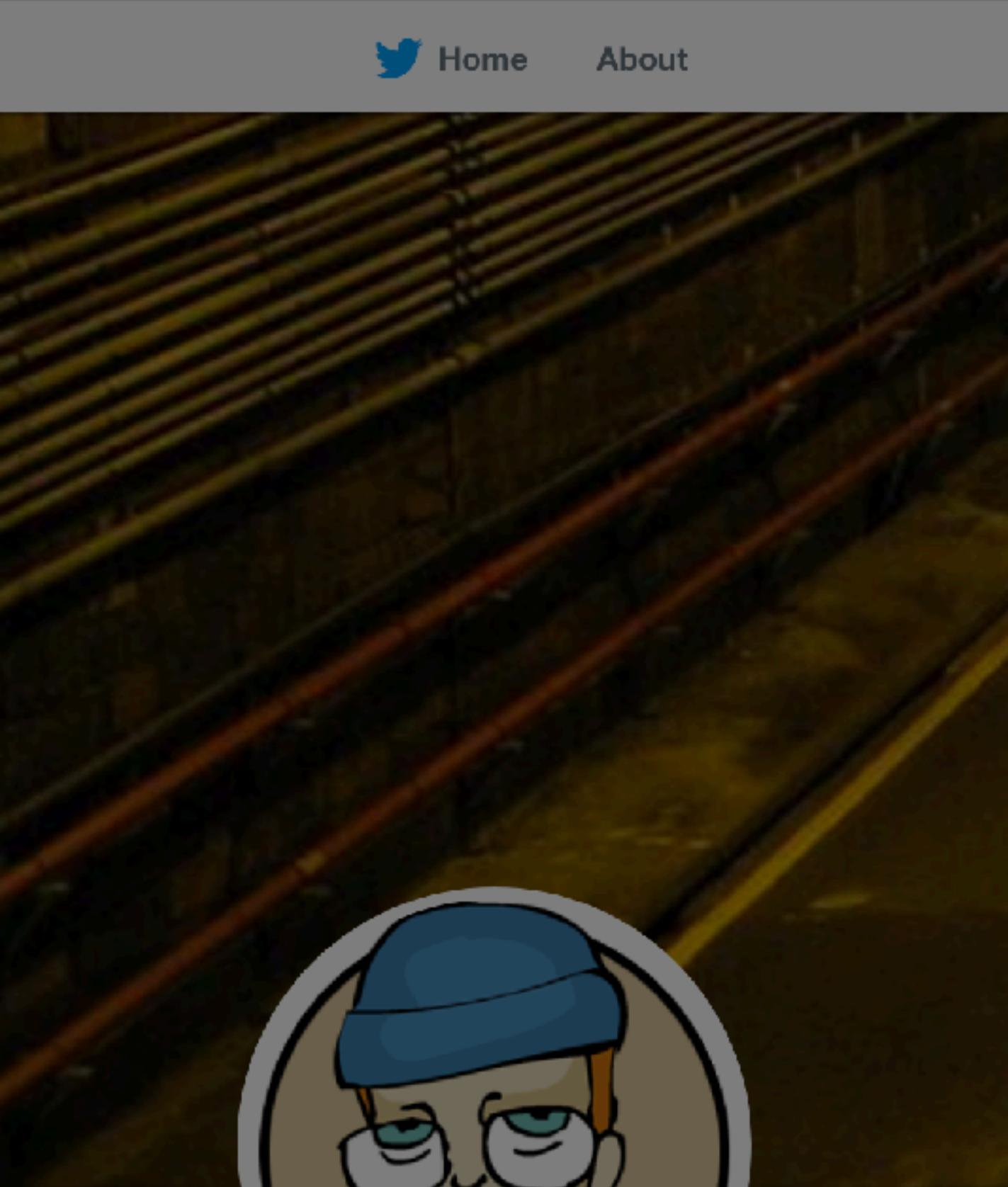
Eric Meyer

@meyerweb

Web standards, HTML/CSS, microformats, community, writing, speaking, signing guy. Husband, father, agnostic in principle, atheist in practice. #663399becca

📍 Cleveland Heights, OH

🔗 meyerweb.com



Eric Meyer
@meyerweb

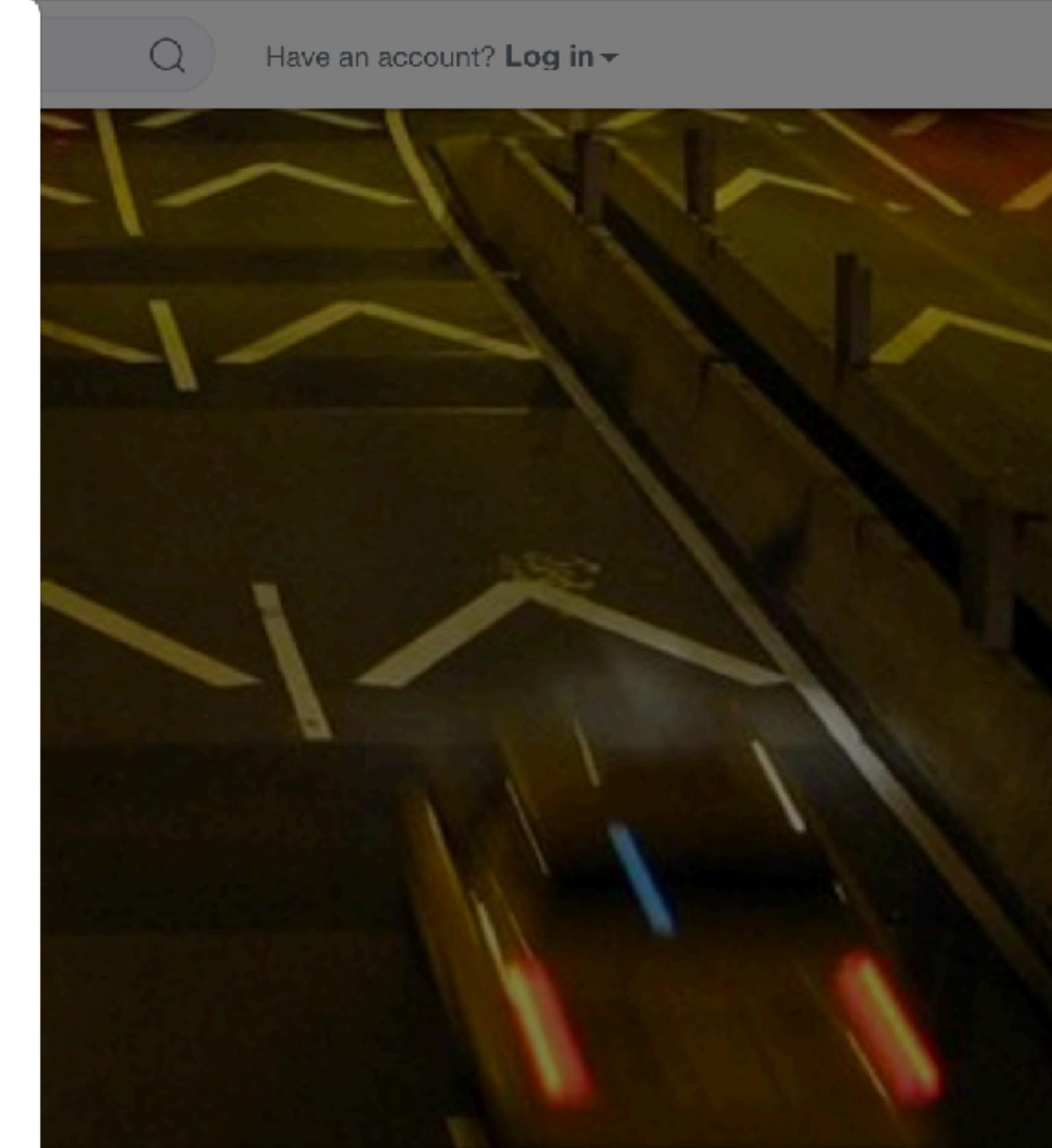
Follow ▾

On the left: the 2nd and 3rd editions of “CSS: The Definitive Guide”. On the right, a single copy of the fourth edition.

?

1:25 PM - 10 Nov 2017

751 Retweets 2,039 Likes



1 spec → vele modules

**Specs worden sneller
geïmplementeerd**

**Er is nu dedicated
CSS voor lay-out**



**Flexibiliteit zit in
het web ingebouwd.**

The World Wide Web project.

World Wide Web

The WorldWideWeb (W3) is a wide-area [hypermedia](#) information retrieval initiative aiming to give universal access to a large universe of documents.

Everything there is online about W3 is linked directly or indirectly to this document, including an [executive summary](#) of the project, [Mailing lists](#), [Policy](#), November's [W3 news](#), [Frequently Asked Questions](#).

[What's out there?](#) Pointers to the world's online information, [subjects](#), [W3 servers](#), etc.

[Help](#) on the browser you are using

[Software Products](#) A list of W3 project components and their current state. (e.g. Line Mode, X11 Viola, NeXTStep, Servers, Tools, Mail robot, Library)

[Technical](#) Details of protocols, formats, program internals etc

[Bibliography](#) Paper documentation on W3 and references.

[People](#) A list of some people involved in the project.

[History](#) A summary of the history of the project.

[How can I help ?](#) If you would like to support the web..

[Getting code](#) Getting the code by [anonymous FTP](#), etc.

Navigation

< Previous | Back up | Next >

Home | Help

Front Apps | Frequently | Hypertext | Policy -- | Summary -- | 3DII --

CERN Welcome

C.E.R.N.

European Laboratory for Particle Physics, Geneva, Switzerland

- Help[1] on W3 programs. Also: about the World-Wide Web[2]
- About CERN[3] Also phone numbers, offices and e-mail for People[4], Yellow Pages[5], or french Pages Jaunes[6].
- News[7] Public news, e.g. User's Office[8], student news[9]. Also private groups[10] and Internet news[11].
- Computer center Documentation and newsletter index[12], computing news[13], VMS Help[14].
- Systems/Projects[15] Systems available from CERN, and related projects.
- Experiments[16] and collaborations at CERN.
- H E P[17] Other High-Energy Physics institutes.
- See also: Type of service[18], and OTHER SUBJECTS[19]
1-19, Back, Up, <RETURN> for more, Quit, or Help:



Dan Noyes, CERN - first-website.web.cern.ch

**Flexibiliteit zit in
het web ingebouwd.**

**Flexibiliteit zit in
CSS ingebouwd.**

Medium-agnostisch

“

CSS is a language for describing the rendering of structured documents (such as HTML and XML) on screen, on paper, in speech, etc.

– elke CSS spec

Geen programmeertaal

HTML
beschrijft
wat er is

CSS
beschrijft hoe
dat eruit ziet

The screenshot shows the W3C Candidate Recommendation page for the CSS Grid Layout Module Level 1. The page title is "CSS Grid Layout Module Level 1" and it was last updated on 09 May 2017. The left sidebar contains a "TABLE OF CONTENTS" with sections such as Introduction, Overview, Grid Layout Concepts and Terminology, Reordering and Accessibility, Grid Containers, Grid Items, Defining the Grid, and an Abstract section. The main content area includes details about the "flex" and "grid" properties, test suites, issue tracking, and former editors.

The screenshot shows the W3C Candidate Recommendation page for the CSS Flexible Box Layout Module Level 1. The page title is "CSS Flexible Box Layout Module Level 1" and it was last updated on 19 October 2017. The left sidebar contains a "TABLE OF CONTENTS" with sections such as Introduction, Flex Layout Box Model and Terminology, Flex Containers, Flex Items, Ordering and Orientation, Flex Lines, Flexibility, and Alignment. The main content area includes details about the "flex" and "display" properties, test suites, issue tracking, and editors.

Bij twijfel, raadpleeg de spec

CSS Grid Layout

Related Topics
CSS

CSS Reference
CSS Grid Layout
Guides
Basics concepts of grid layout
Relationship to other layout methods
Line-based placement
Grid template areas
Layout using named grid lines
Auto-placement in grid layout
Box alignment in grid layout
Grids, logical values and writing modes
CSS Grid Layout and Accessibility
CSS Grid Layout and Progressive Enhancement
Resizing common layouts using grids

Properties
grid
grid-area
grid-auto-columns

HTML

```

1 <div class="wrapper">
2   <div class="one">One</div>
3   <div class="two">Two</div>
4   <div class="three">Three</div>
5   <div class="four">Four</div>
6   <div class="five">Five</div>
7   <div class="six">Six</div>
8 </div>

```

CSS

CSS Grid Layout excels at dividing a page into major regions, or defining the relationship in terms of size, position, and layer, between parts of a control built from HTML primitives.

Like tables, grid layout enables an author to align elements into columns and rows. However, many more layouts are either possible or easier with CSS grid than they were with tables. For example, a grid container's child elements could position themselves so they actually overlap and layer, similar to CSS positioned elements.

Basic example

The below example shows a three column track grid with new rows created at a minimum of 100 pixels and a maximum of auto. Items have been placed onto the grid using line-based placement.

A Complete Guide to Flexbox

Code Snippets » CSS »
BY CHRIS COYIER LAST UPDATED ON NOVEMBER 12, 2017
FLEXBOX, LAYOUT

▶ Background

▶ Basics & Terminology

container

items

Of MDN, CSS Tricks

layout modes

layout modes

inline

block

table

positioned

layout modes

inline

block

table

positioned

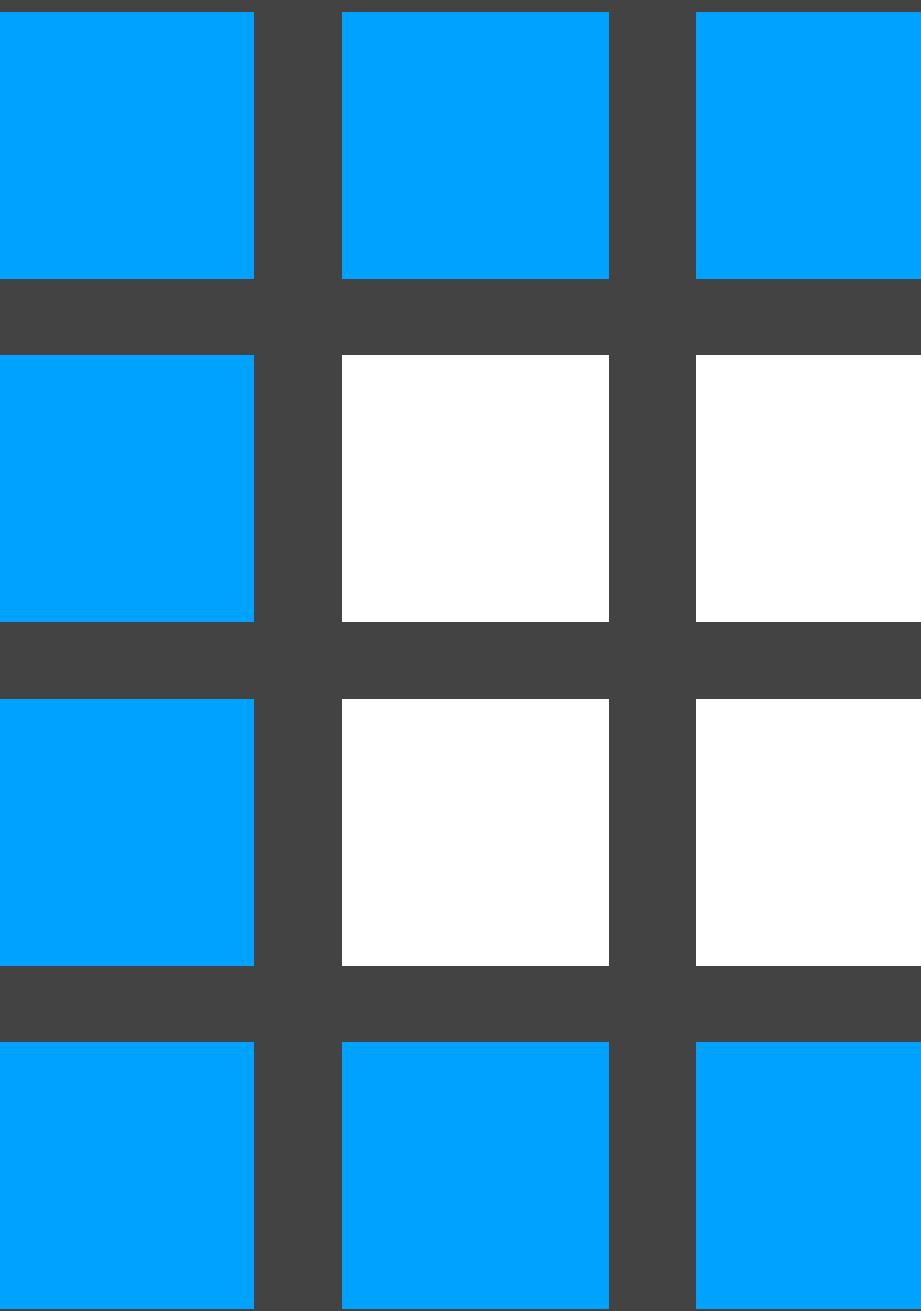
flex

grid

flex



grid



flex

vanuit de
content

groottes
gedefinieerd
op het item

grid

vanuit de
container

ruimtes
gedefinieerd
op de container

logische vs fysieke properties

BBC Arabic - الرئيسية

BBC Arabic - الرئيسية

www.bbc.com/arabic

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قائمة

BBC

تسجيل الدخول

عربي

الرئيسية | شرق أوسط | عالم | علوم وتكنولوجيا | صحة | اقتصاد | فنون | رياضة | مجلة | مرأة | فيديو | صحافة | صور | براماجنا | ترند | حوارات | المزيد

دخول مساعدات غذائية للغوطة رغم استمرار القتال والقصف

وكالات إغاثية أممية، تعانى دخول قافلة مساعدات إلى عدة مناطق بالغوطة الشرقية التي تشهد قتالاً عنيفاً بين قصائل وقوات الجيش السوري، وذلك رغم استمرار القصف والقارات الجوية للقوات الحكومية.

قبل 2 ساعة

قافلة مساعدات إنسانية تدخل الغوطة الشرقية



القوات التركية "قد تدخل عفرين في أي لحظة"

9 مارس / آذار 2018



الحكم يسجن "أكثر شخص مكره في أمريكا" 7 سنوات

محكمة أمريكية تحكم على قطب صناعة الأدوية السابق مارتن شكريلي، الذي أدين بالاحتيال على مجموعة من المستثمرين، بالسجن سبع سنوات.

قبل 5 ساعات

سجن رجل أعمال أمريكي عرض "مكافأة مقابل خصلة من شعر هيلاري كلينتون"

بريطانيا تستدعي الجيش للمساعدة في التحقيق بمحاولة قتل الجاسوس الروسي

9 مارس / آذار 2018



السعودية تقترب من إبرام صفقة مقاتلات قايقون مع بريطانيا

السعودية تقترب من التوصل إلى اتفاق بشأن شراء 48 مقاتلة من طراز تاييفون، بحسب ما ذكرته شركة "بي إيه اي سيستمز" البريطانية.

قبل 5 ساعات

قطر توافق اتفاقاً لشراء 24 مقاتلة "تايفون" من بريطانيا

كيف باع "بي إيه اي سيستمز" البريطانية أنظمة مراقبة منظورة لدول عربية؟

فيديو <

مباشر

مسلسلات

ملخصات

ملخصات

آخرنا لكم



ترامب وكيم جونغ أون: تاريخ من السباب المتبادل

مقاومة القرن: هل خدع زعيم كوريا الشمالية ترامب ومومن؟



ترامب ومومن؟

لماذا تزيد رواتب المغتربين في مومباي عن أي



...

www.bbc.com/arabic/middleeast-43353539

logische vs fysieke properties

`align-items: start`

`justify-self: end`

`margin-start / margin-end`

Logical properties and values specification

<https://www.w3.org/TR/css-logical-1/>

The screenshot shows a web browser displaying the 'CSS Logical Properties and Values Level 1' specification. The page is a W3C First Public Working Draft from May 18, 2017. It features a sidebar on the left containing a 'TABLE OF CONTENTS' with sections 1 through 3.5.1. The main content area includes links for 'This version', 'Latest published version', 'Editor's Draft', 'Issue Tracking', and 'Editors'. A copyright notice at the bottom states: 'Copyright © 2017 W3C® (MIT, ERCIM, Keio, Beihang). W3C liability, trademark and document use rules apply.'

CSS Logical Properties and Values Level 1

W3C First Public Working Draft, 18 May 2017

This version: <https://www.w3.org/TR/2017/WD-css-logical-1-20170518/>

Latest published version: <https://www.w3.org/TR/css-logical-1/>

Editor's Draft: <https://drafts.csswg.org/css-logical/>

Issue Tracking:

- [Inline In Spec](#)
- [GitHub Issues](#)

Editors:

- Rossen Atanassov (Microsoft)
- Elika J. Etemad / [fantasai](#) (Invited Expert)

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Abstract

This module introduces logical properties and values that provide the author with the ability to control layout through logical, rather than physical, direction and dimension mappings. The module defines logical properties and values for the features defined in [CSS21]. These properties are writing-mode relative equivalents of their corresponding physical properties.

CSS is a language for describing the rendering of structured documents (such as HTML and XML) on screen, on paper, in speech, etc.

Sommige CSS creeert een
block formatting context.

Sommige CSS creëert een
block formatting context.

Dit betekent dat vanaf dan,
het blok zelf verantwoordelijk
is voor lay-out.

Sommige CSS creëert een
block formatting context.

Het is waarbinnen dingen
uitgelijnd worden.

Block formatting contexts worden gemaakt door:

root element

float (behalve float: none)

position: absolute|fixed

display: inline-block

display: table-cell

display: table-caption

overflow (behalve overflow: visible)

**Block formatting contexts
worden gemaakt door:**

display: grid

display: flex

Takeaways

Flexibiliteit zit ingebouwd in het web/CSS

CSS is geen programmeertaal

Check de spec, of bronnen als MDN, CSS-Tricks

Flex en grid zijn twee nieuwe layout modes

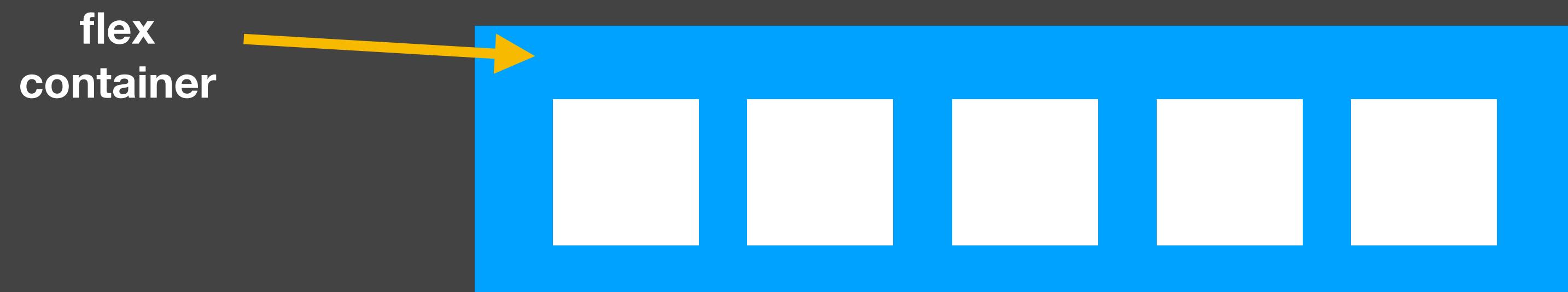
Logische properties vervangen fysieke properties

Sommige CSS creëert een nieuwe BFC

Flexbox

**flexbox laat je elementen
uitlijnen en overblijvende
ruimte slim gebruiken**

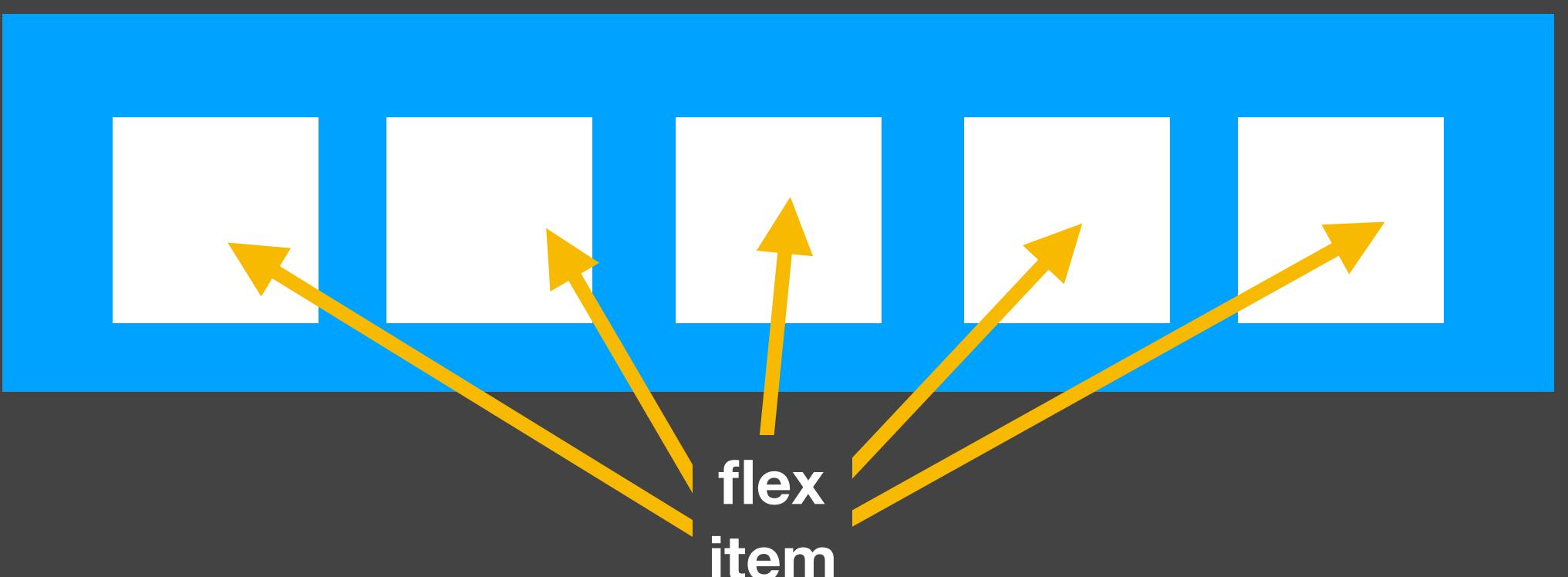
flex container



```
#container { display: flex; }
```

flex container

alle directe kinderen worden flex items



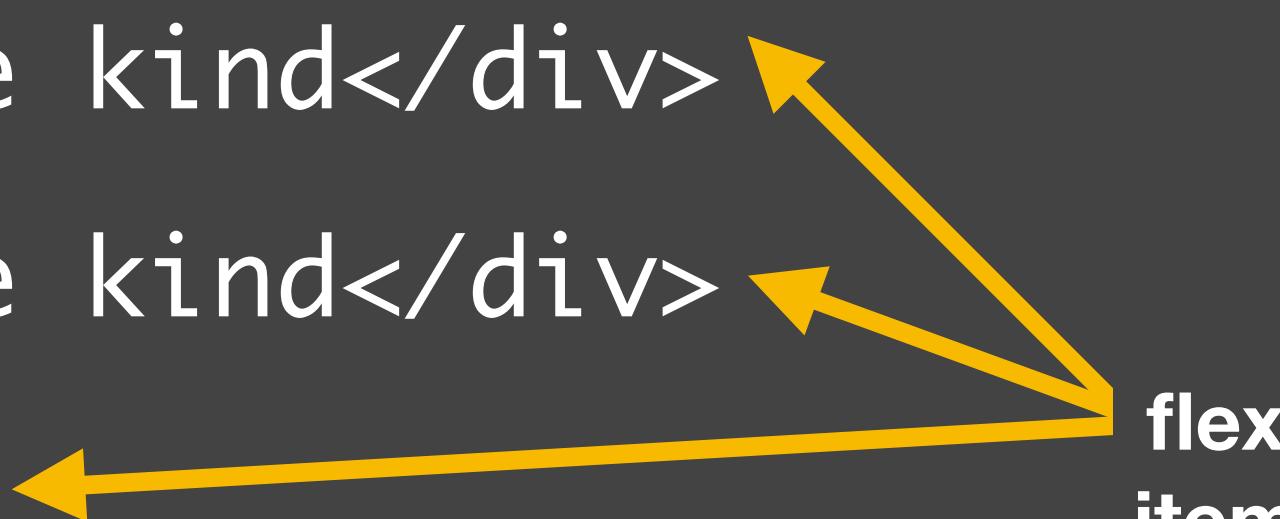
```
#container { display: flex; }
```

zolang ze
'in flow' zijn
exclusief
witruimte,
inclusief
losse tekst

flex container

alle directe kinderen worden flex items

```
<div id="container">  
    <div>Eerste kind</div>  
    <div>Tweede kind</div>  
    Derde kind  
</div>
```



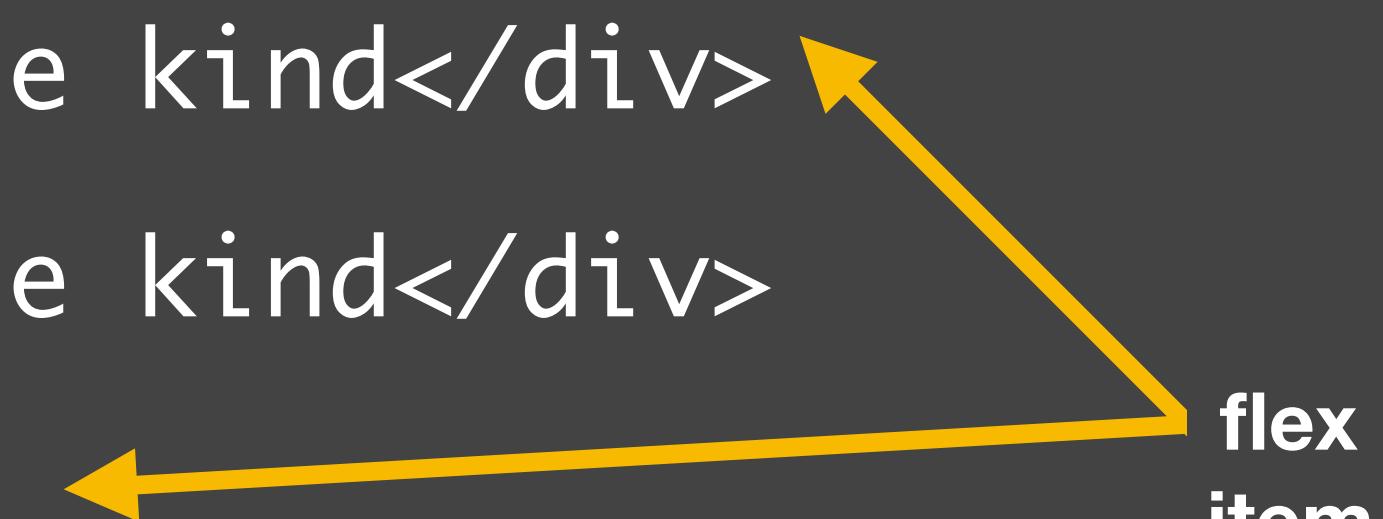
flex item

```
#container { display: flex; }
```

flex container

alle directe kinderen worden flex items

```
<div id="container">  
    <div>Eerste kind</div>  
    <div>Tweede kind</div>  
    Derde kind  
</div>
```



flex item

```
#container { display: flex; }  
div:nth-child(2) { position: absolute; }
```

als een element een flex item wordt, verandert het effect van sommige CSS

flex item

werkt niet meer:

- vertical-align
- float

werkt nu:

- flex
- automagische margins
- align-self
- order

flex

```
#item {  
    flex-grow: 0;           maximale groefactor  
    flex-shrink: 1;         maximale verkleinfactor  
    flex-basis: auto;       initiële grootte  
}
```

flex

```
#item { flex: [grow] [shrink] [basis]; }
```

grow: maximale groeifactor

shrink: maximale verkleinfactor

basis: initiële grootte

**FLEX
ITEM**

flex

```
#item { flex: 0 1 auto; }
```

**FLEX
ITEM**

flex

```
#item { flex: 1; }
```

OEFENING 01

Maak een pagina met daarop:

- een rij met 3 kolommen
- een rij met 4 kolommen
- een rij met 5 kolommen

OEFENING

**Lore
m ipsum
dolor sit met**

Tijd over?
Doe dit alleen op
viewports groter
dan 50em.

FLEX ITEM

```
#item { flex: initial; }  
// equivalent aan '0 1 auto'
```

laat item niet
groter worden,
wel kleiner

```
#item { flex: auto; }  
// equivalent aan '1 1 auto'
```

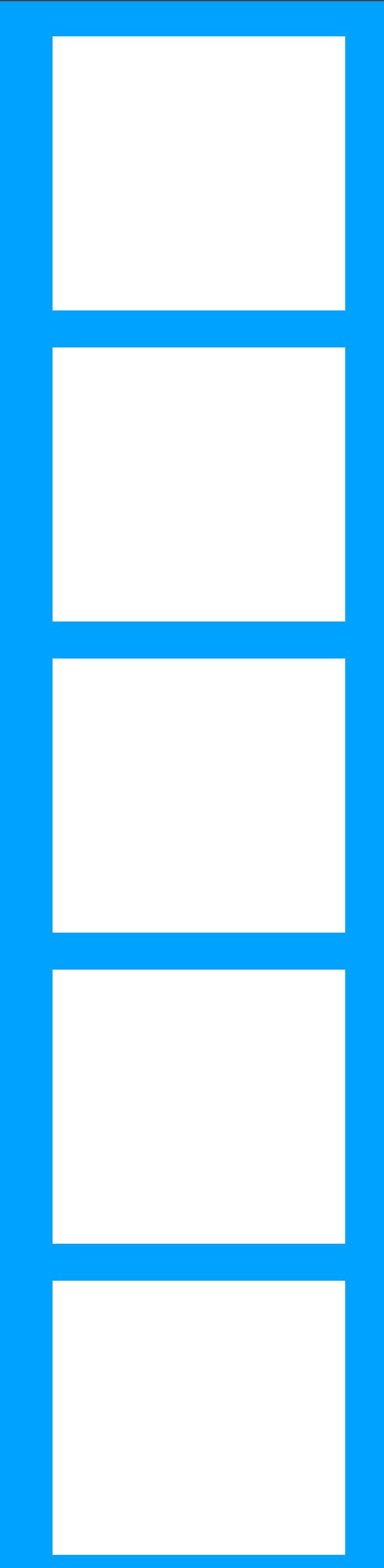
volledig flexibel –
laat item zowel
groter als
kleiner worden

```
#item { flex: none; }  
// equivalent aan '0 0 auto'
```

niet flexibel –
laat item niet
groter of
kleiner worden



cross



main axis vs cross axis

flex-direction: column;

main axis vs cross axis

flex-direction: row;



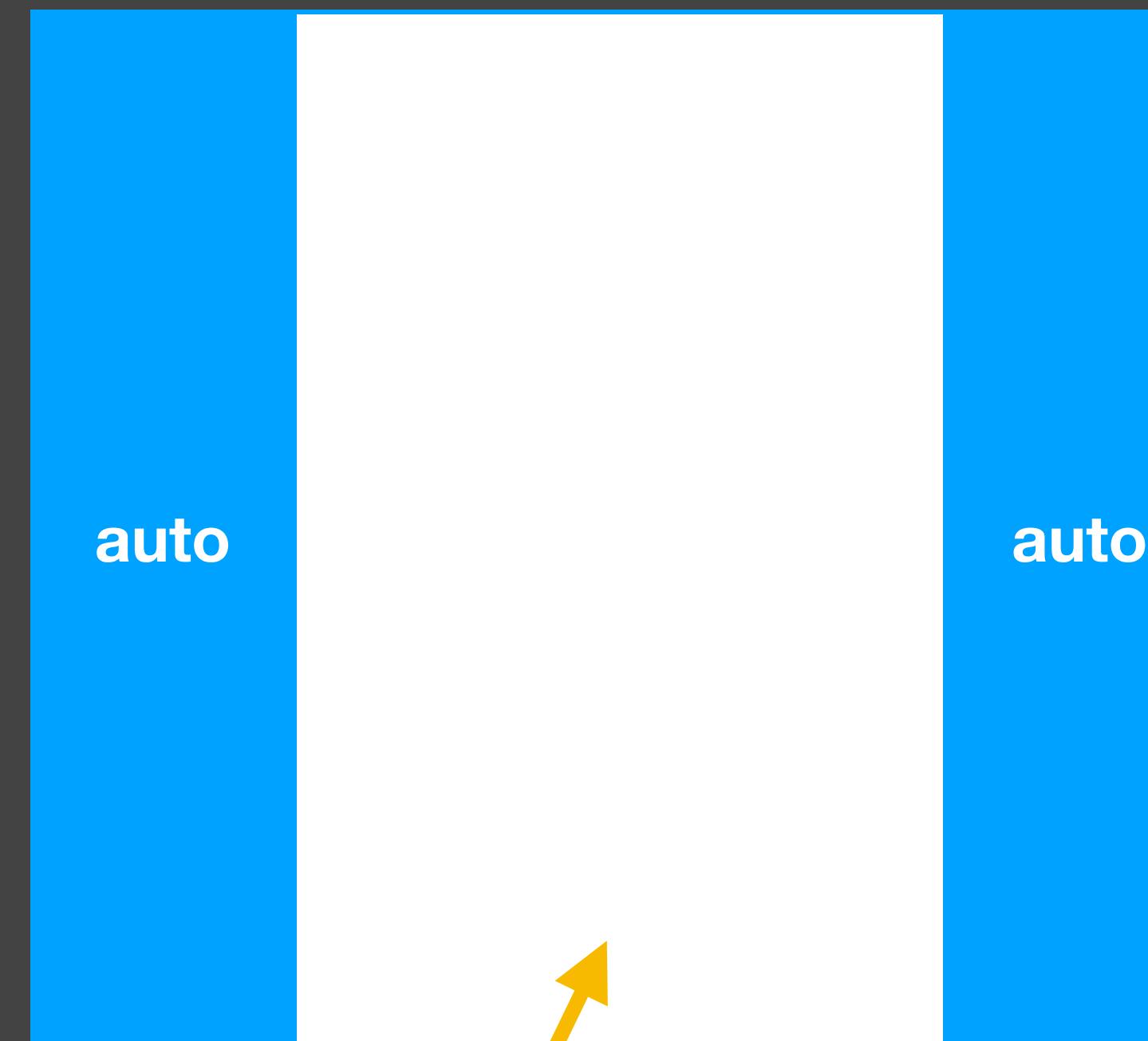
**FLEX
ITEM**

wrapping

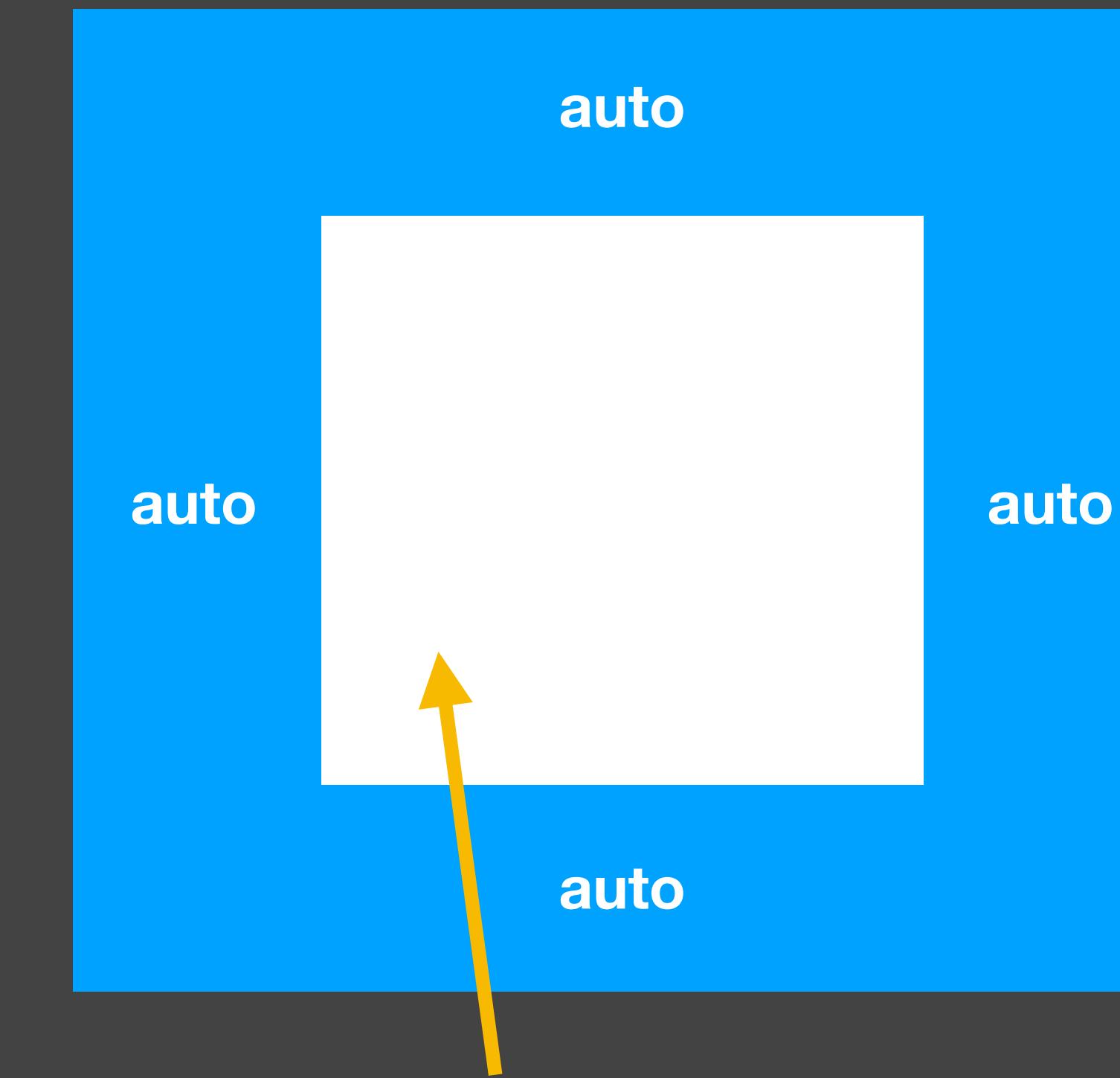
Wil je items over meerdere kolommen/rijen of juist niet?

```
#container {  
    flex-wrap: nowrap | wrap;  
}
```

automagische margins

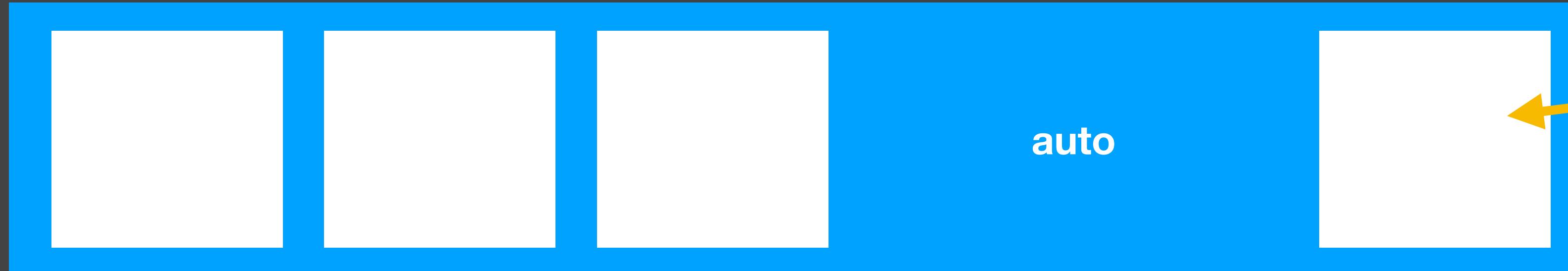
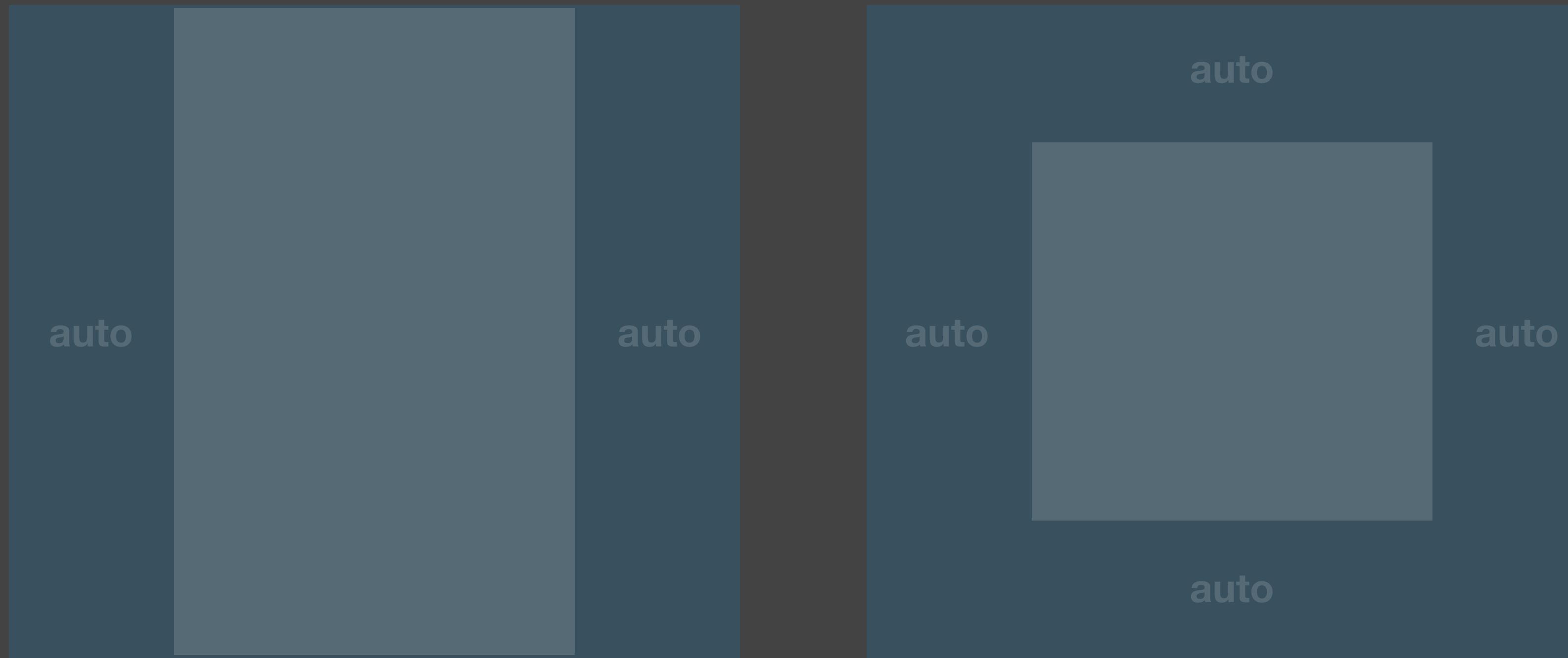


`margin: 0 auto;`



`margin: auto;`

automagische margins



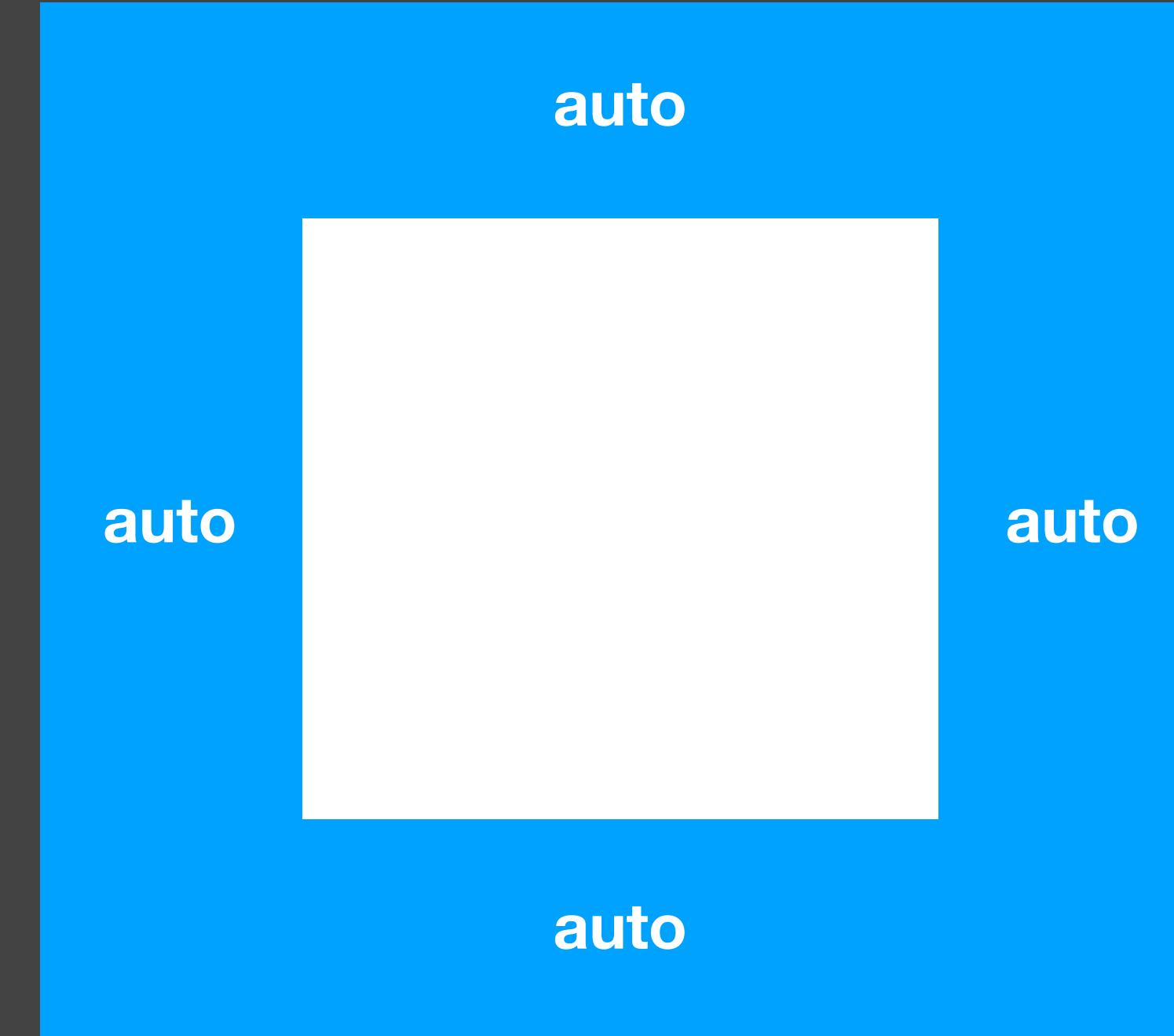
FLEX ITEM

**één item uitlijnen
op de main axis**

**Op kolommen als je kolommen maakt,
op rijen als je rijen maakt.**

**Lijn één item anders uit dan de rest, of, als
je maar één item hebt, verdeel omringende
ruimte automatisch.**

```
#item {  
  margin: auto;  
}
```

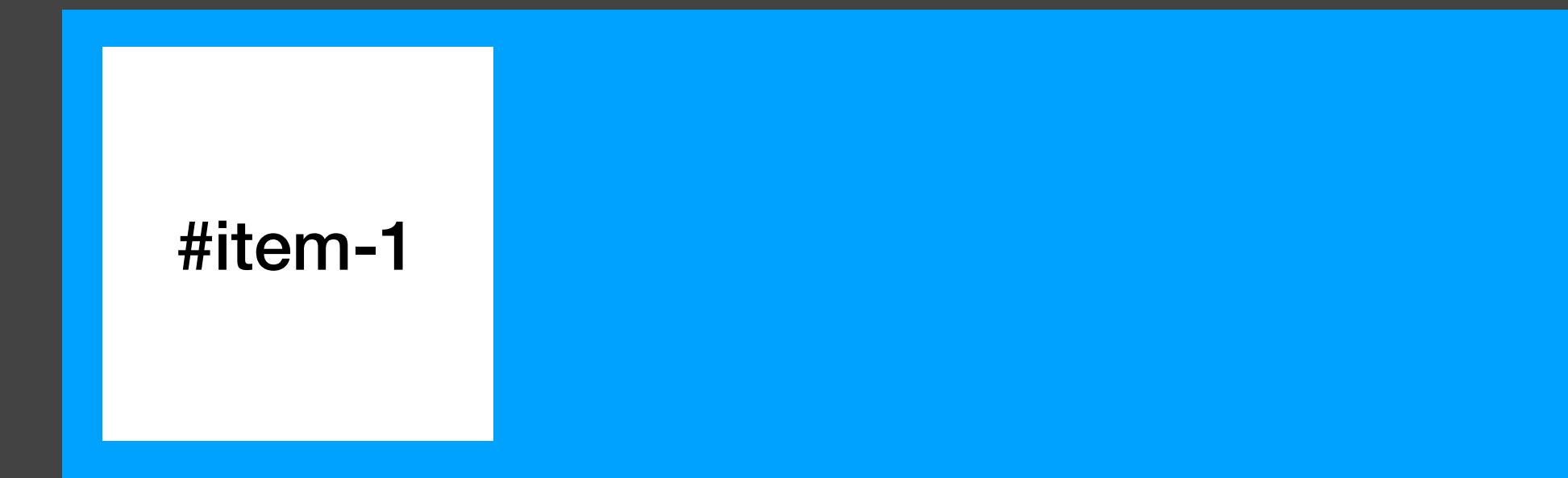


FLEX ITEM

één item uitlijnen op de main axis

Op kolommen als je kolommen maakt,
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Lijn één item anders uit dan de rest, of, als
je maar één item hebt, verdeel omringende
ruimte automatisch.



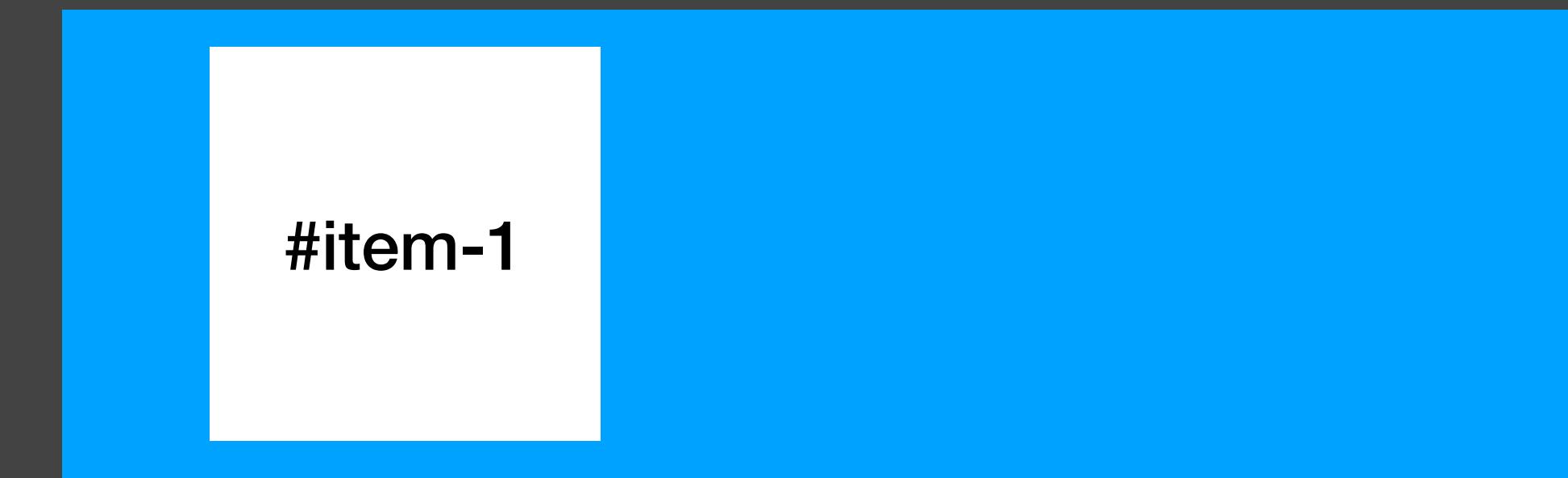
```
#item-1 {  
  margin-left: 0;  
}
```

FLEX ITEM

één item uitlijnen op de main axis

Op kolommen als je kolommen maakt,
op rijen als je rijen maakt.

Lijn één item anders uit dan de rest, of, als
je maar één item hebt, verdeel omringende
ruimte automatisch.



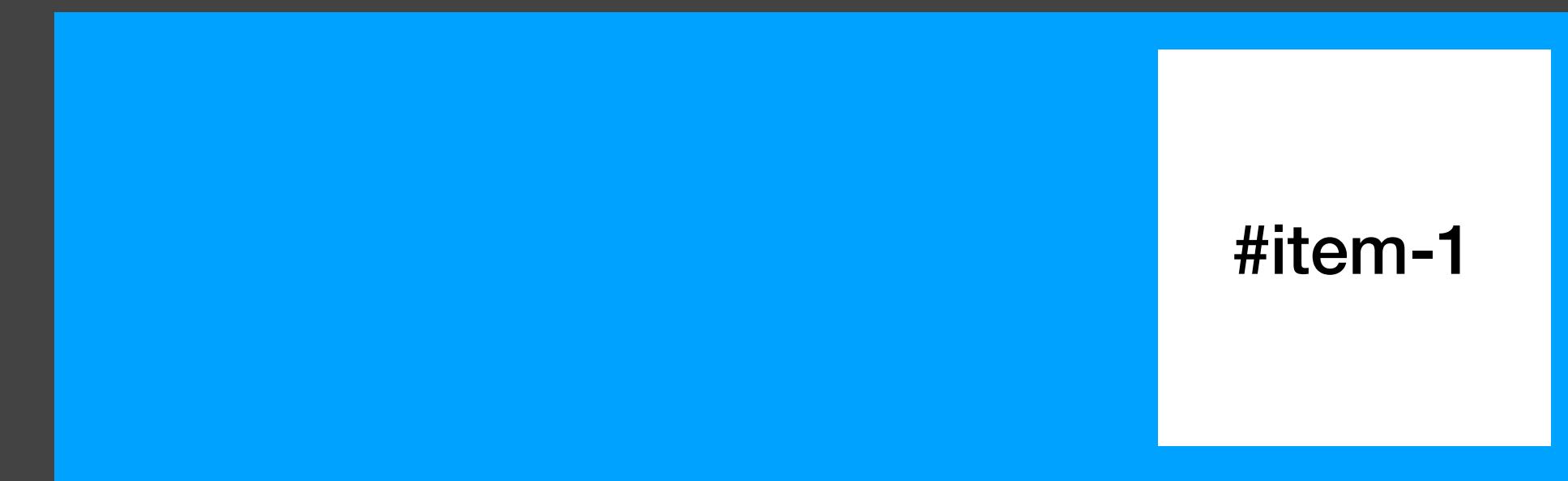
```
#item-1 {  
  margin-left: 1em;  
}
```

FLEX ITEM

**één item uitlijnen
op de main axis**

**Op kolommen als je kolommen maakt,
op rijen als je rijen maakt.**

**Lijn één item anders uit dan de rest, of, als
je maar één item hebt, verdeel omringende
ruimte automatisch.**



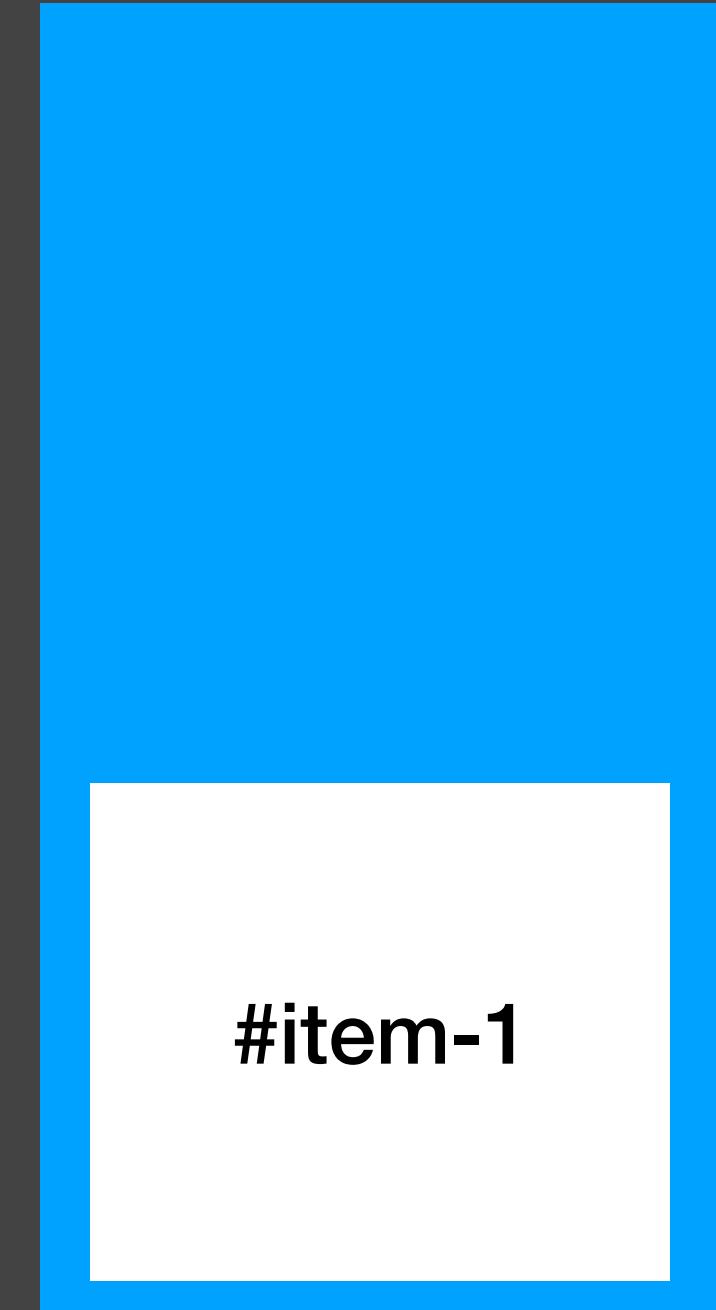
```
#item-1 {  
  margin-left: auto;  
}
```

FLEX ITEM

**één item uitlijnen
op de main axis**

**Op kolommen als je kolommen maakt,
op rijen als je rijen maakt.**

**Lijn één item anders uit dan de rest, of, als
je maar één item hebt, verdeel omringende
ruimte automatisch.**



#item-1 {
margin-top: auto;
}

A diagram illustrating the 'auto' margin behavior. A large blue square represents the flex container, and a smaller white rectangle with a black border inside it represents the flex item. The item is centered vertically within the container. To the right of the container, a double-headed vertical arrow indicates the range of the 'auto' margin, which is applied from the bottom of the item to the top of the container's boundary.

FLEX ITEM

één item uitlijnen op de cross axis

Op kolommen als je rijen maakt,
op rijen als je kolommen maakt.

Lijn één item anders uit dan de rest.



#item-1

```
#item {  
  align-self: flex-start  
  | flex-end | center |  
  baseline | stretch;  
}
```

FLEX ITEM

één item uitlijnen op de cross axis

Op kolommen als je rijen maakt,
op rijen als je kolommen maakt.

Lijn één item anders uit dan de rest.



#item-1

```
#item {  
  align-self: flex-start  
  | flex-end | center |  
  baseline | stretch;  
}
```

FLEX ITEM

één item uitlijnen op de cross axis

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op rijen als je kolommen maakt.

Lijn één item anders uit dan de rest.



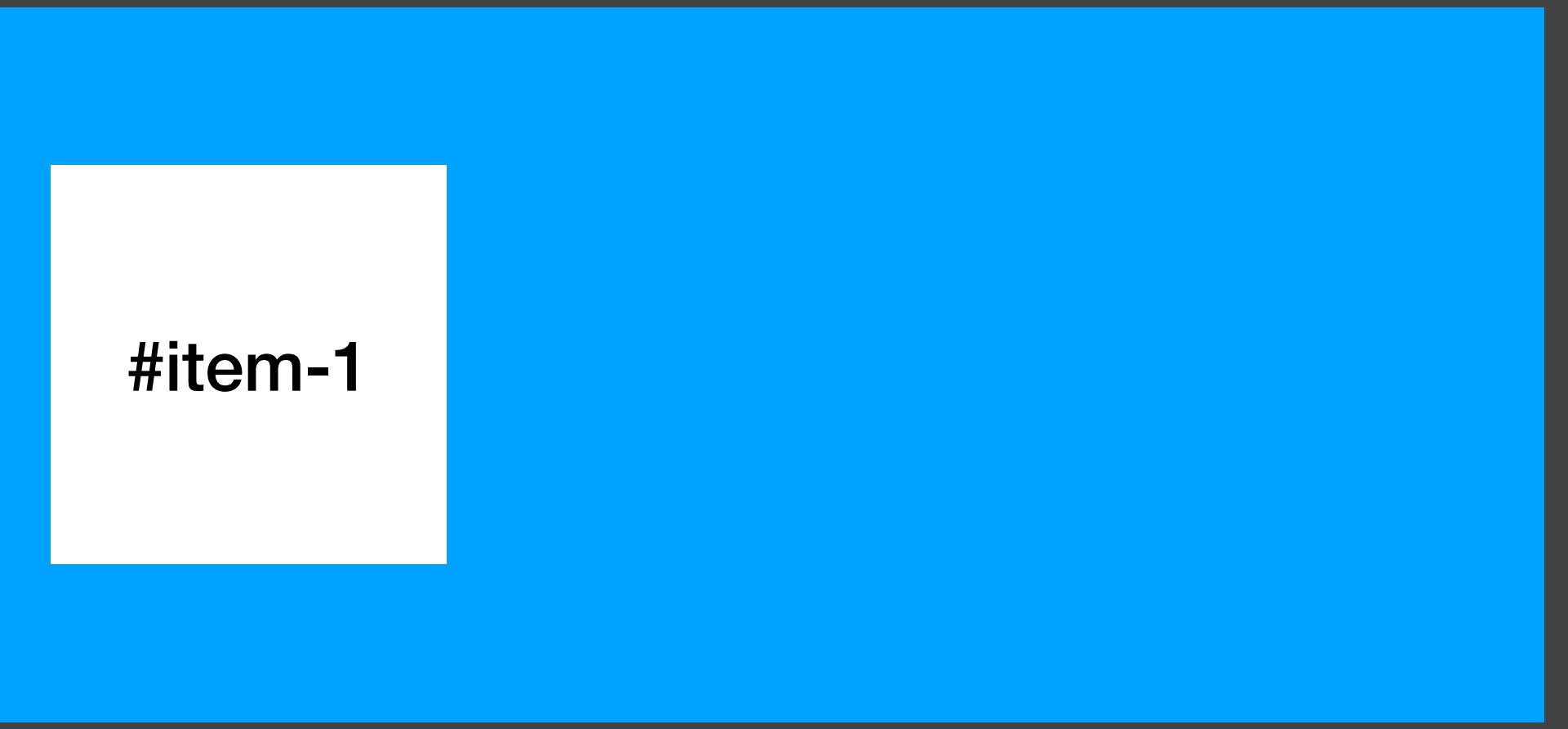
```
#item {  
  align-self: flex-start  
  | flex-end | center |  
  baseline | stretch;  
}
```

FLEX ITEM

één item uitlijnen op de cross axis

Op kolommen als je rijen maakt,
op rijen als je kolommen maakt.

Lijn één item anders uit dan de rest.



#item-1

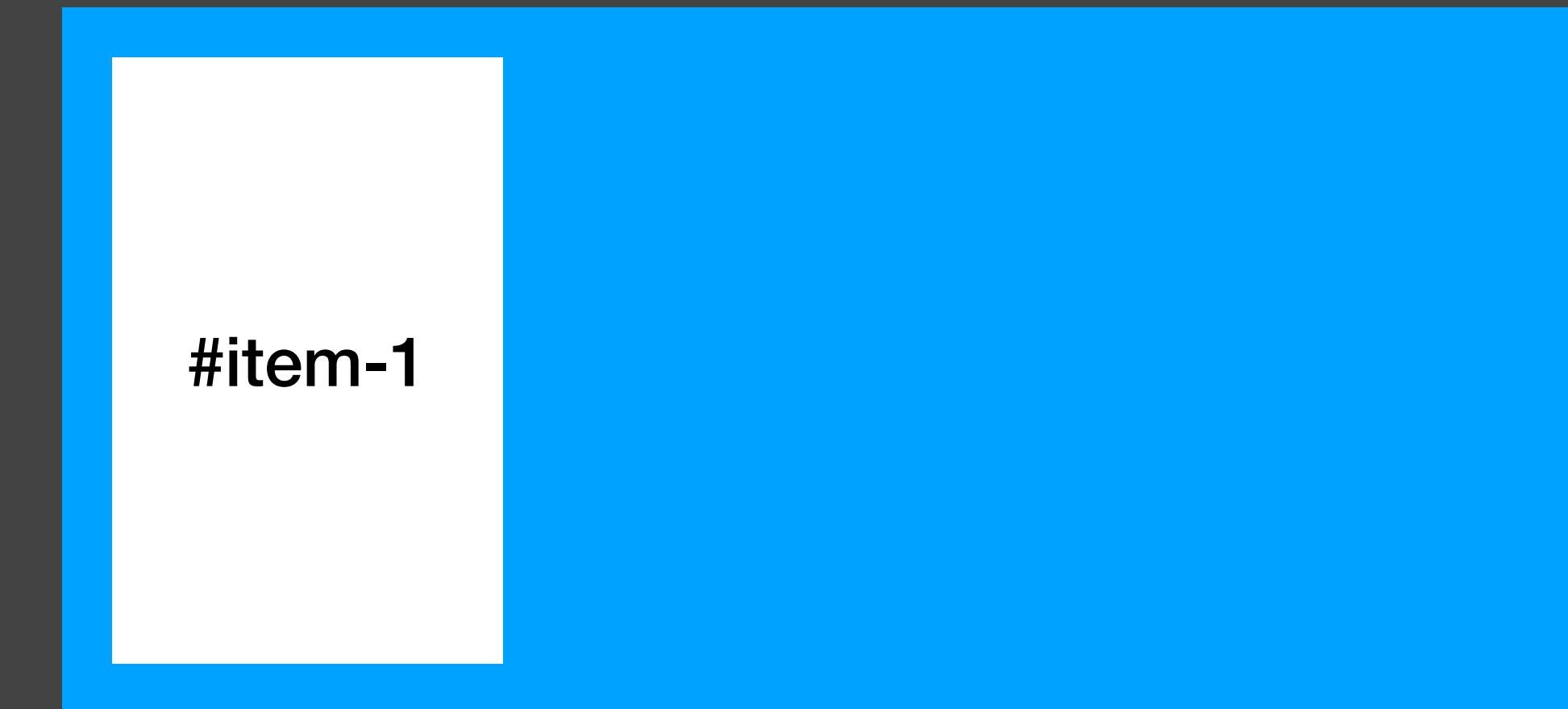
```
#item {  
  align-self: flex-start  
  | flex-end | center |  
  baseline | stretch;  
}
```

FLEX ITEM

één item uitlijnen op de cross axis

Op kolommen als je rijen maakt,
op rijen als je kolommen maakt.

Lijn één item anders uit dan de rest.



```
#item {  
  align-self: flex-start  
  | flex-end | center |  
  baseline | stretch;  
}
```

FLEX CONTAINER

FLEX CONTAINER

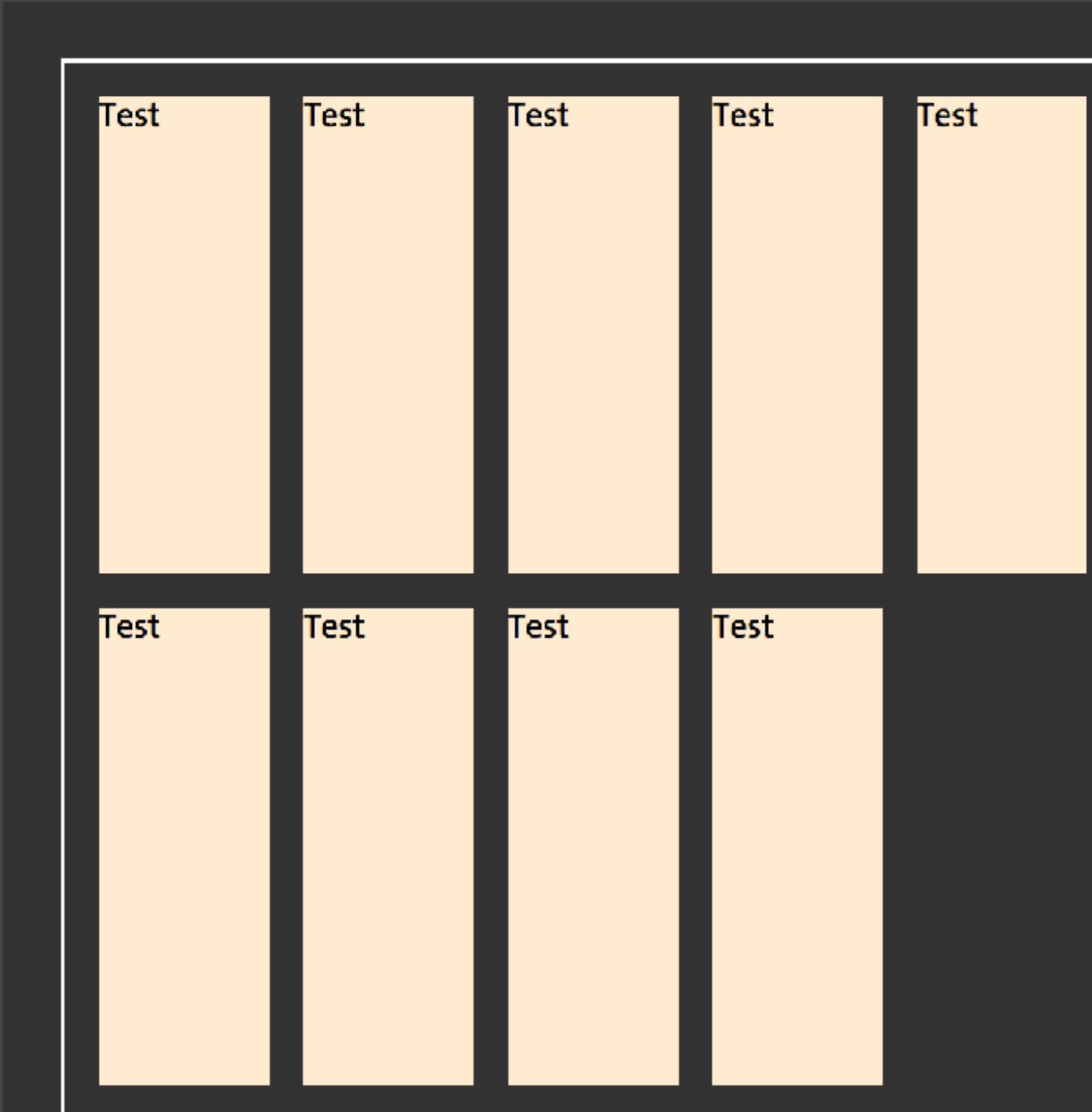
content uitlijnen op de main axis

**Op kolommen als je kolommen maakt,
op rijen als je rijen maakt.**

**Zet de items in deze container
gezamenlijk op een plek, bv aan
het begin of het eind.**

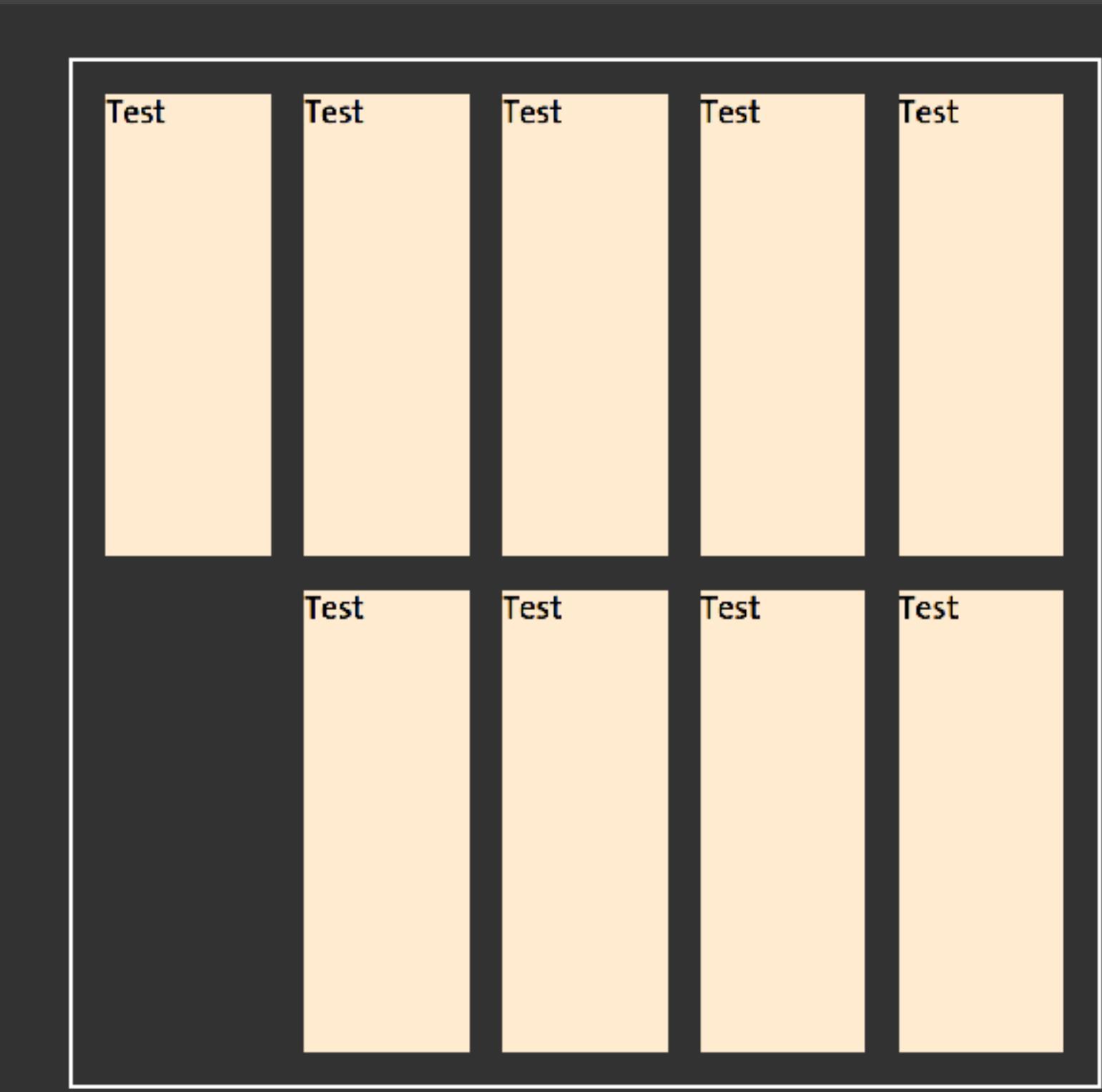
```
#container {  
    justify-content:  
        flex-start | flex-  
        end | center |  
        space-between |  
        space-around;  
}
```

FLEX CONTAINER



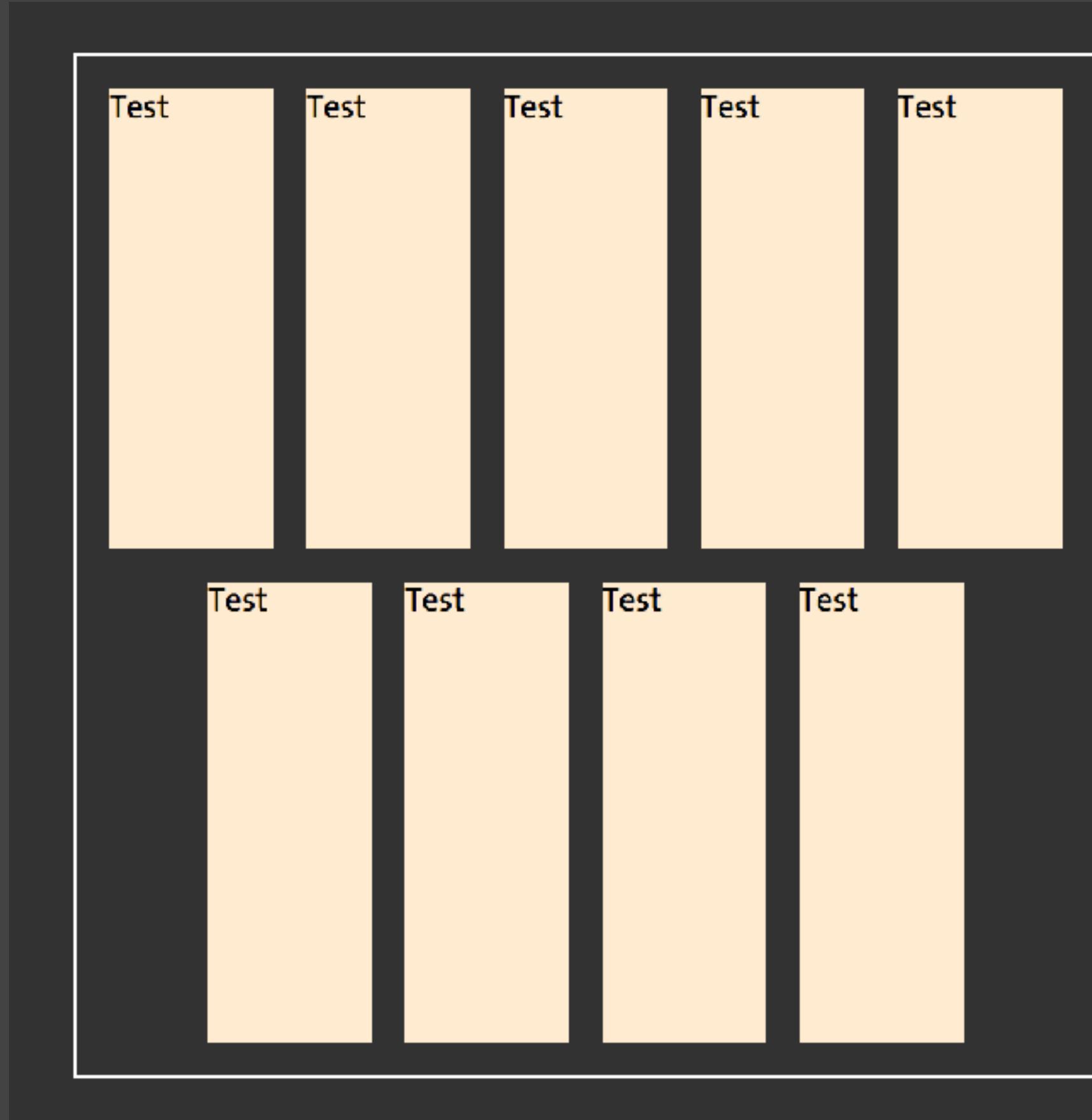
```
#container {  
  justify-content:  
    flex-start | flex-  
    end | center |  
    space-between |  
    space-around;  
}
```

FLEX CONTAINER



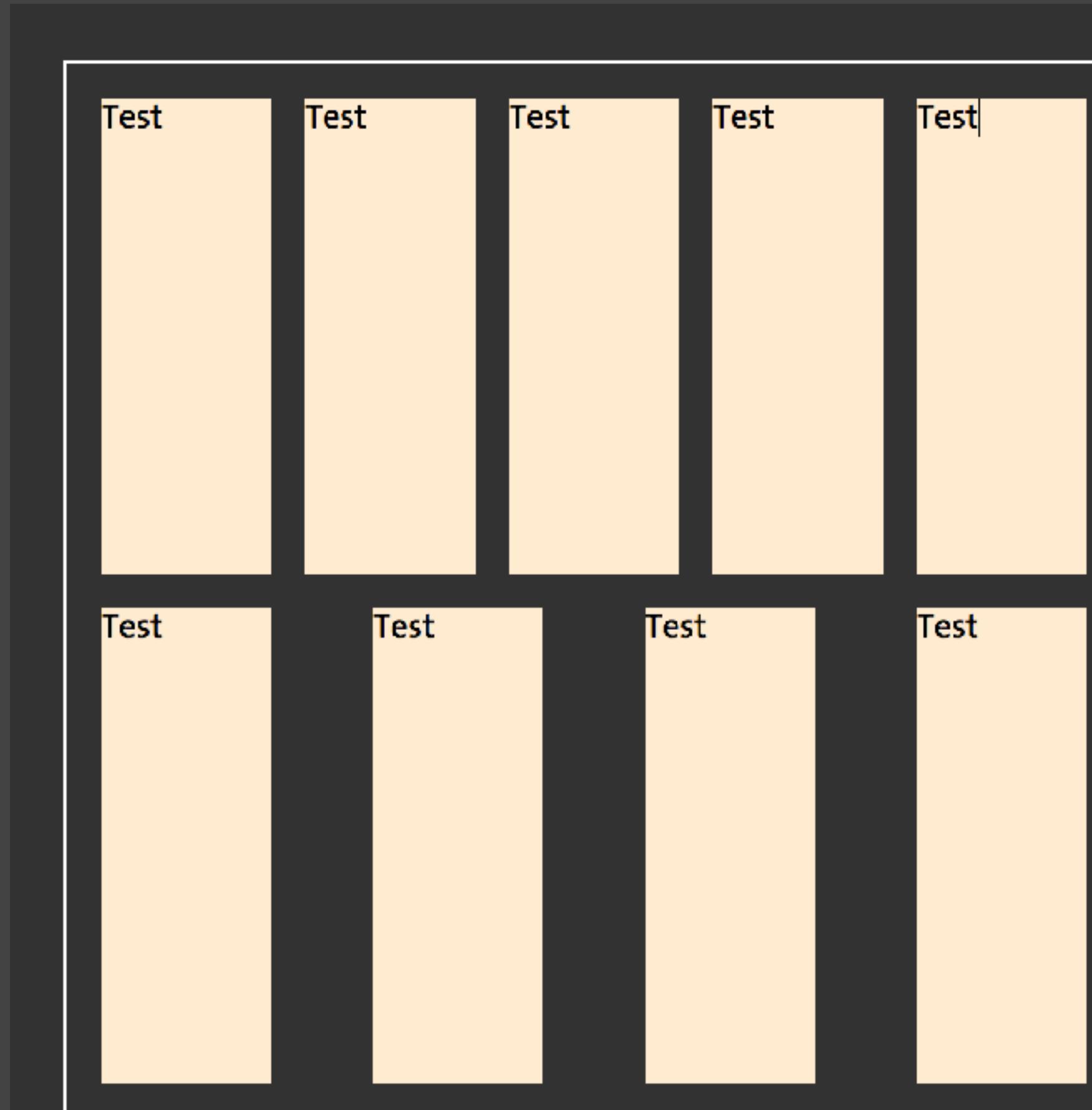
```
#container {  
  justify-content:  
    flex-start | flex-  
    end | center |  
    space-between |  
    space-around;  
}
```

FLEX CONTAINER



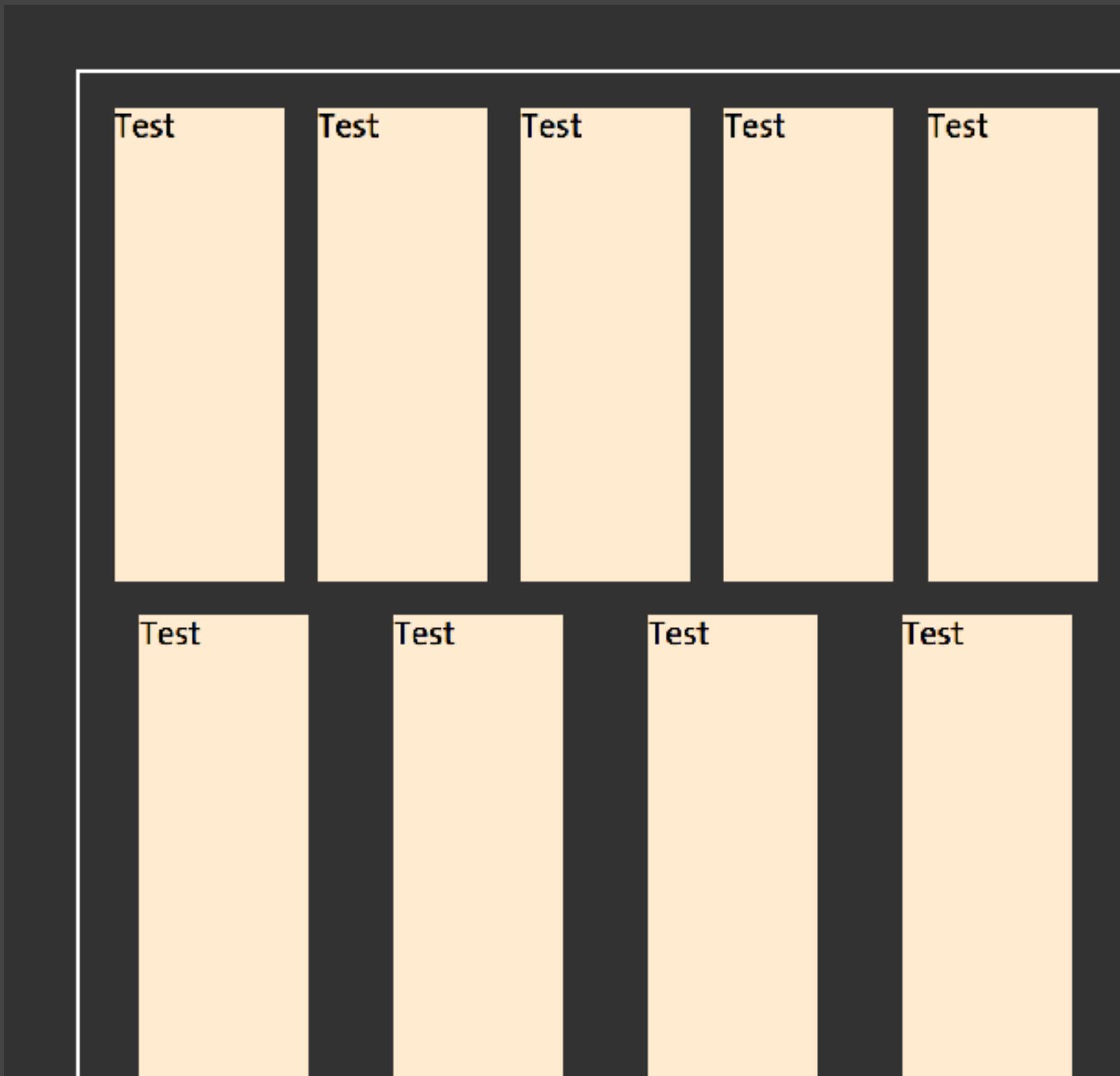
```
#container {  
  justify-content:  
    flex-start | flex-  
    end | center |  
    space-between |  
    space-around;  
}
```

FLEX CONTAINER



```
#container {  
  justify-content:  
    flex-start | flex-  
    end | center |  
    space-between |  
    space-around;  
}
```

FLEX CONTAINER



```
#container {  
  justify-content:  
    flex-start | flex-  
    end | center |  
    space-between |  
    space-around;  
}
```

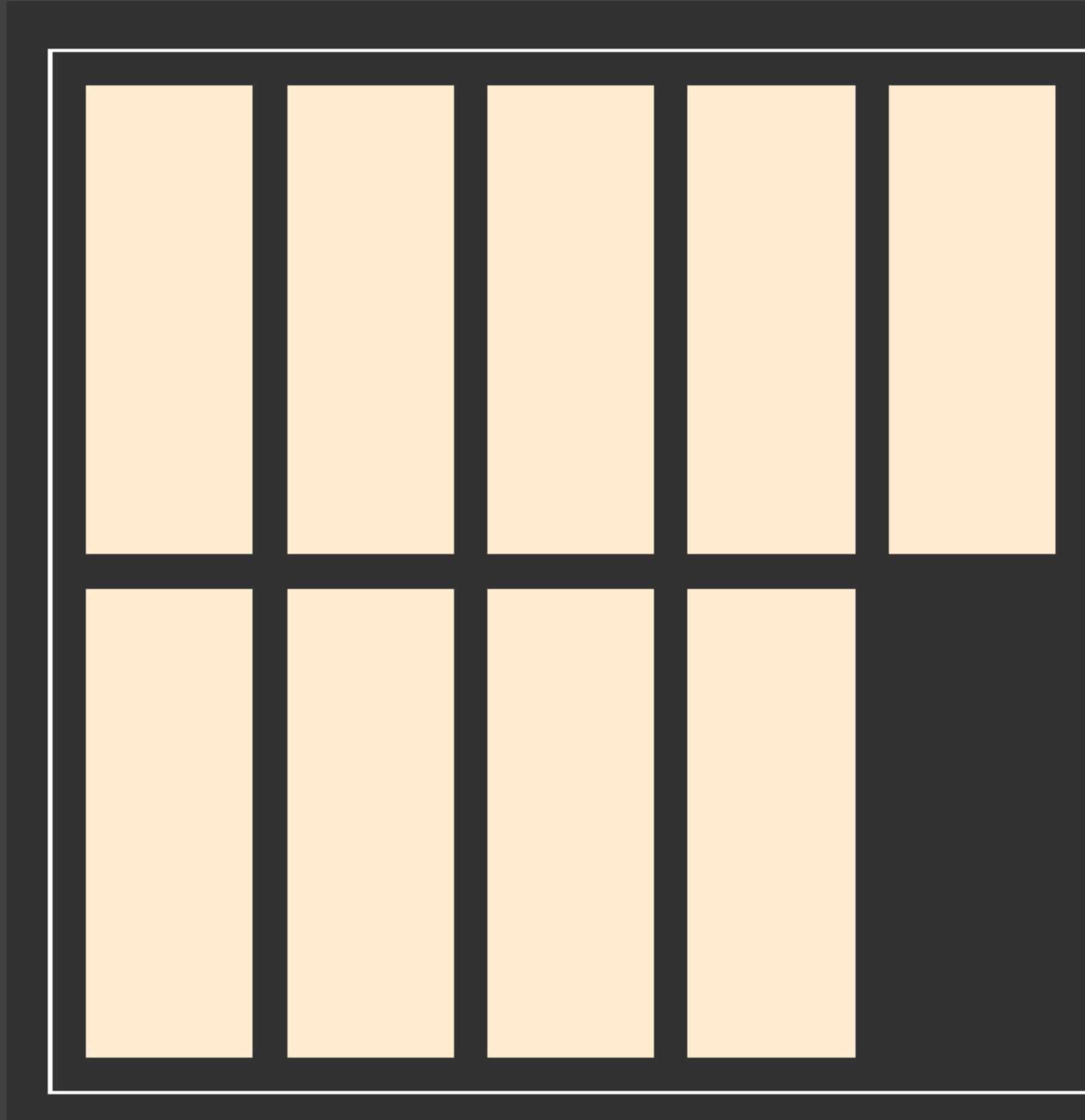
FLEX CONTAINER

content uitlijnen op de cross axis

Op kolommen als je rijen maakt,
op rijen als je kolommen maakt.

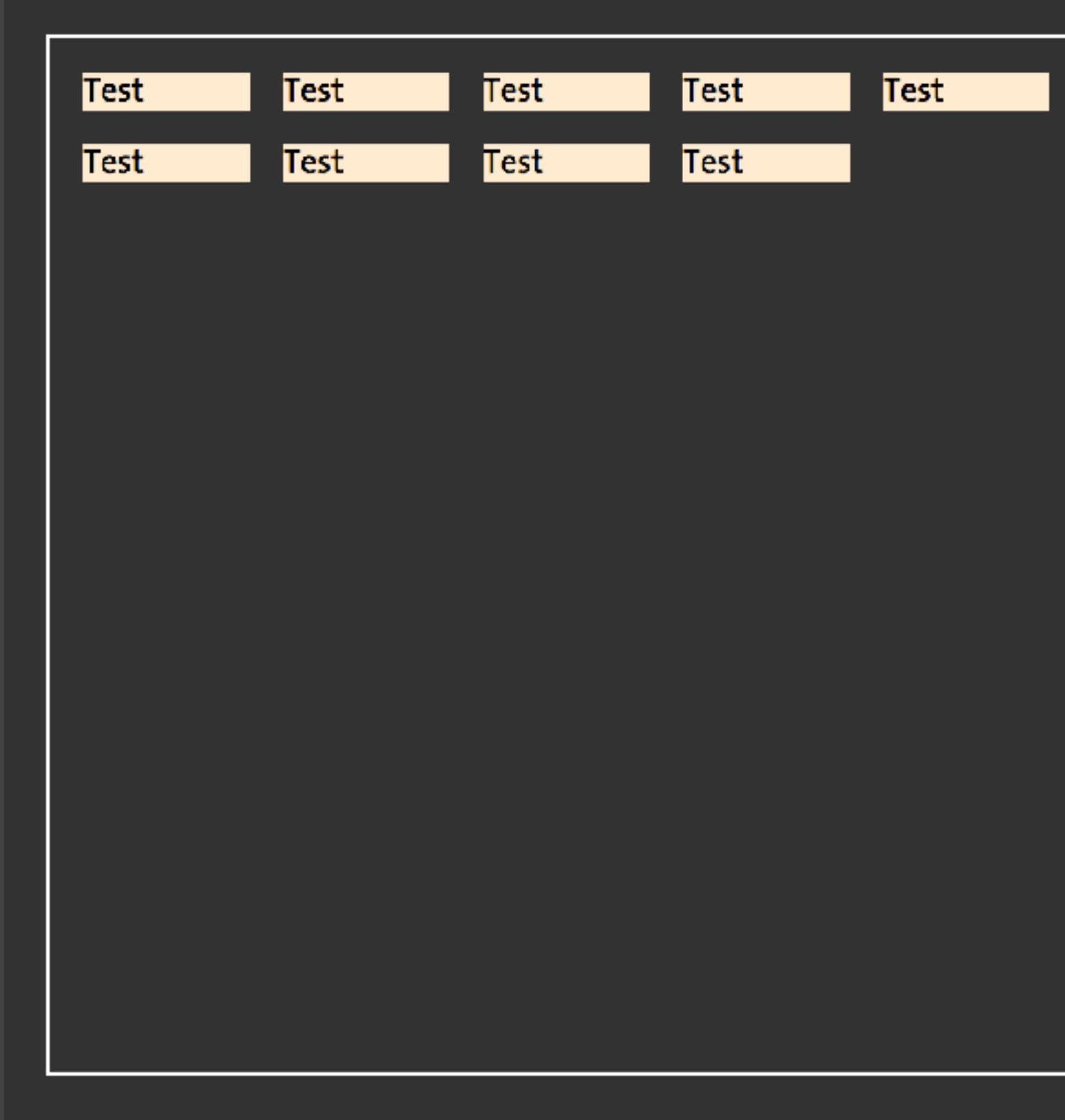
```
#container {  
    align-content: stretch  
    | flex-start | flex-  
    end | center | space-  
    between | space-  
    around;  
}
```

FLEX CONTAINER



```
#container {  
  align-content: stretch  
  | flex-start | flex-  
  end | center | space-  
  between | space-  
  around;  
}
```

FLEX CONTAINER



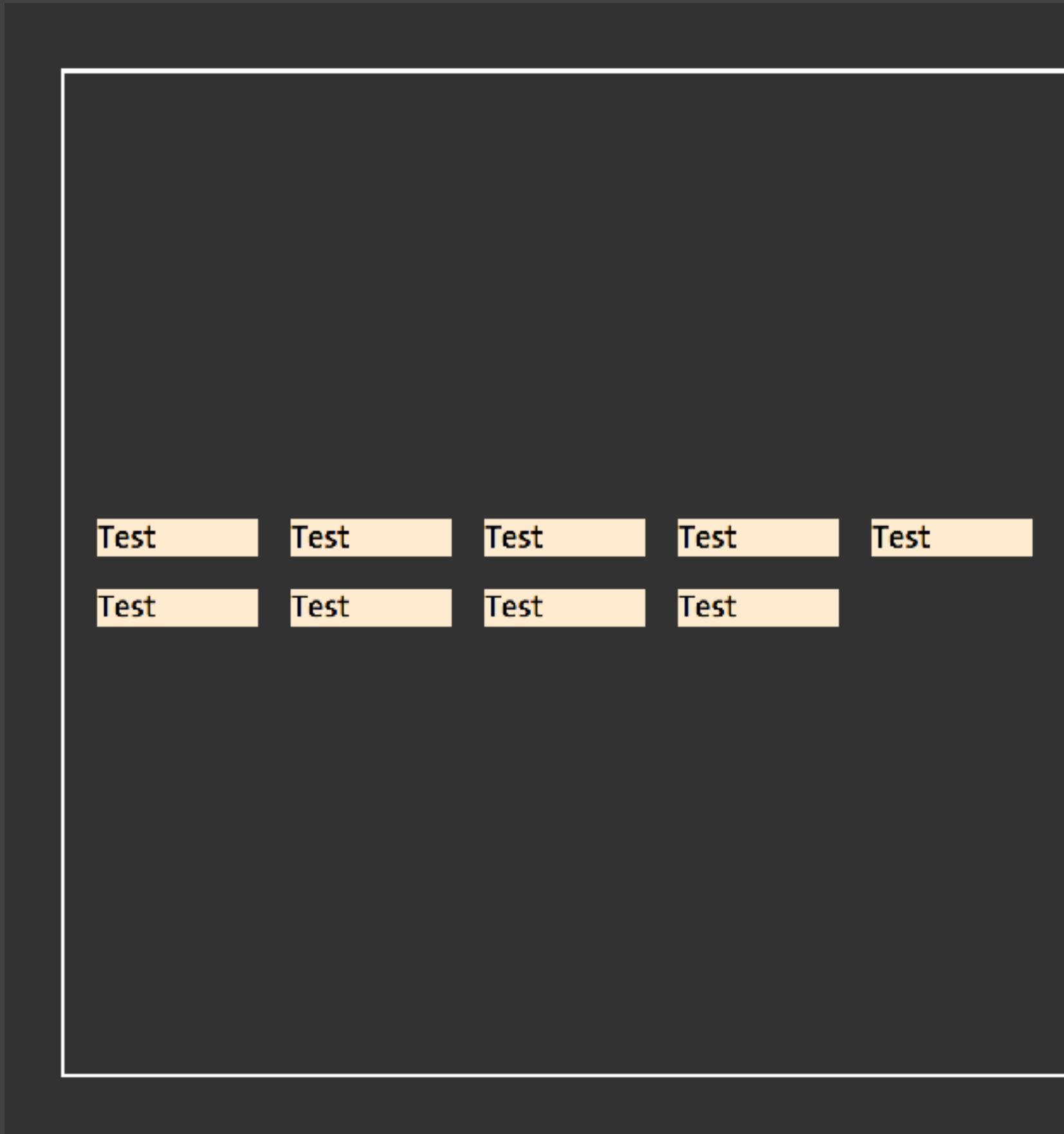
```
#container {  
  align-content: stretch  
  | flex-start | flex-  
  end | center | space-  
  between | space-  
  around;  
}
```

FLEX CONTAINER



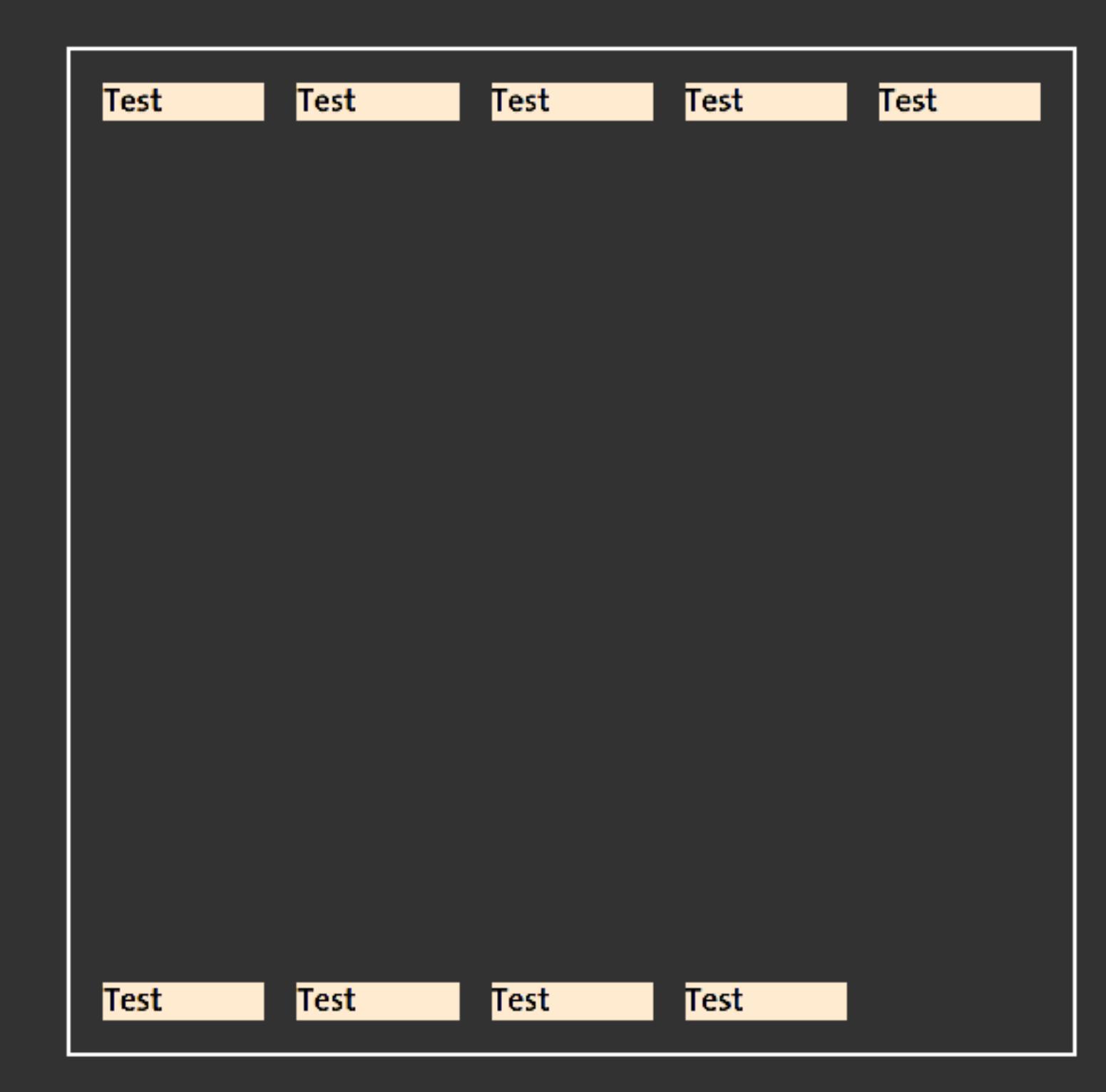
```
#container {  
  align-content: stretch  
  | flex-start | flex-  
  end | center | space-  
  between | space-  
  around;  
}
```

FLEX CONTAINER



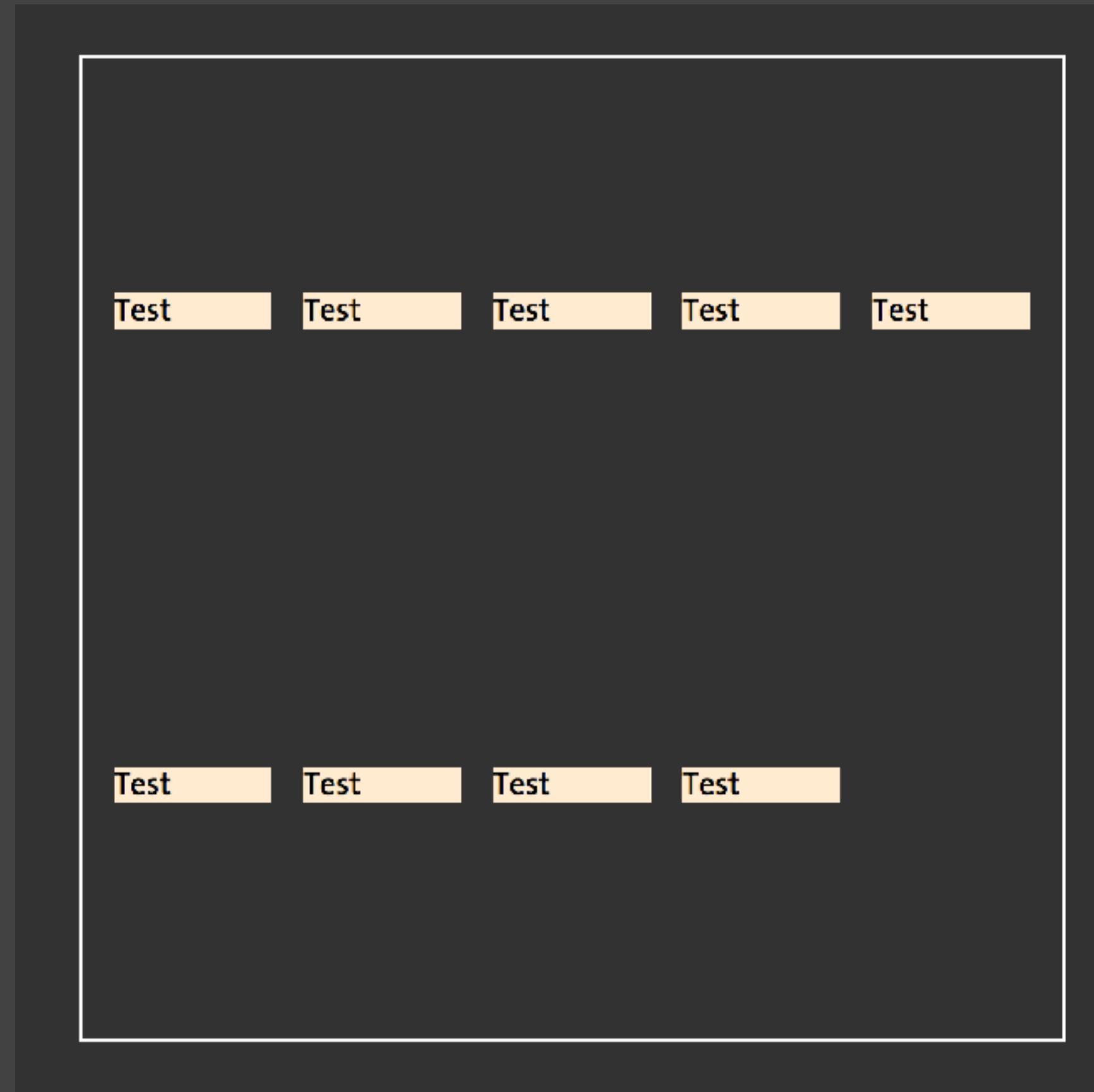
```
#container {  
  align-content: stretch  
  | flex-start | flex-  
  end | center | space-  
  between | space-  
  around;  
}
```

FLEX CONTAINER



```
#container {  
  align-content: stretch  
  | flex-start | flex-  
  end | center | space-  
  between | space-  
  around;  
}
```

FLEX CONTAINER



```
#container {  
  align-content: stretch  
  | flex-start | flex-  
  end | center | space-  
  between | space-  
  around;  
}
```

FLEX CONTAINER

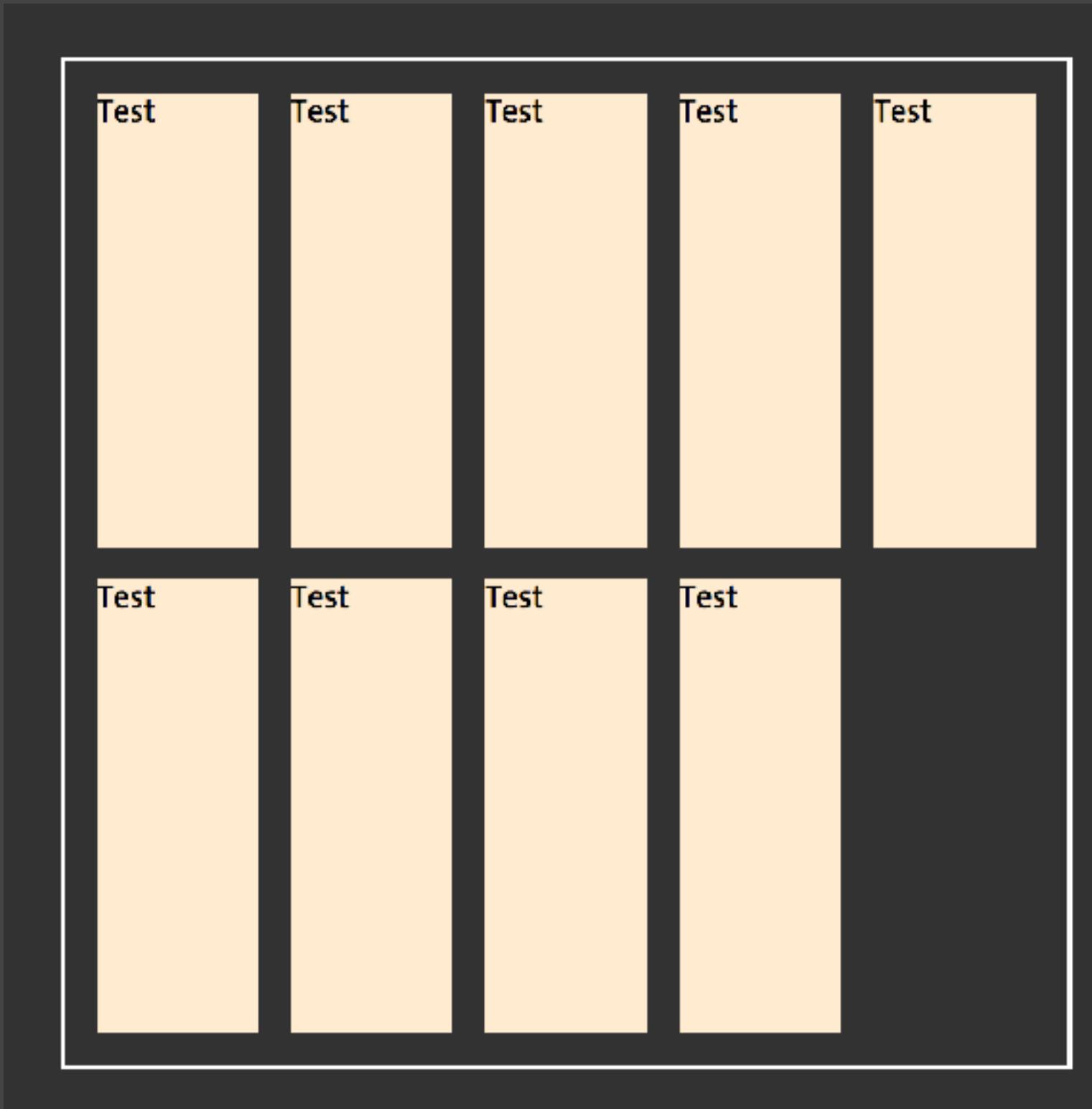
items uitlijnen op de cross axis

Op kolommen als je rijen maakt,
op rijen als je kolommen maakt.

Zet de items in deze container
gezamenlijk op een plek, bv aan
het begin of het eind.

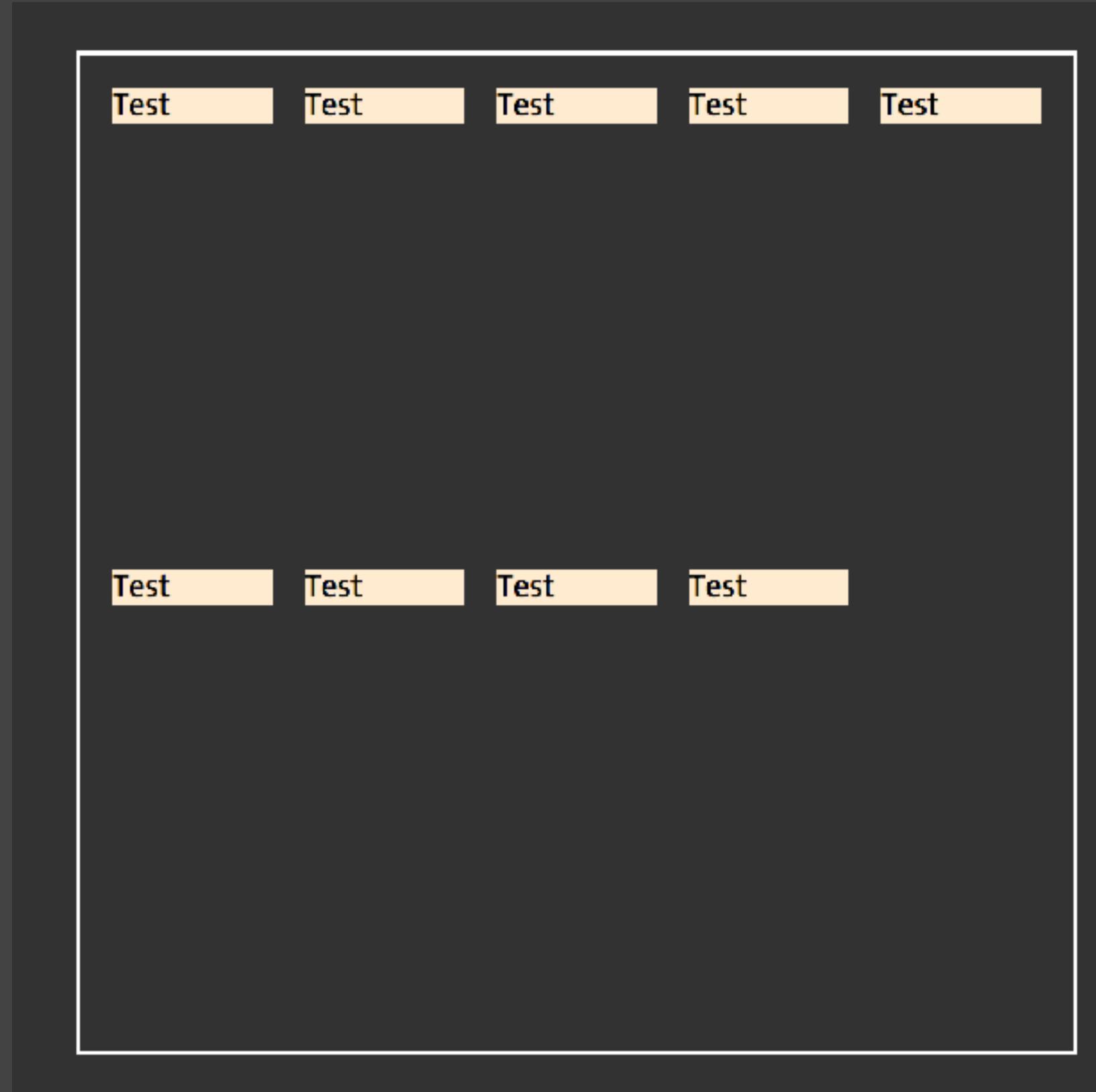
```
#container {  
  align-items: stretch  
  | flex-start | flex-end  
  | center | baseline;  
}
```

FLEX CONTAINER



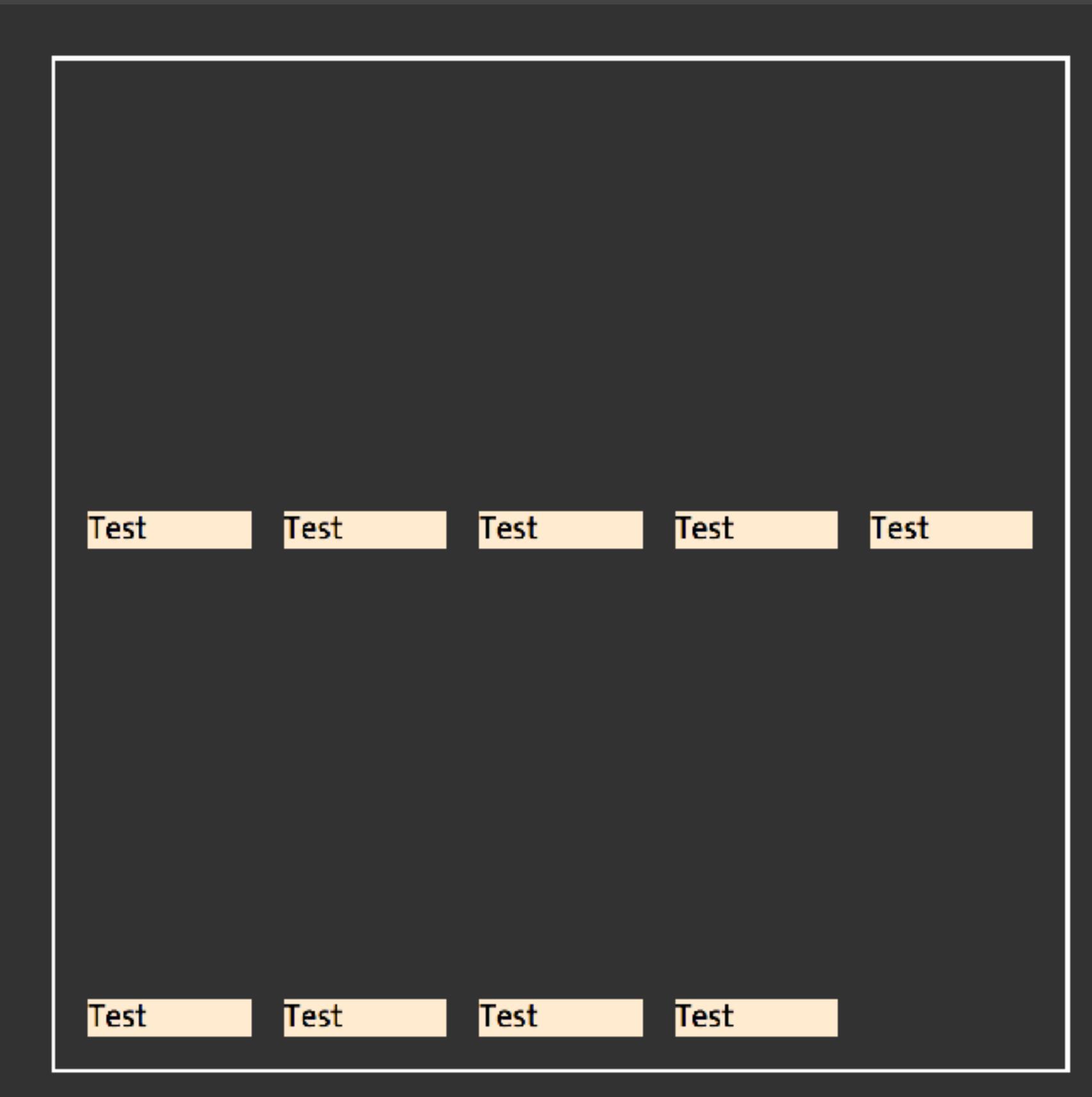
```
#container {  
  align-items: stretch  
  | flex-start | flex-end  
  | center | baseline;  
}
```

FLEX CONTAINER



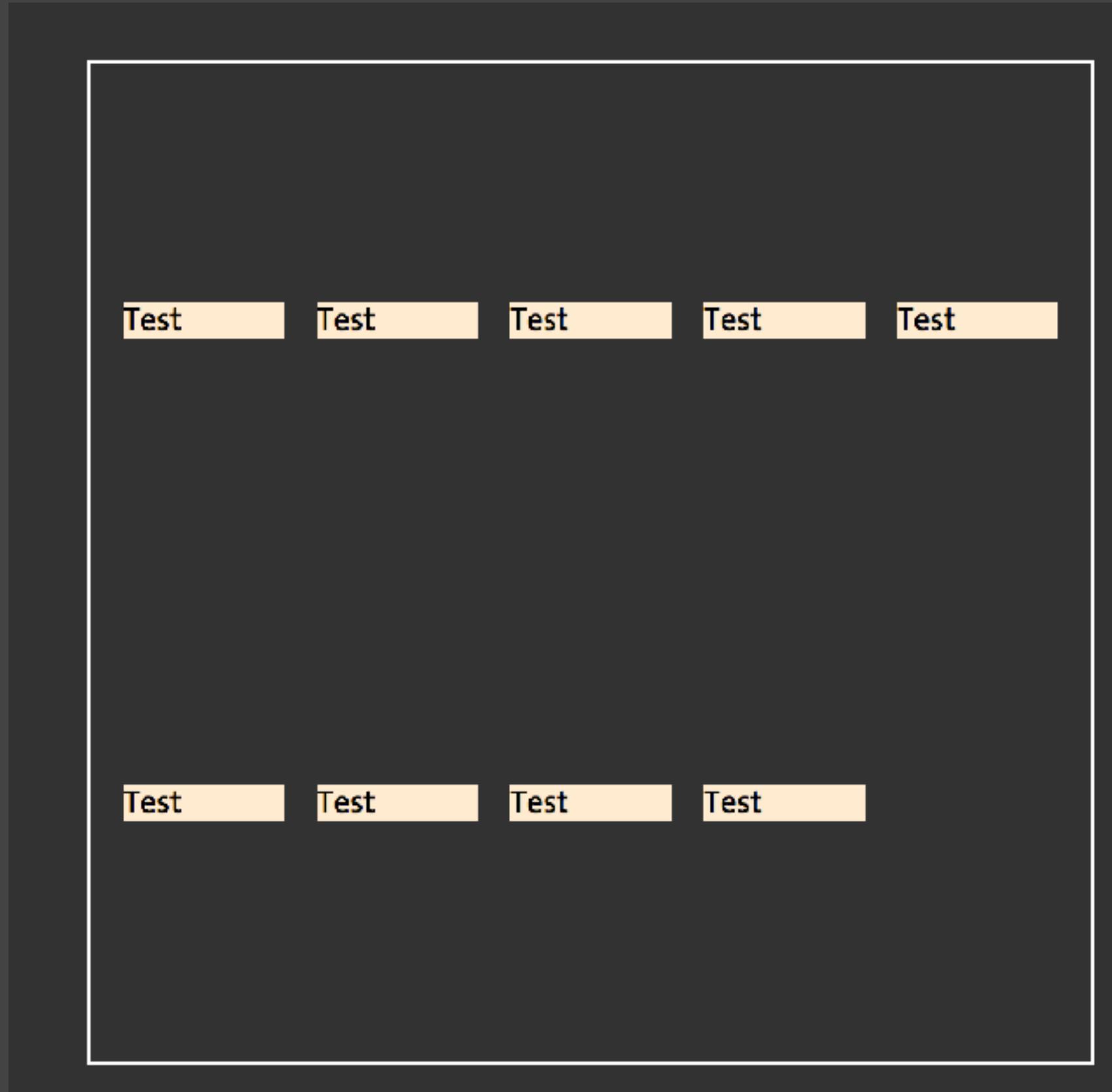
```
#container {  
  align-items: stretch  
  | flex-start | flex-end  
  | center | baseline;  
}
```

FLEX CONTAINER



```
#container {  
  align-items: stretch  
  | flex-start | flex-end  
  | center | baseline;  
}
```

FLEX CONTAINER



```
#container {  
  align-items: stretch  
  | flex-start | flex-end  
  | center | baseline;  
}
```

The Daily Cascade: meta info

THE DAILY CASCADE

Since 1994 · CSS news for all

24 November 2017

The Daily Cascade: highlights

New box alignment spec in the works

Subgrid and the
need for it

order

#item1

#item2

#item3

#item4

#item3 { order: 2; }

**Let op met order. De locatie
van items kan onlogisch worden
voor je keyboardgebruiker.**

OEFENING 03

Zet de tweede highlight
aan het begin

Subgrid and the
need for it

New box alignment spec in the works

Takeaways

Met `display:flex` wordt een element een flex container

Auto margins kunnen overgebleven ruimte benutten

Met alignment properties kun je items uitlijnen

Met 'order' kun je visuele volgorde aanpassen

Grid Layout

**Met CSS Grid Layout kun je
ruimtes definiëren en daar
content in (laten) plaatsen**





neu Japhabet

a possibility
for
the
new
development

een
mogelijkheid
voor
de
nieuwe
ontwikkeling

une
possibilité
pour
le
nouveau
développement

eine
Gelegenheit
für
die
neue
Entwicklung

In
Introduction
for
the
programmed
typography

j b c d e f g h
i t l o n o p
q r s t u v w
x y z





CSS Grid Layout Module Level 1 X +

<https://www.w3.org/TR/css-grid-1/>

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 - 1.1 Background and Motivation
 - 1.1.1 Adapting Layouts to Available Space
 - 1.1.2 Source-Order Independence
- 2 Overview**
 - 2.1 Declaring the Grid
 - 2.2 Placing Items
 - 2.3 Sizing the Grid
- 3 Grid Layout Concepts and Terminology**
 - 3.1 Grid Lines
 - 3.2 Grid Tracks and Cells
 - 3.3 Grid Areas
- 4 Reordering and Accessibility**
- 5 Grid Containers**
 - 5.1 Establishing Grid Containers: the 'grid' and 'inline-grid' 'display' values
 - 5.2 Sizing Grid Containers
 - 5.3 Clamping Overly Large Grids
- 6 Grid Items**
 - 6.1 Grid Item Display
 - 6.2 Grid Item Sizing
 - 6.3 Reordered Grid Items: the 'order' property
 - 6.4 Grid Item Margins and Paddings
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 - 6.6 Implied Minimum Size of Grid Items
- 7 Defining the Grid**
 - 7.1 The Explicit Grid
 - 7.2 Explicit Track Sizing: the 'grid-template-rows' and 'grid-template-columns' properties
 - 7.2.1 Named Grid Lines: the '<custom-ident>*' syntax

W3C Candidate Recommendation

CSS Grid Layout Module Level 1

W3C Candidate Recommendation, 09 May 2017

This version: <https://www.w3.org/TR/2017/CR-css-grid-1-20170509/>

Latest published version: <https://www.w3.org/TR/css-grid-1/>

Editor's Draft: <https://drafts.csswg.org/css-grid/>

Previous Versions:

- <https://www.w3.org/TR/2017/CR-css-grid-1-20170209/>
- <https://www.w3.org/TR/2016/WD-css-grid-1-20160519/>
- <https://www.w3.org/TR/2015/WD-css-grid-1-20150917/>
- <https://www.w3.org/TR/2015/WD-css-grid-1-20150806/>
- <https://www.w3.org/TR/2015/WD-css-grid-1-20150317/>
- <https://www.w3.org/TR/2014/WD-css-grid-1-20140513/>
- <https://www.w3.org/TR/2014/WD-css-grid-1-20140123/>
- <https://www.w3.org/TR/2013/WD-css3-grid-layout-20130402/>
- <https://www.w3.org/TR/2012/WD-css3-grid-layout-20121106/>

Test Suite: http://test.csswg.org/suites/css-grid-1_dev/nightly-unstable/

Issue Tracking:

- [Disposition of Comments](#)
- [Inline In Spec](#)
- [GitHub Issues](#)

Editors:

- [Tab Atkins Jr. \(Google\)](#)
- [Elika J. Etemad / fantasai \(Invited Expert\)](#)
- [Rossen Atanassov \(Microsoft\)](#)

Former Editors:

- [Alex Mogilevsky \(Microsoft Corporation\)](#)
- [Phil Cupp \(Microsoft Corporation\)](#)

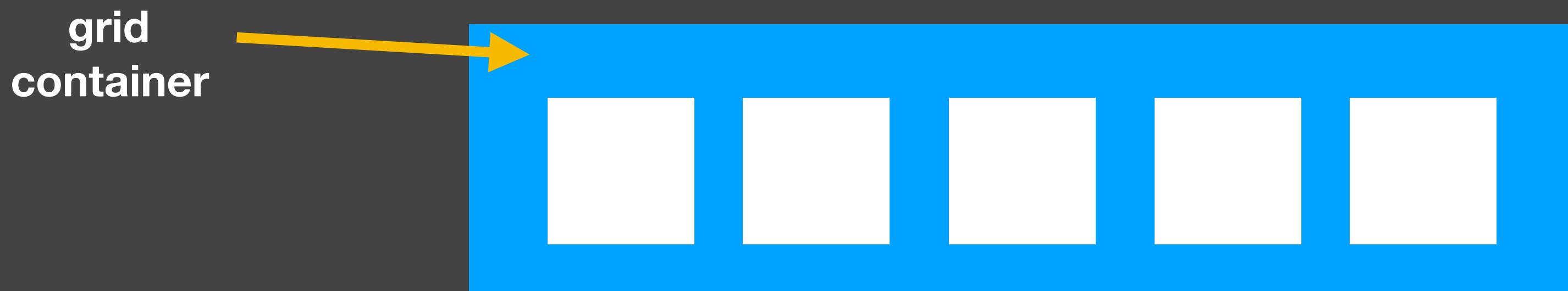
Copyright © 2017 W3C® ([MIT](#), [ERCIM](#), [Keio](#), [Beihang](#)). W3C liability, trademark and license terms apply.

**Het mooie van CSS Grid
is dat je grids met veranderende
content kunnen meegroeien**

een grid definiëren

```
#container { display: grid; }
```

grid container



```
#container { display: grid; }
```

grid container

werkt niet meer:

- column-*
- float
- clear
- vertical-align
- ::first-[item|letter]

werkt nu:

- grid-template-columns
- grid-template-rows
- grid-auto-flow
- justify-content
- align-content

grid items

werkt niet meer:

- vertical-align
- ::first-[item|letter]

werkt nu:

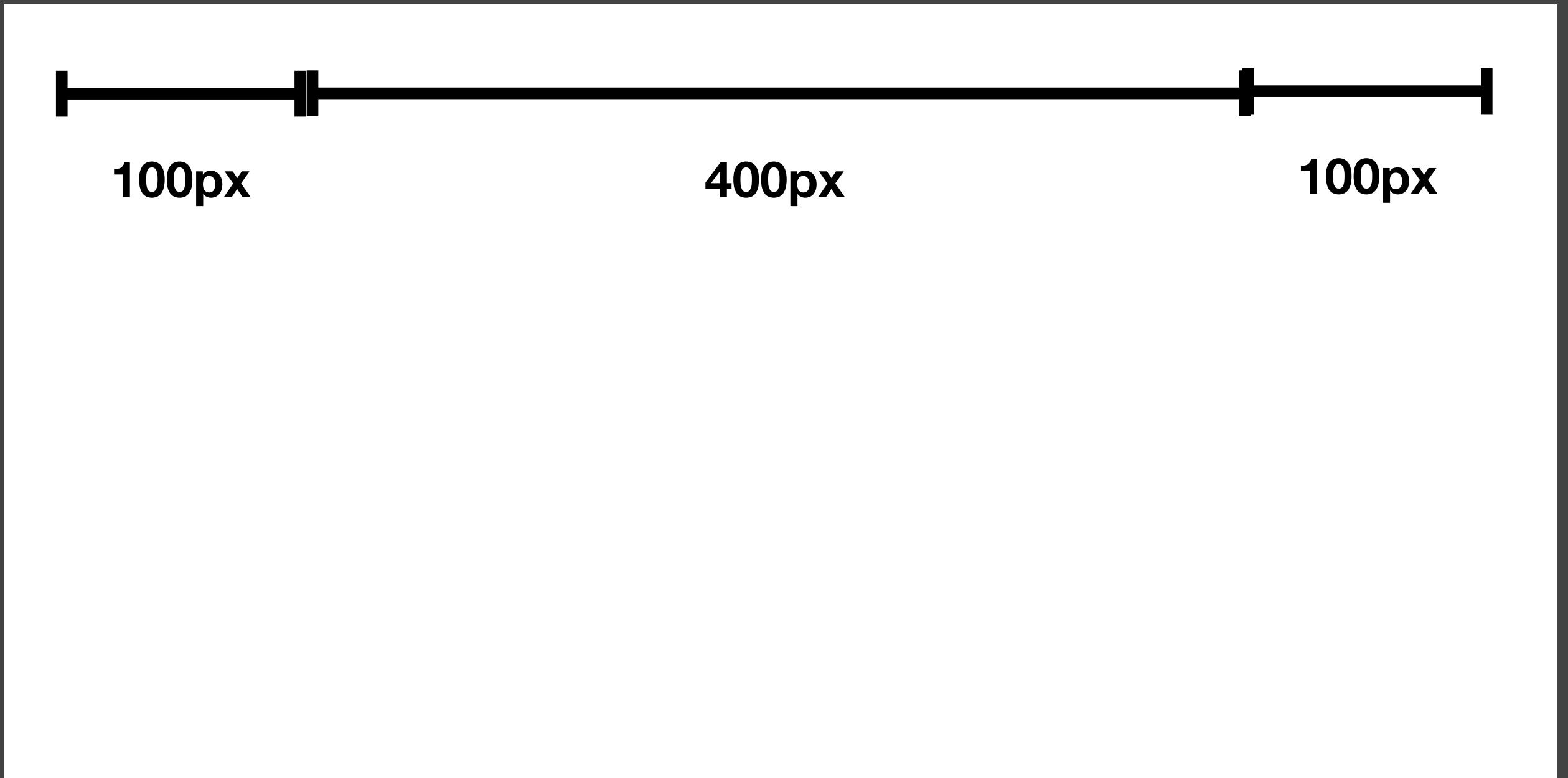
- grid-area
- grid-[column|row]
- order
- align-self
- justify-self

Je kunt in grid layout
~ dezelfde alignment properties
gebruiken als in flexbox



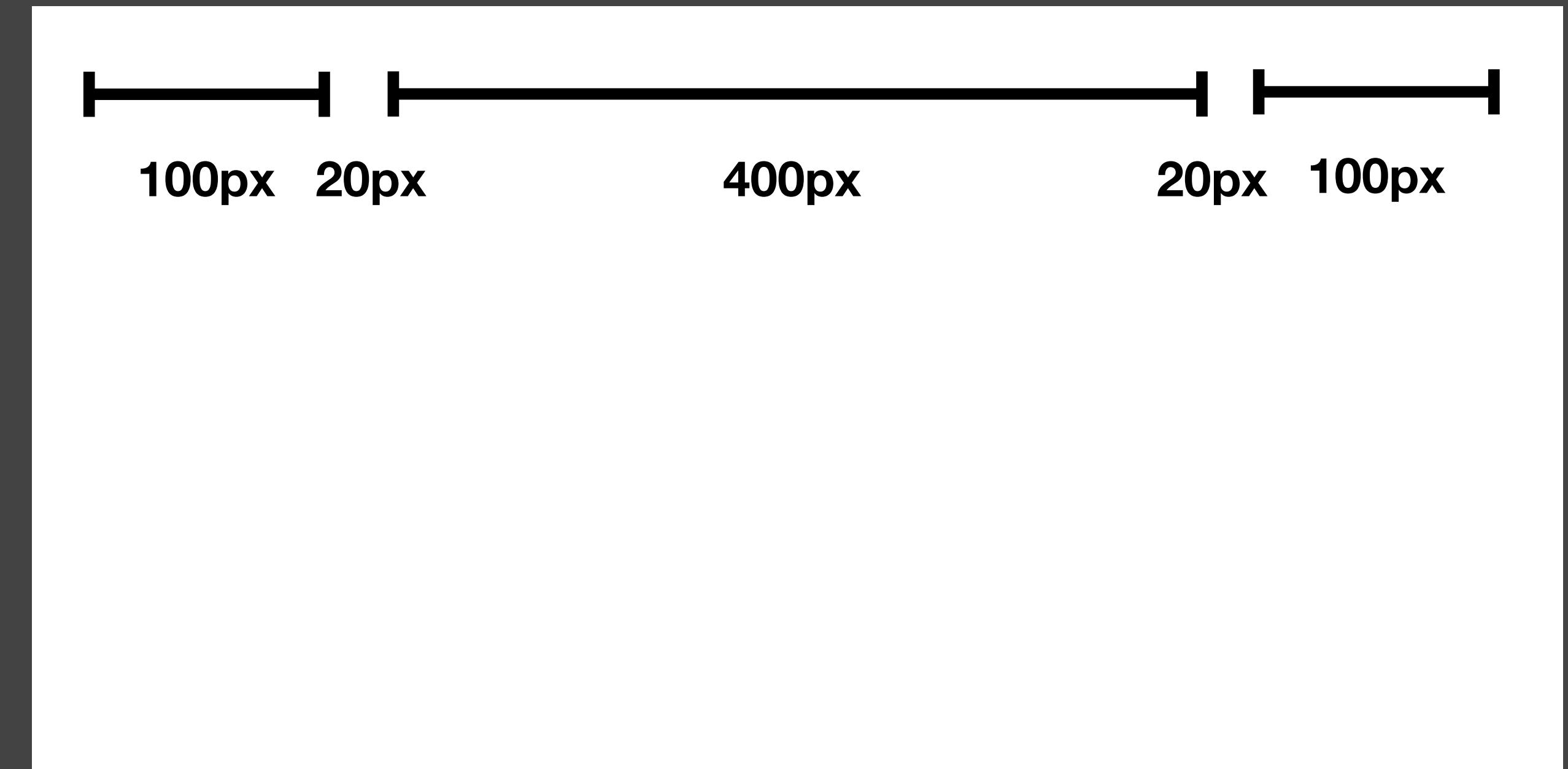
een grid definiëren

```
#container {  
    display: grid;  
    grid-template-columns:  
        100px 400px 100px;  
}
```



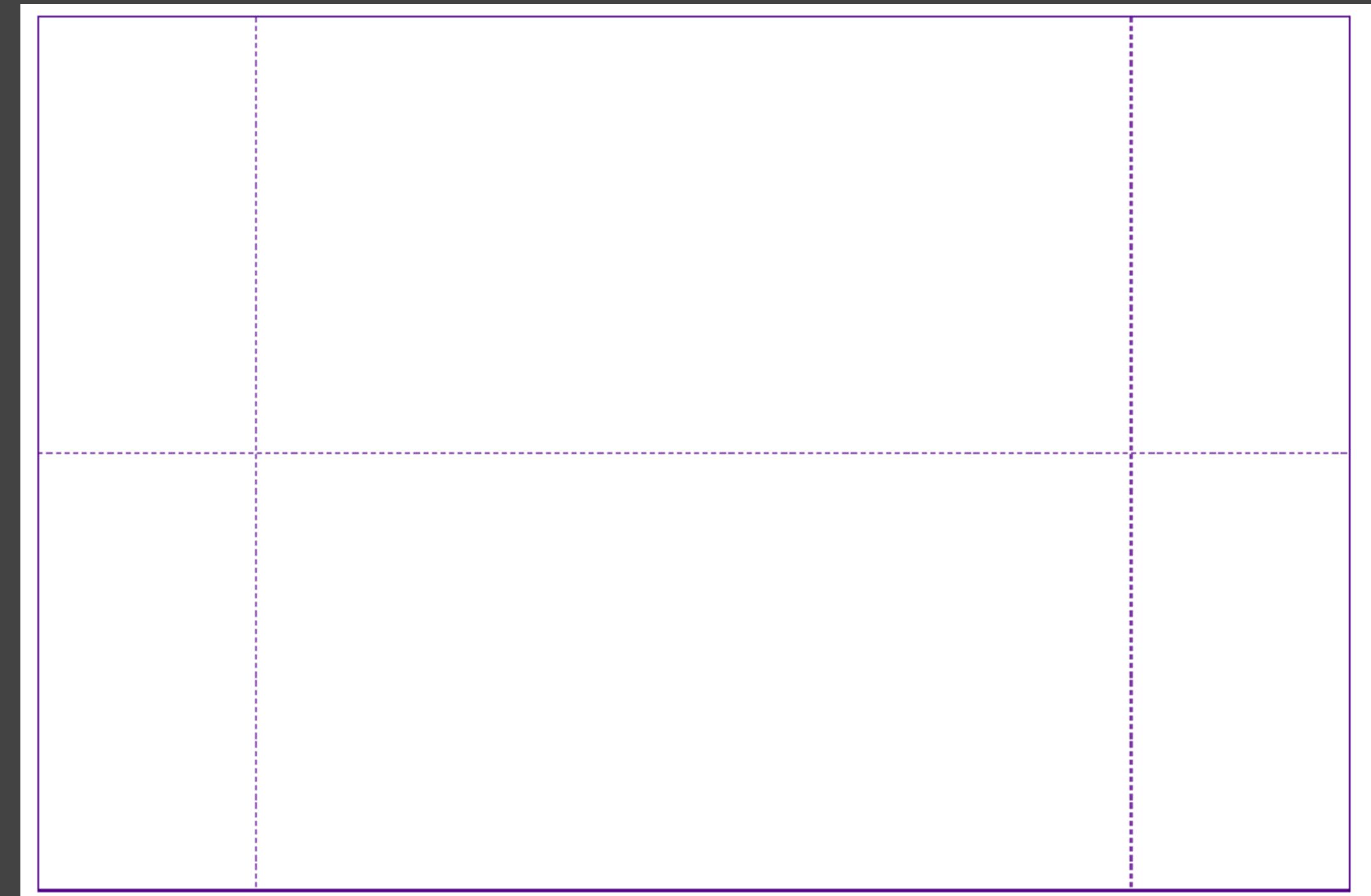
een grid definiëren

```
#container {  
    display: grid;  
    grid-template-columns:  
        100px 400px 100px;  
    grid-gap: 20px;  
}
```



een grid definiëren

```
#container {  
    display: grid;  
    grid-template-columns:  
        100px 400px 100px;  
    grid-template-rows:  
        200px 200px;  
}
```

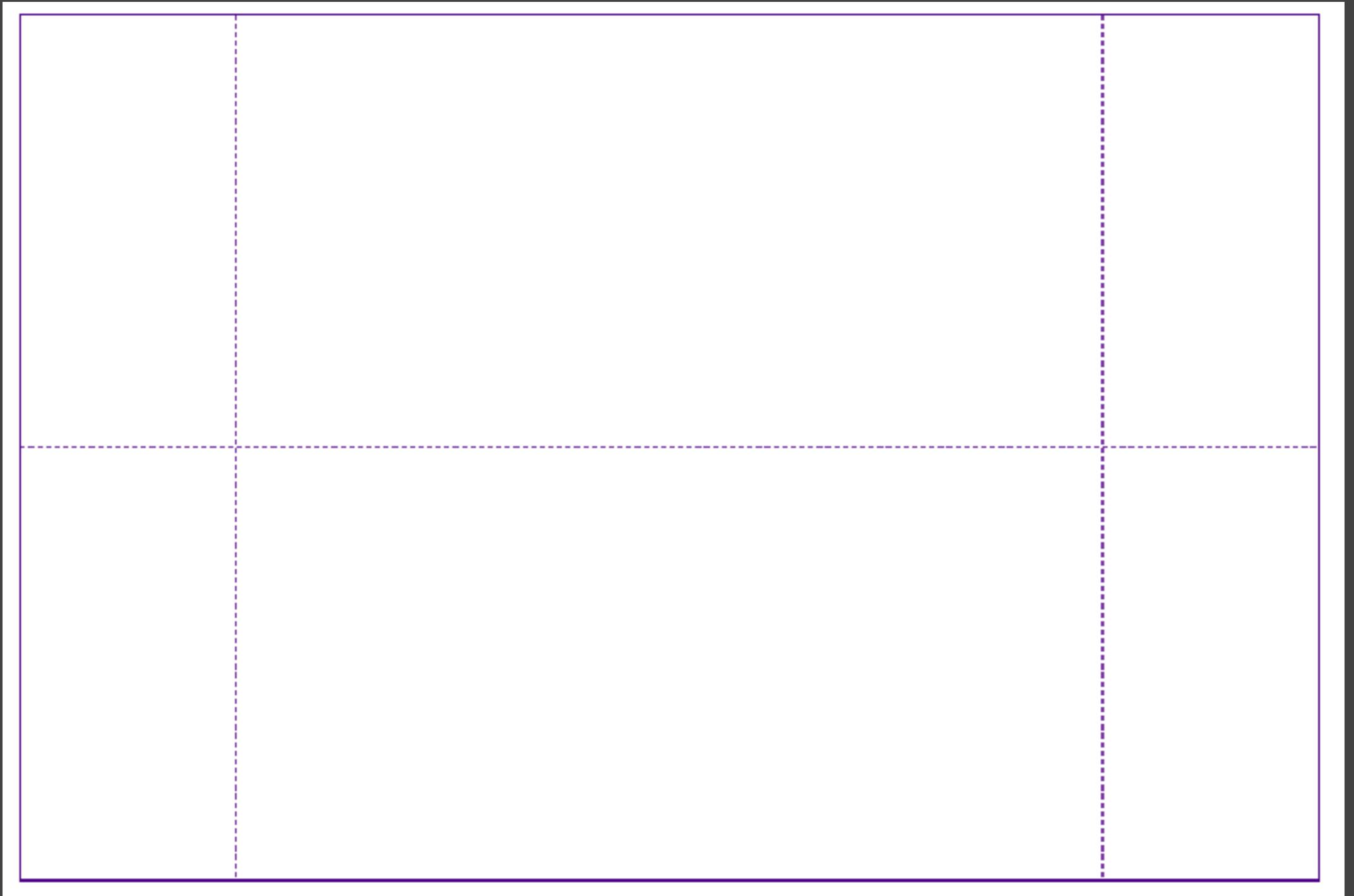


**Met flexibele units kun je meer
aan de browser overlaten.**

**Hoe minder precies jouw style
hints zijn, hoe beter de browser
jouw content kan laten passen.**

flexibele units voor grid tracks: fr

```
#container {  
    display: grid;  
}
```

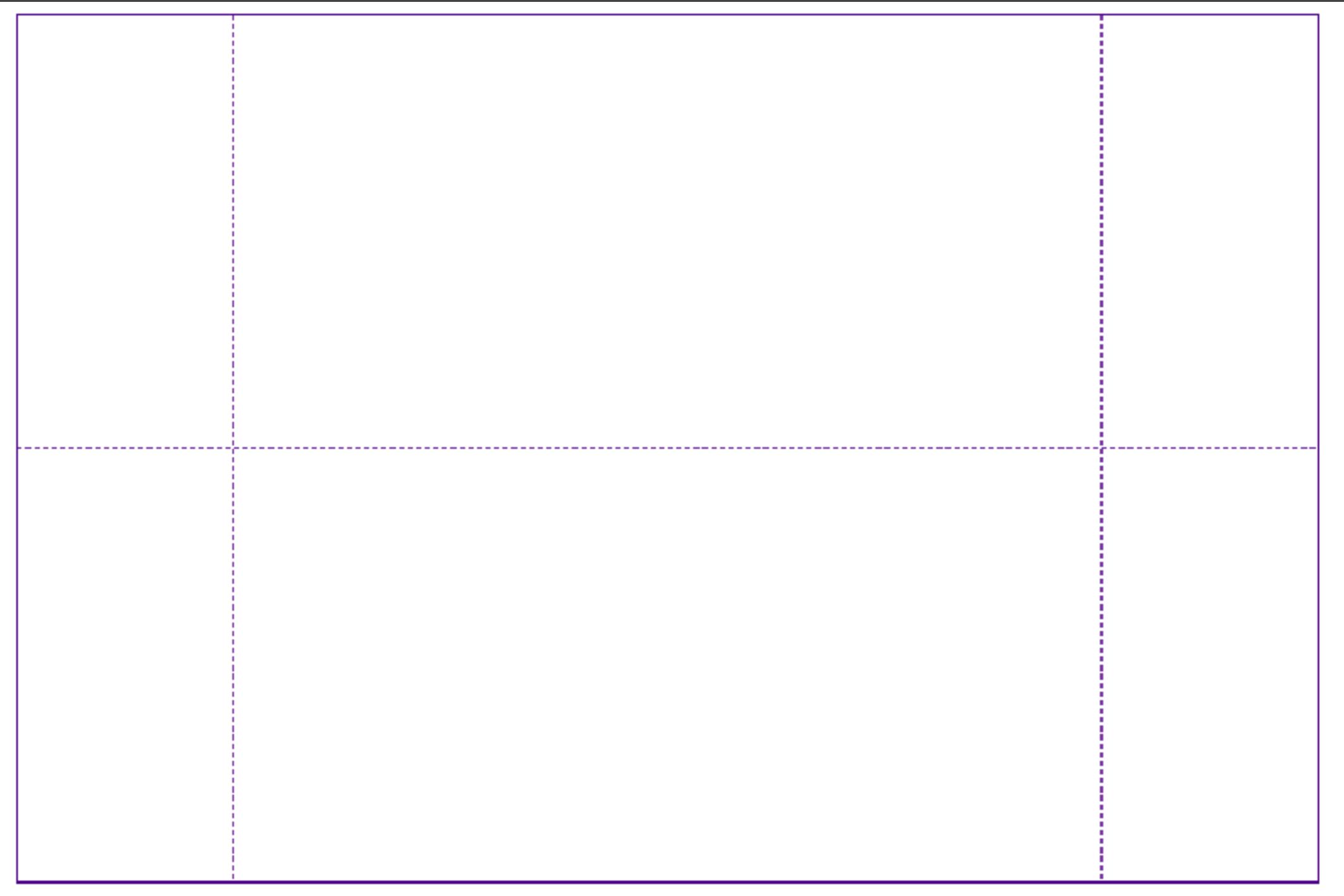


flexibele units voor grid tracks: fr



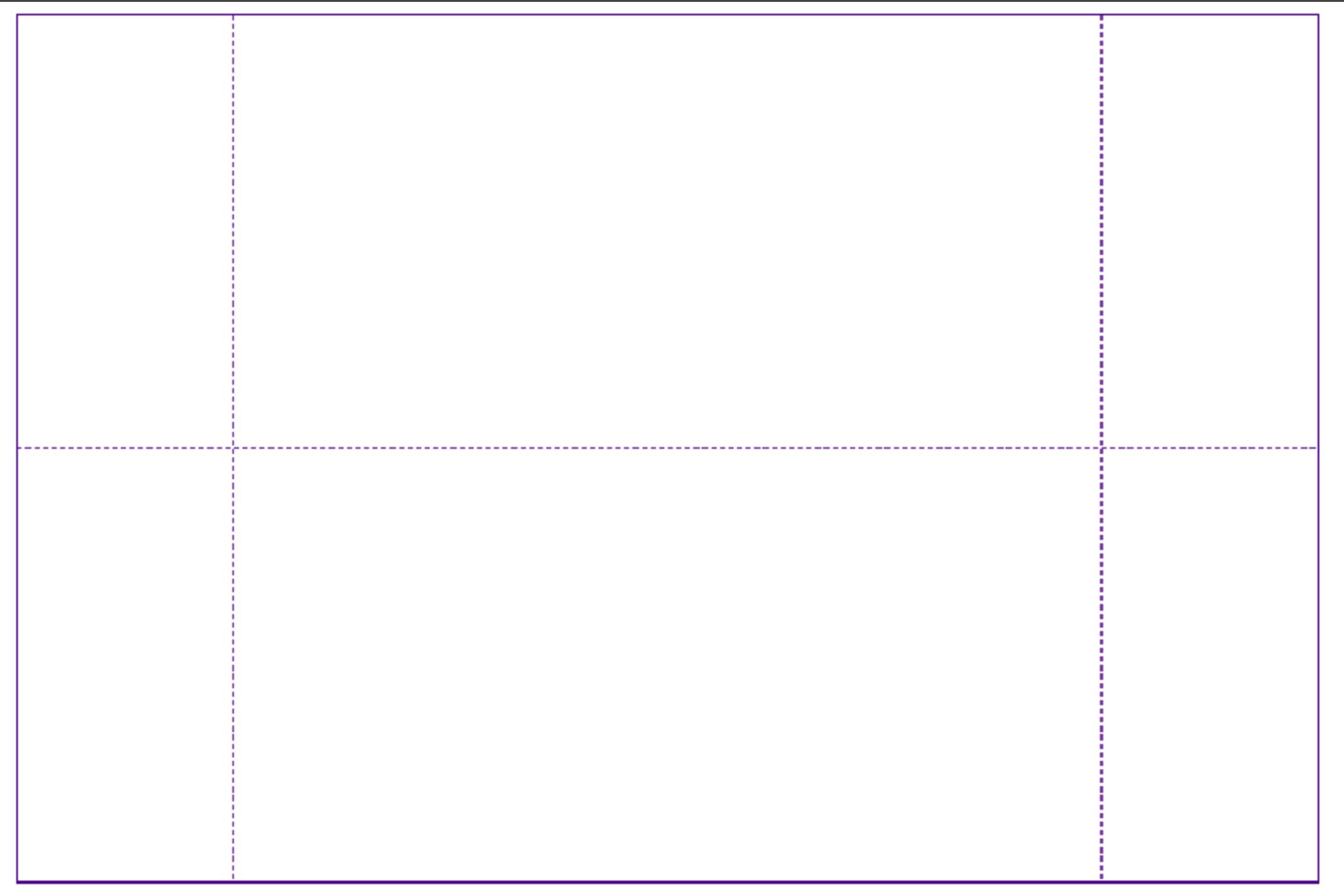
flexibele units voor grid tracks: fr

```
#container {  
    display: grid;  
    grid-template-columns:  
        1fr 3fr 1fr;  
    grid-template-rows:  
        1fr 1fr;  
}
```



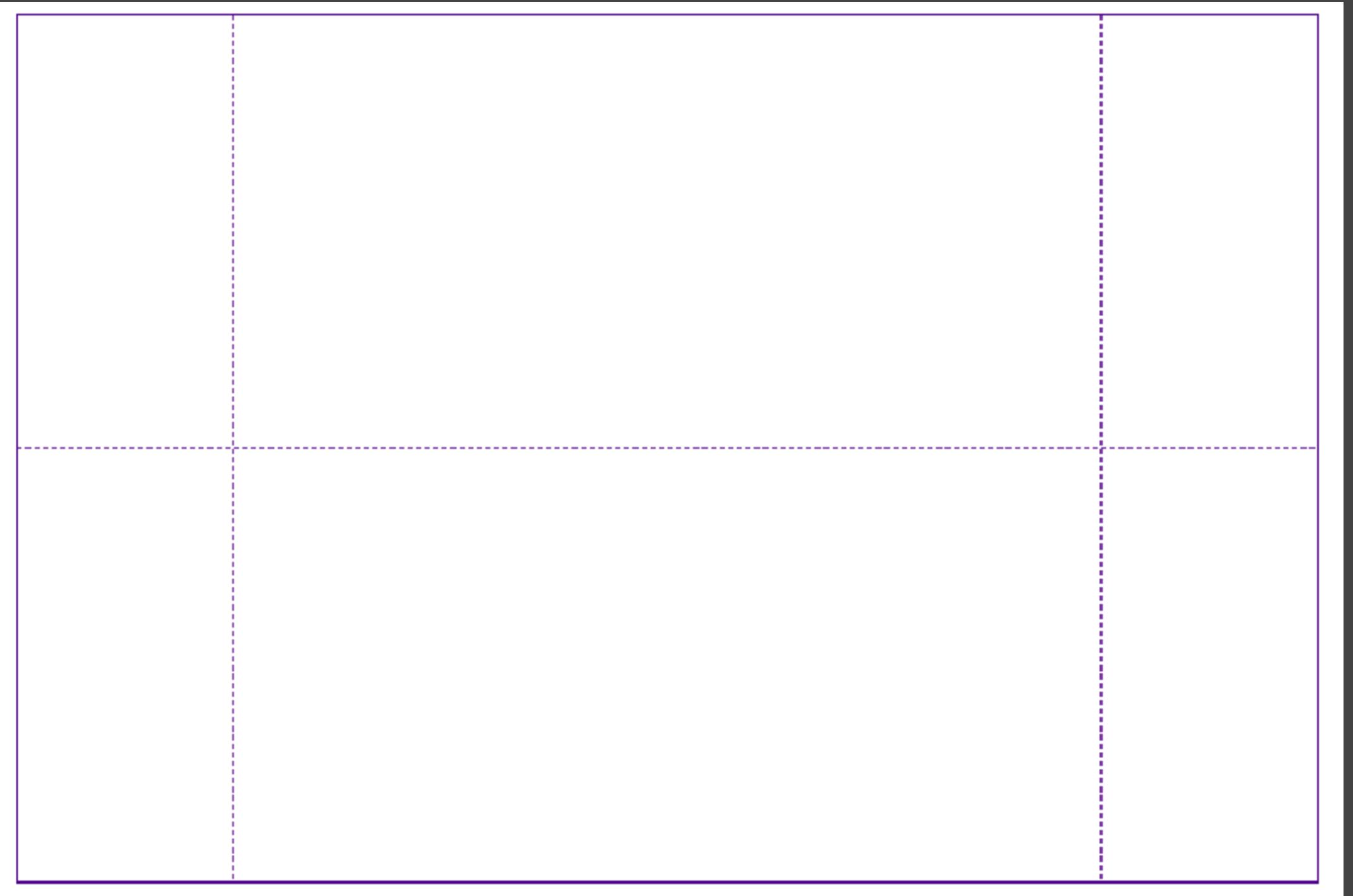
flexibele units voor grid tracks: ch

```
#container {  
    display: grid;  
    grid-template-columns:  
        1fr 60ch 1fr;  
    grid-template-rows:  
        1fr 1fr;  
}
```



flexibele units voor grid tracks: auto

```
#container {  
    display: grid;  
    grid-template-columns:  
        auto 60ch auto;  
}
```



grids in de Firefox Dev Tools



Uit: Jen Simmons' layout experiments

grids in de Firefox Dev Tools

lijnnummers

grid area names

overlay

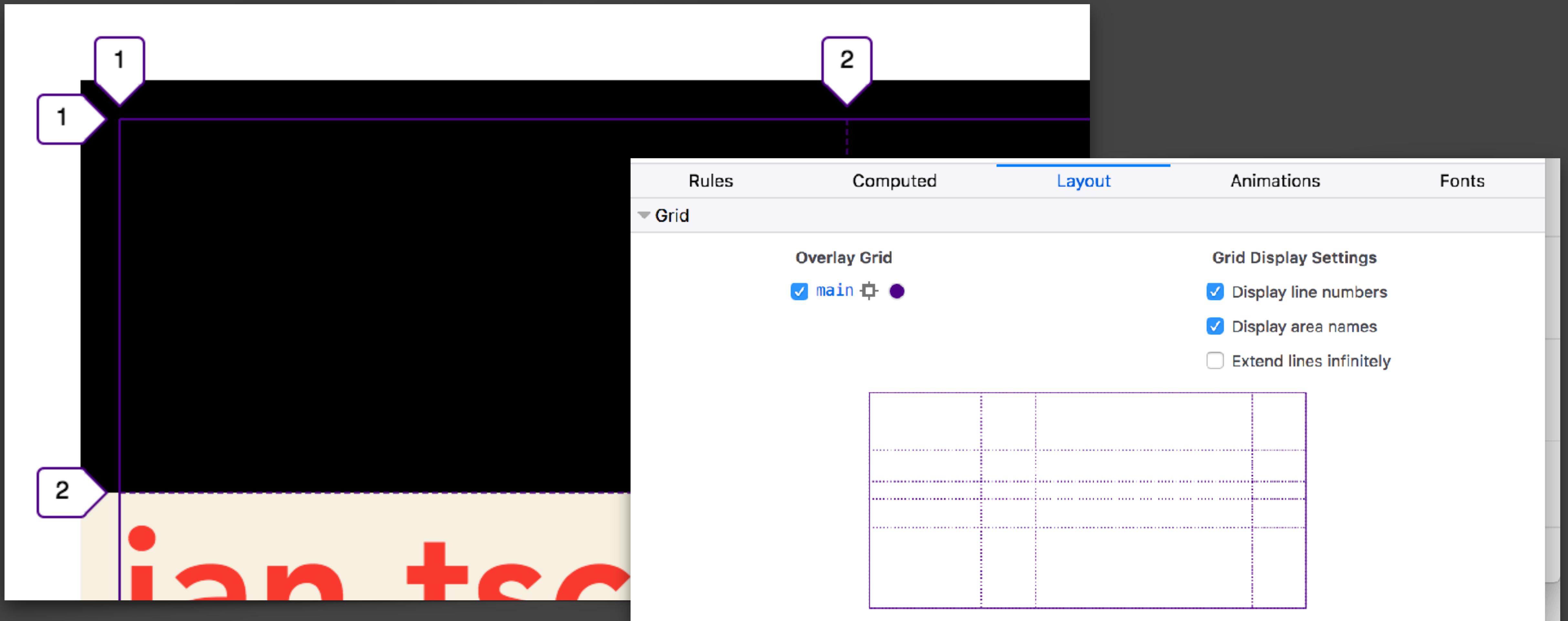
lijnkleur aanpassen

implicit vs explicit grid

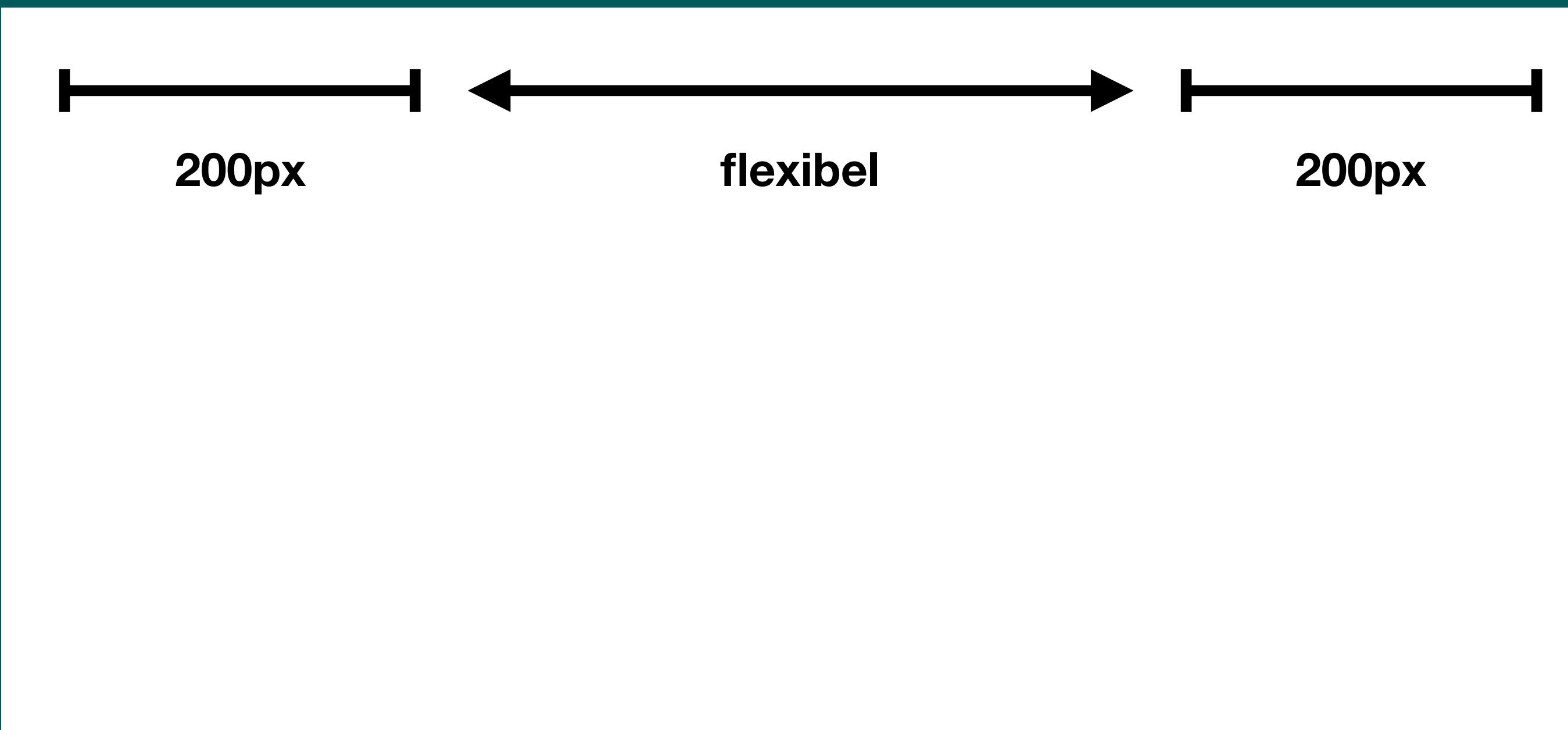
flexibele units voor grid tracks: minmax()

```
#container {  
    display: grid;  
    grid-template-columns:  
        1fr minmax(40em, 50em) 1fr;  
    grid-template-rows:  
        1fr 1fr;  
}
```

grids in de Firefox Dev Tools



The Daily Cascade: artikelen in "Holy Grail" layout



THE DAILY CASCADE

Since 1994 · CSS news for all

24 November 2017

This daily is made with
love.

The Story of CSS Grid, from Its Creators

by Aaron Gustafson · October 19, 2017

Designers have used grids for centuries. And after more than 20 years of waiting, they are finally here for the browser. This is the story of CSS Grid. It took a lot of people in the right place and at the right time to make it happen.

Please donate.

Practical CSS Grid: Adding Grid to an Existing Design

by Eric Meyer · March 23, 2017

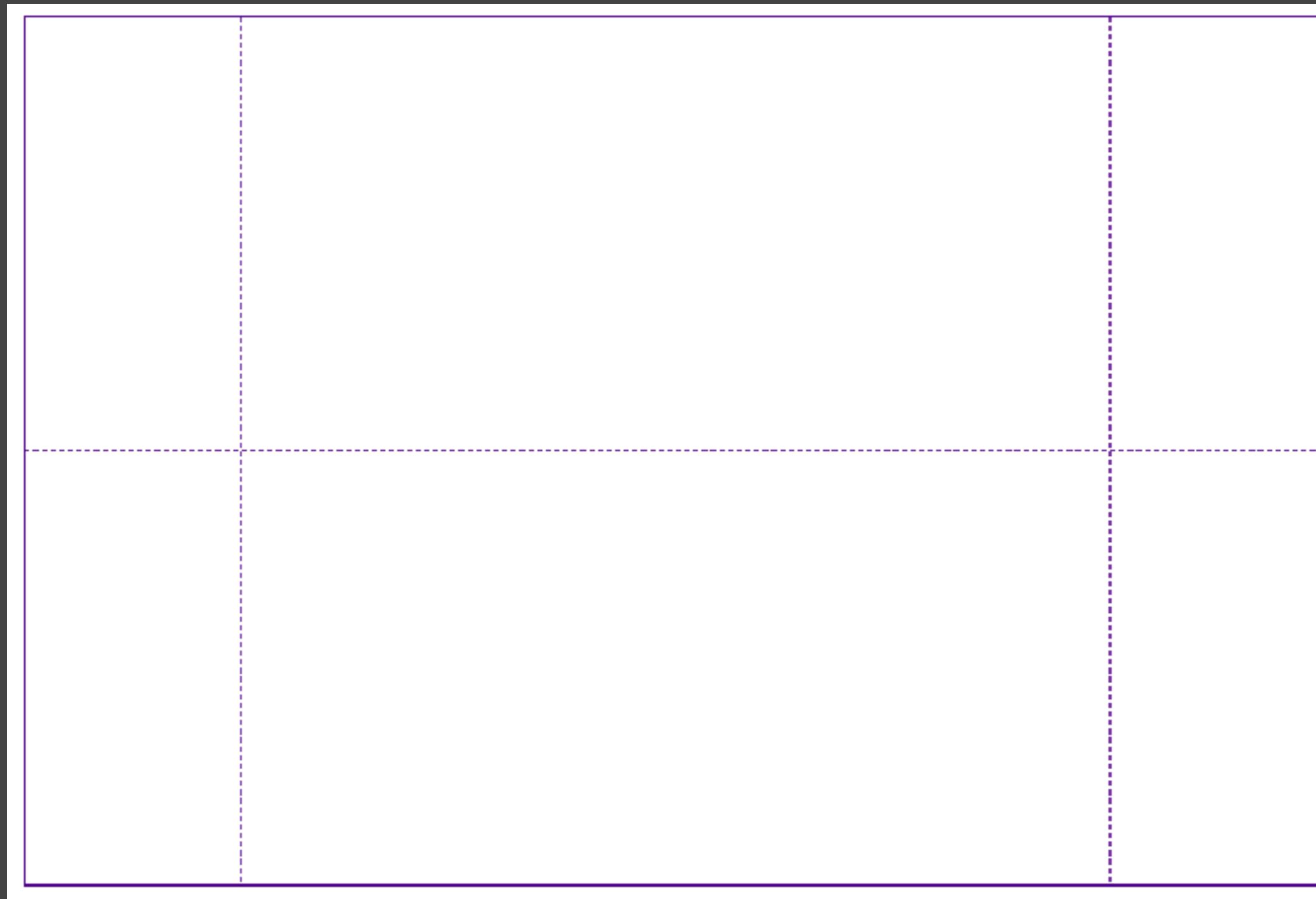
CSS Grid is here—and easier than you might expect. Eric Meyer shows us how to use Grid on an existing design without breaking things for non-grid browsers. With pictures! Also a couple of gotchas.

Learning from Lego: A Step Forward in Modular Web Design

by Samantha Zhang · December 22, 2016

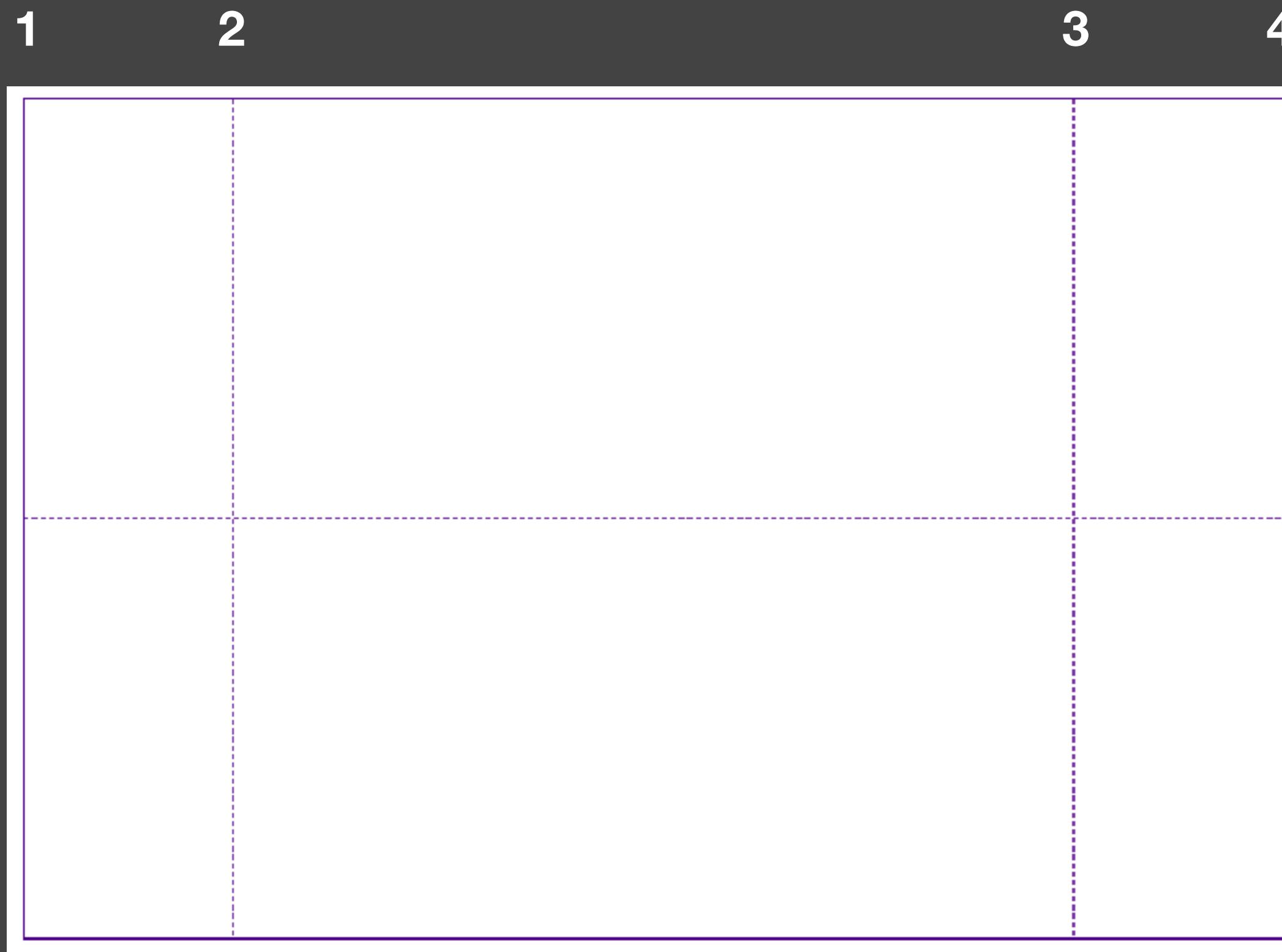
Tijd over?
Positioneer de
content aan de
onderkant

items op het grid plaatsen



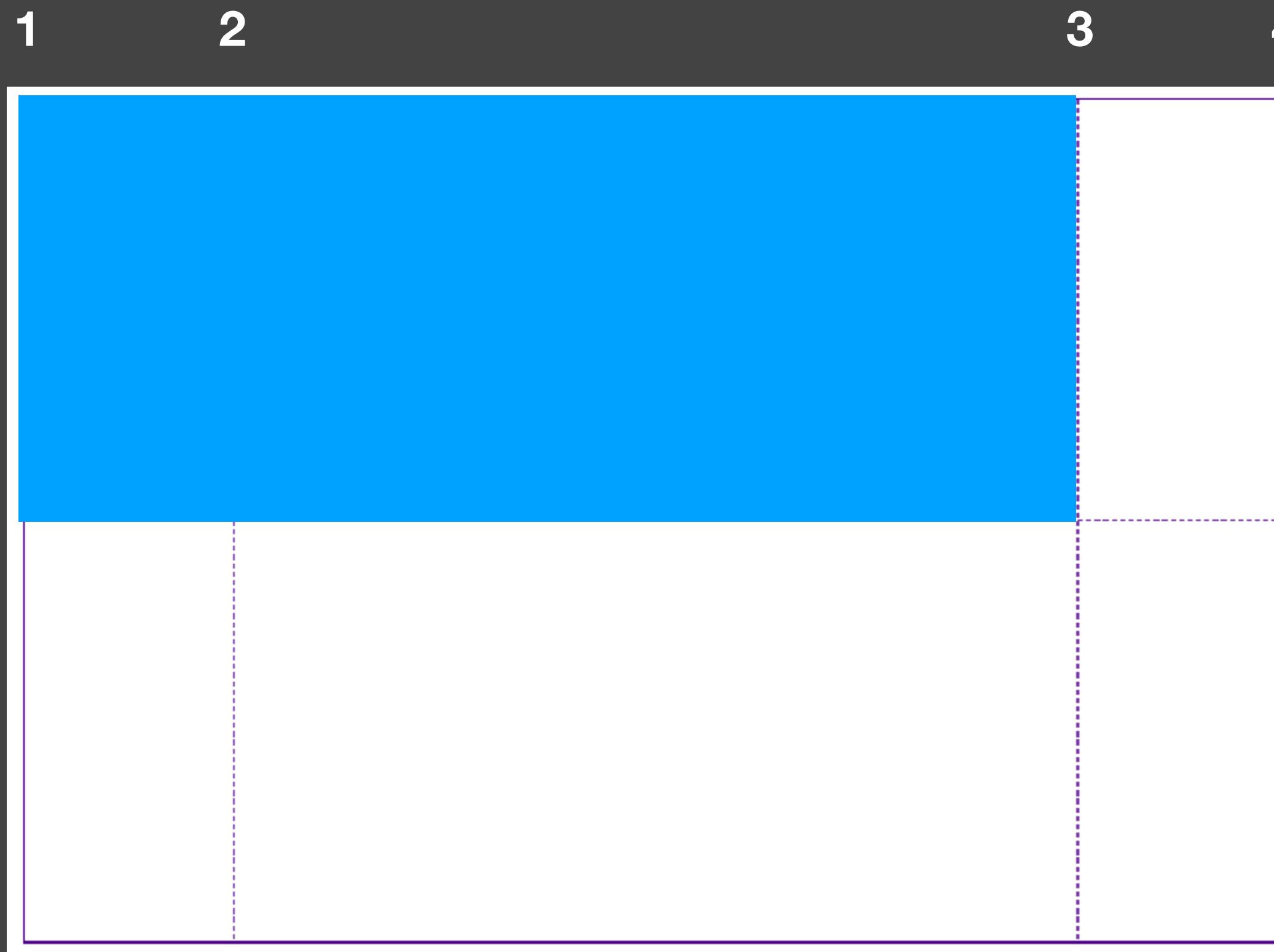
```
#item {  
    grid-column-start: 1;  
    grid-column-end: 3;  
}
```

items op het grid plaatsen



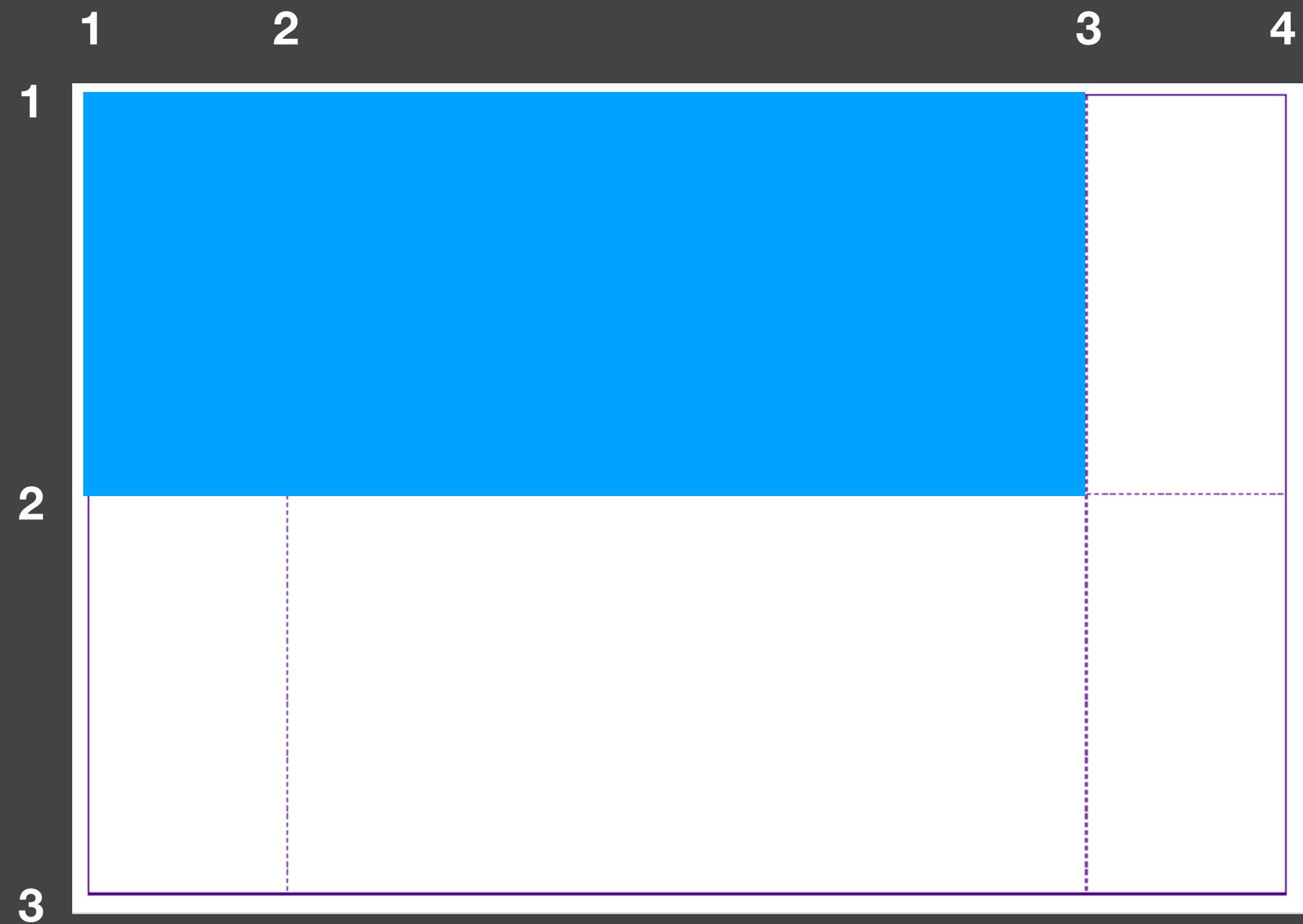
```
#item {  
    grid-column-start: 1;  
    grid-column-end: 3;  
}
```

items op het grid plaatsen



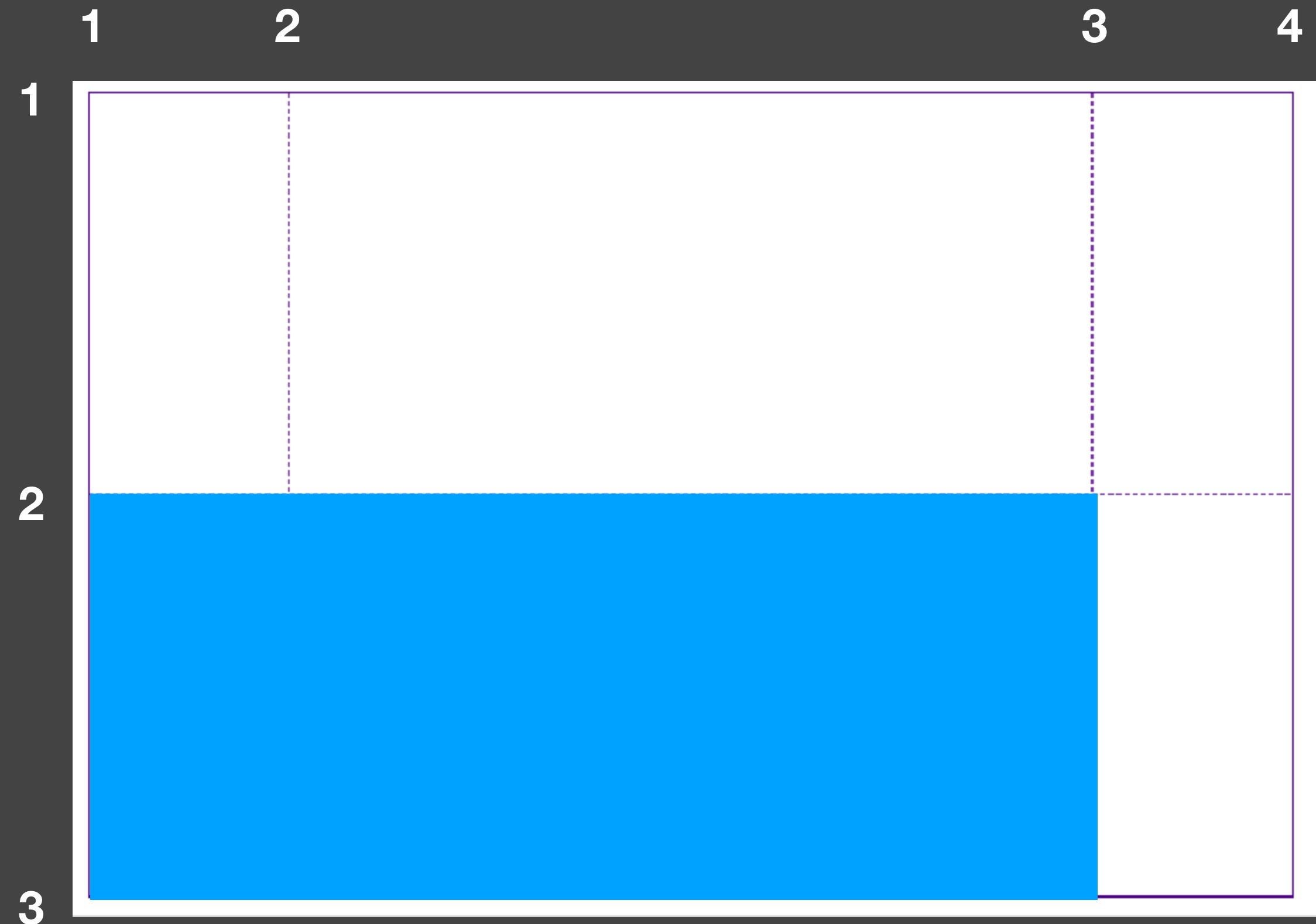
```
#item {  
    grid-column-start: 1;  
    grid-column-end: 3;  
}
```

items op het grid plaatsen



```
#item {  
    grid-column-start: 1;  
    grid-column-end: 3;  
}
```

items op het grid plaatsen



```
#item {  
    grid-column-start: 1;  
    grid-column-end: 3;  
    grid-row-start: 2;  
    grid-row-end: 3;  
}
```

OEFENING

Grids van Wim Crouwel

Georg Baselitz

stedelijk van abbemuseum eindhoven

dagelijks geopend
van 10-17 uur
zon- en feestdagen
van 13-17 uur
dinsdag- en
donderdagavond
van 20-22 uur

hipogima

panelen van iri maruki en toshiko akamatsu

30 maart tot
15 april 1957

Baselitz

1960-83

Schilderijen / Paintings

Lunch

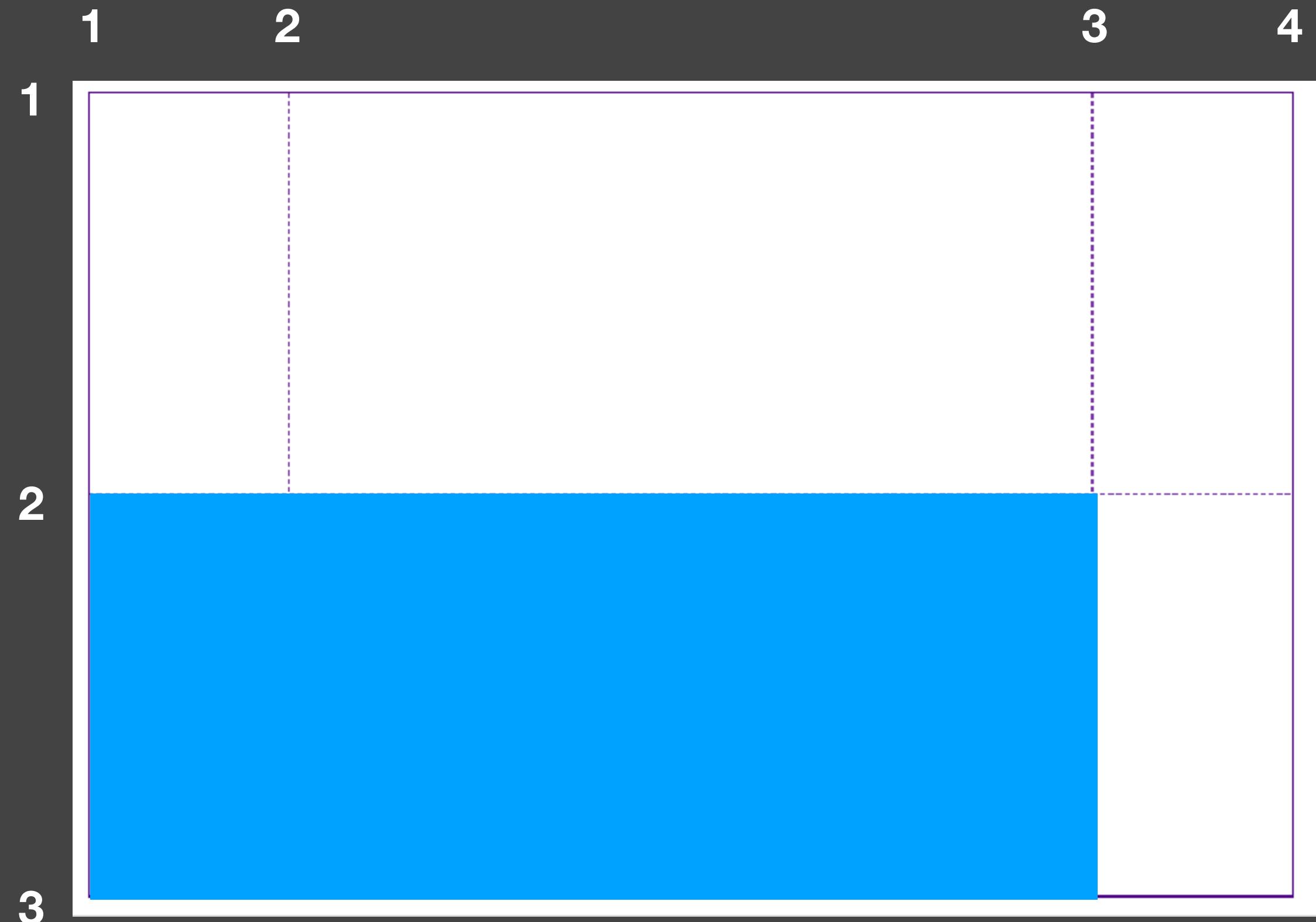
je kunt grid lines ook
namen geven

```
#container {  
  grid-template-columns:  
    [sidebar-start] 1fr [sidebar-end] 4fr;  
}
```

```
#item {  
  grid-column-start: sidebar-start;  
  grid-column-end: sidebar-end;  
}
```

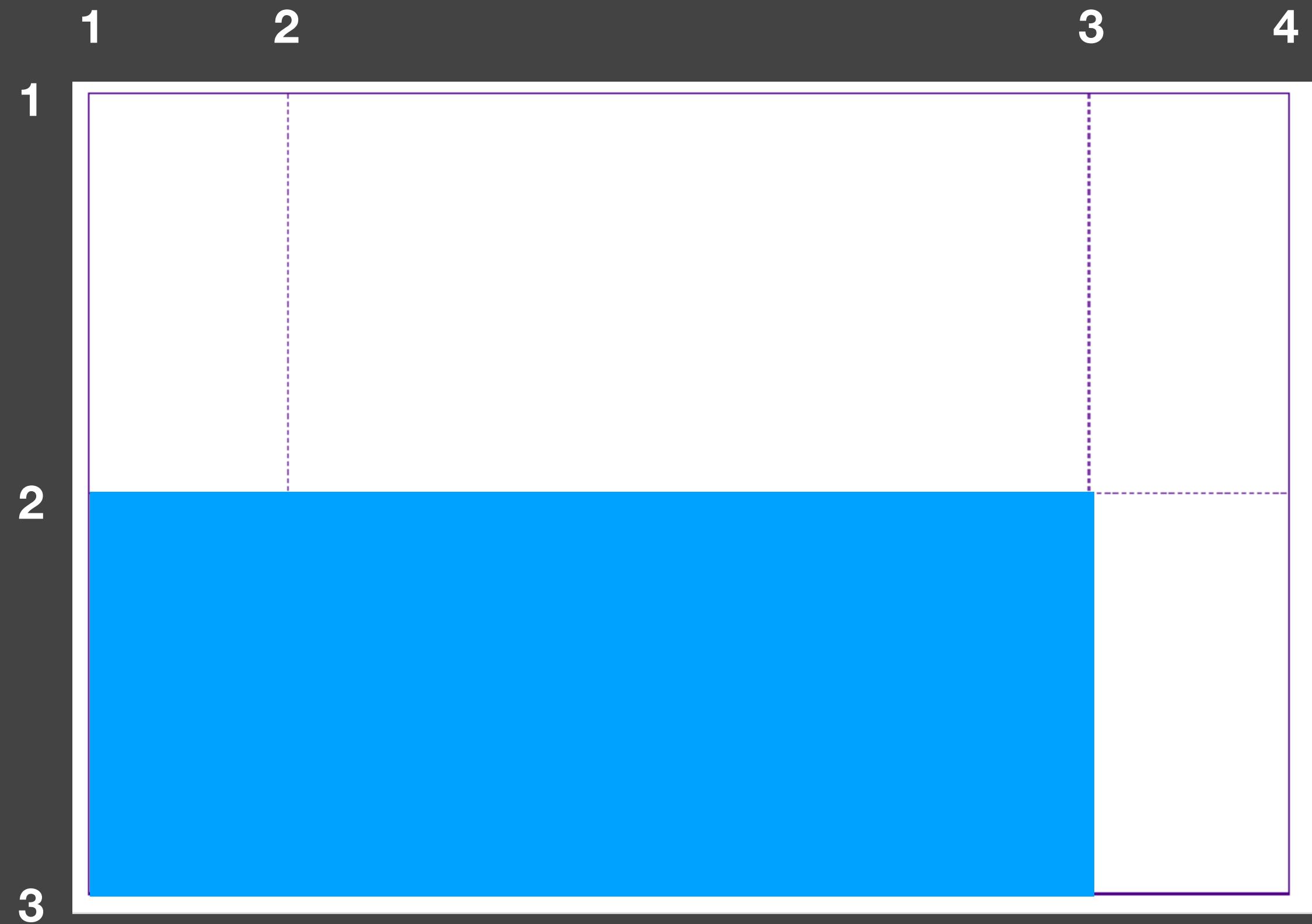
```
#container {  
  grid-template-columns:  
    [sidebar-start] 1fr [sidebar-end] 4fr;  
}  
  
#item {  
  grid-column: sidebar;  
}
```

items op het grid plaatsen (2)



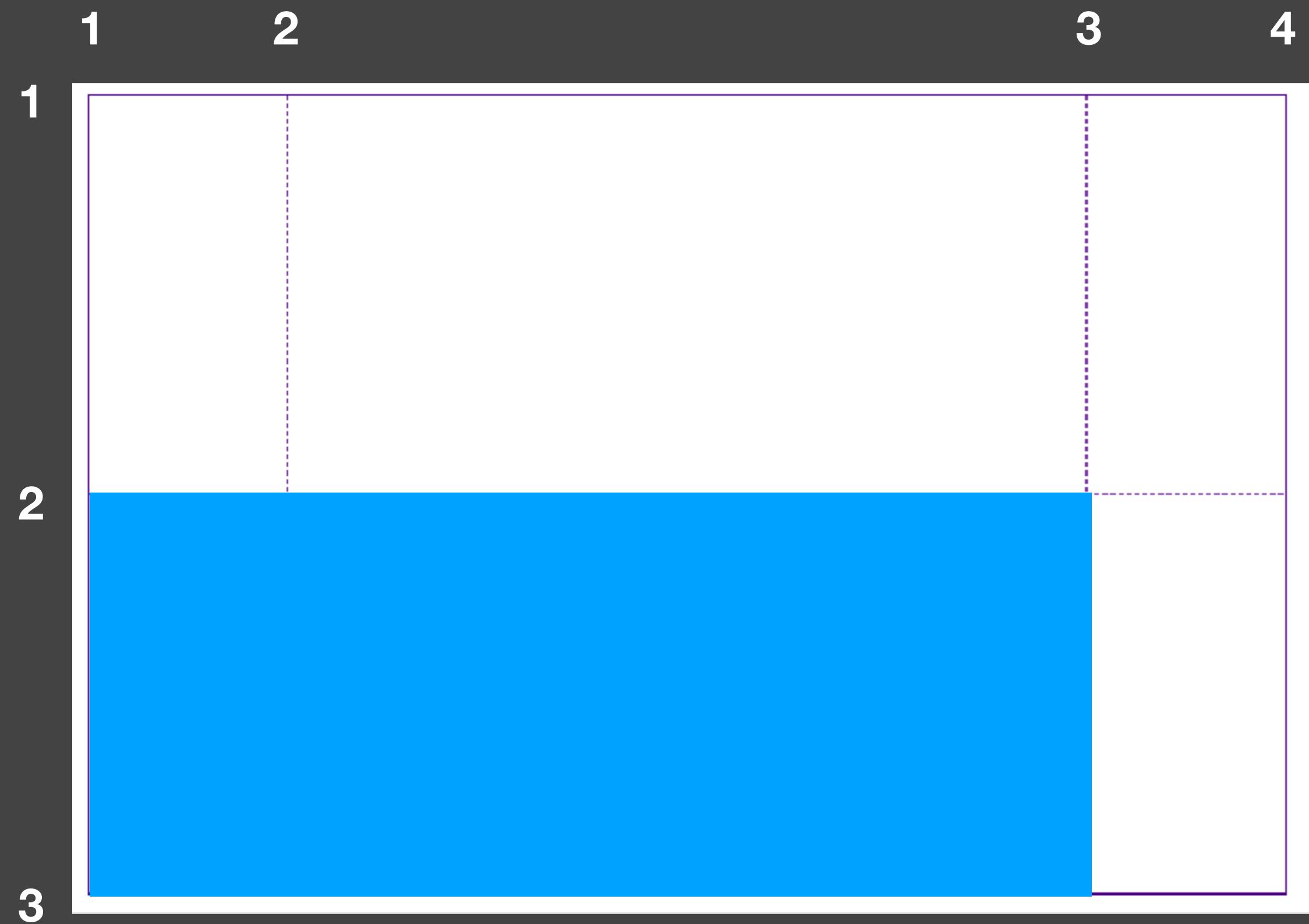
```
#item {  
    grid-column-start: 1;  
    grid-column-end: 3;  
    grid-row-start: 2;  
    grid-row-end: 3;  
}
```

items op het grid plaatsen



```
#item {  
    grid-column: 1 / 3;  
    grid-row: 2 / 3;  
}
```

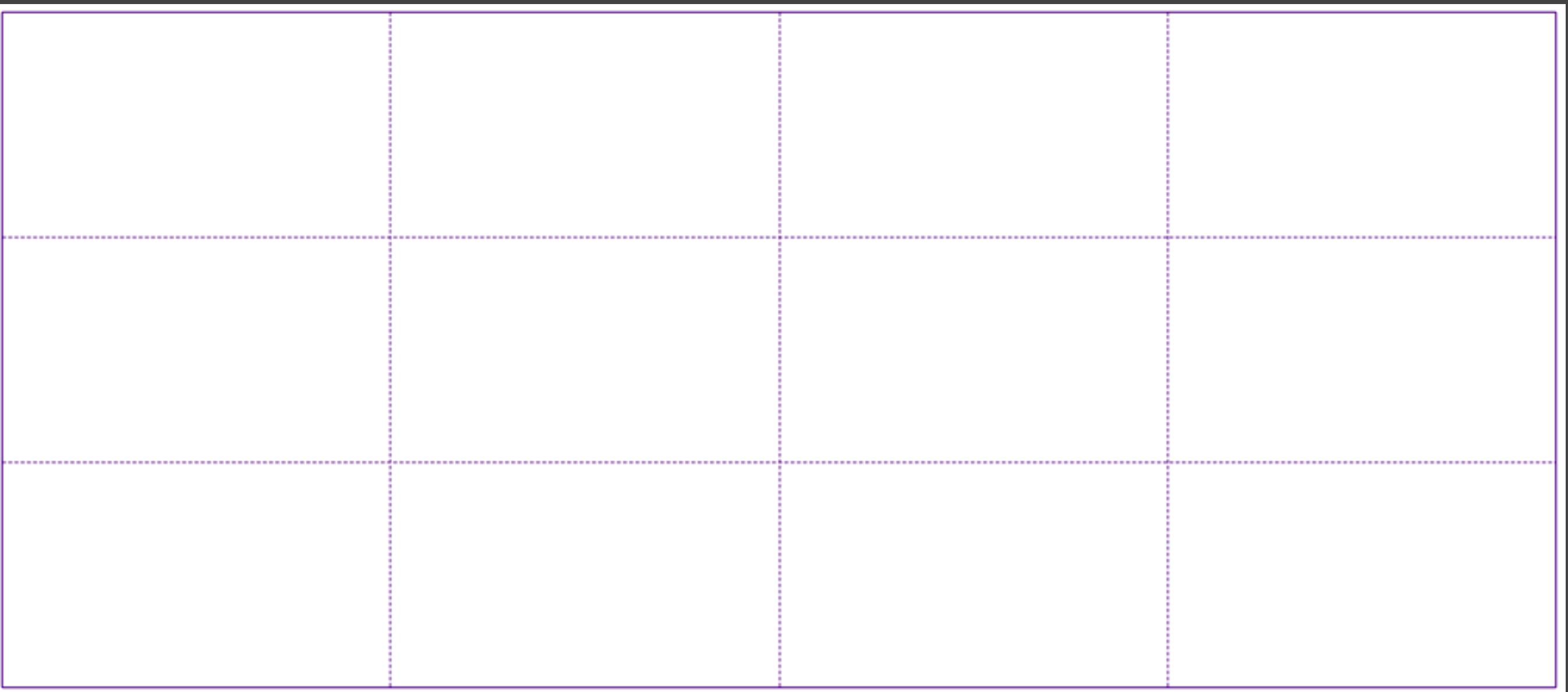
Het span keyword



```
#item {  
  grid-column: 1 / span 3;  
  grid-row: 2 / span 1;  
}
```

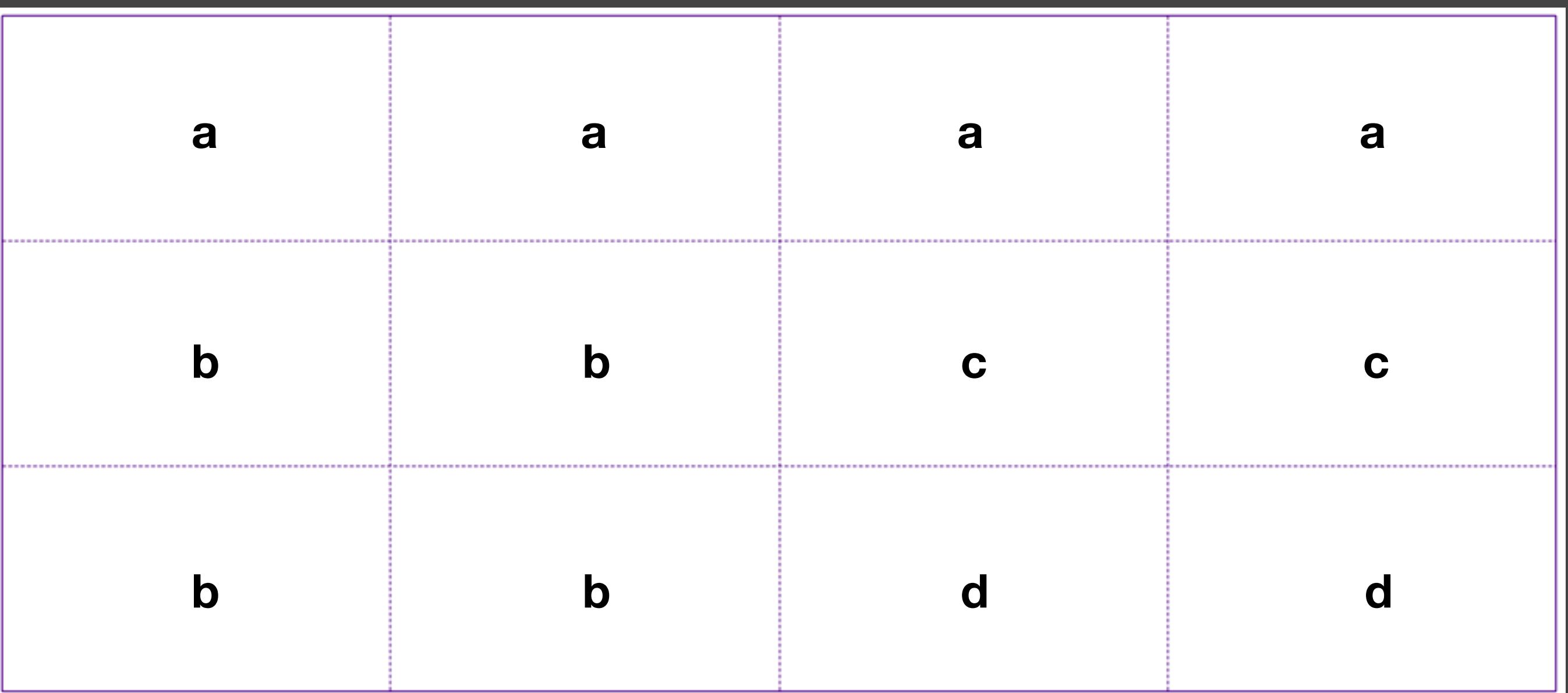
grids met named areas

```
#container {  
  display: grid;  
  grid-template-areas:  
    "a a a a"  
    "b b c c"  
    "b b d d";  
}
```



grids met named areas

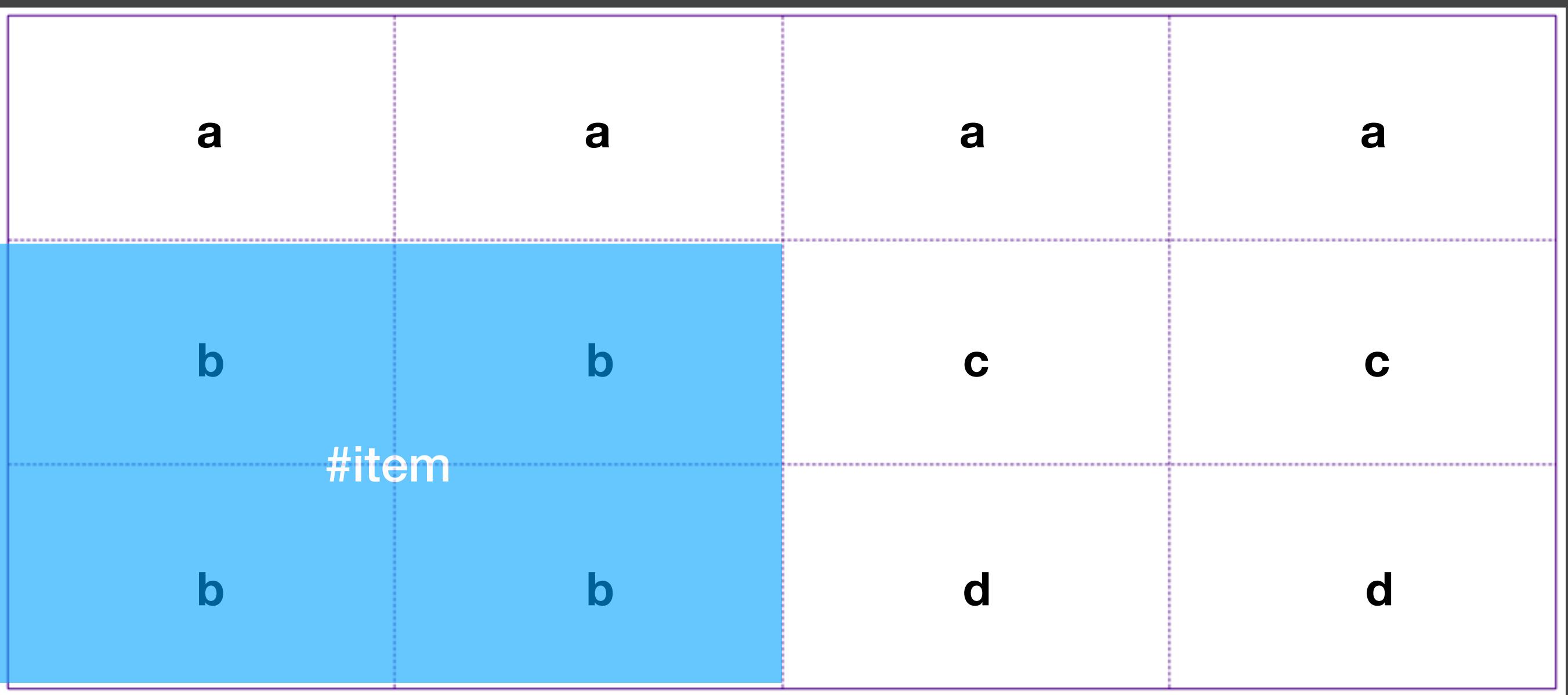
```
#container {  
  
    display: grid;  
  
    grid-template-areas:  
        "a a a a"  
        "b b c c"  
        "b b d d";  
  
}
```



**Let op: areas moeten
een vierkant vormen**

grids met named areas

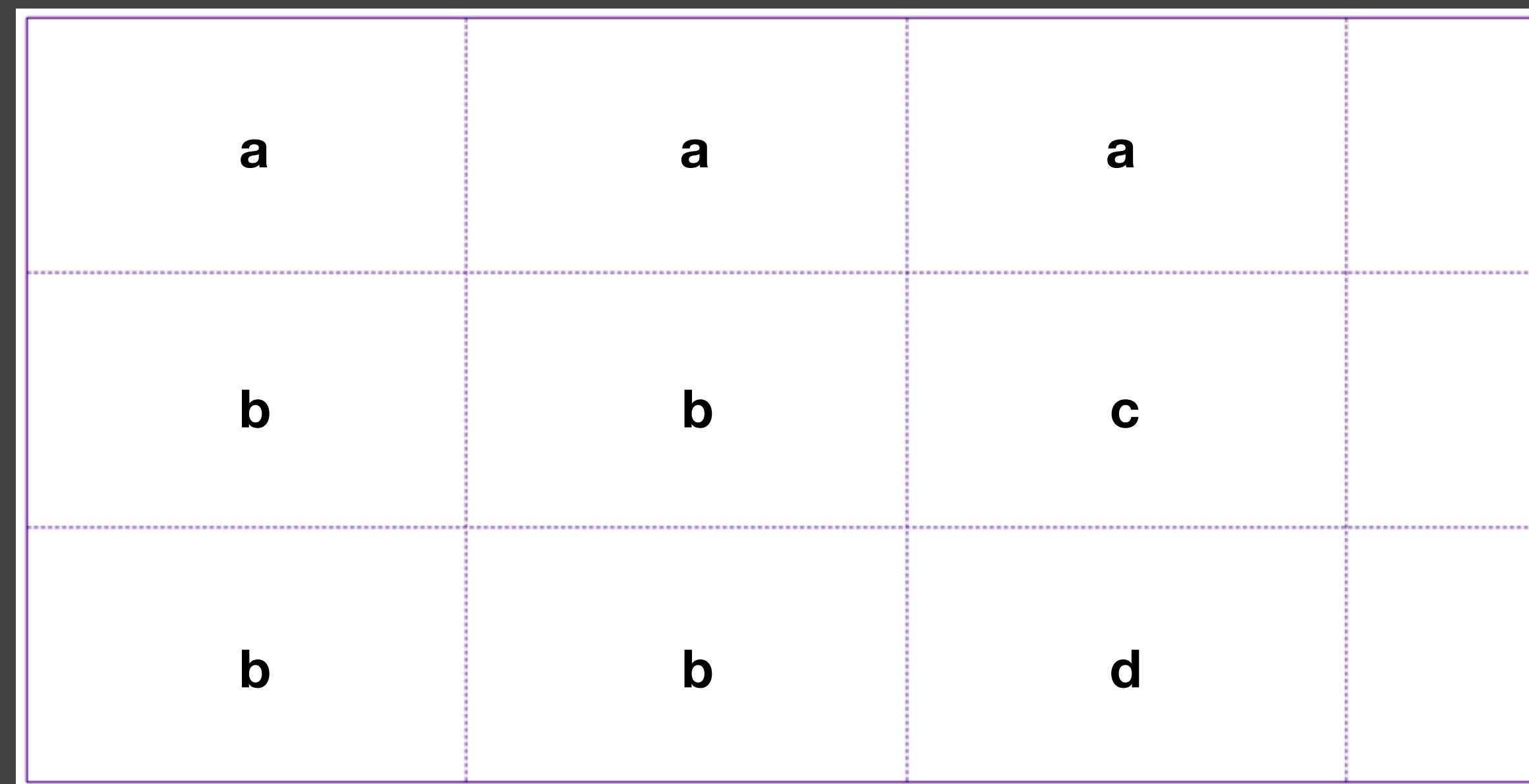
```
#item {  
  grid-area: b;  
}
```



grid lines krijgen
automatisch namen

grids met named areas

```
#item {  
  
  grid-column-start: b-start;  
  
  grid-column-end: b-end;  
}
```



```
#container {  
    grid-template-columns:  
        [sidebar-start] 1fr [sidebar-end] 4fr;  
}
```

```
#item {  
    grid-column-start: sidebar-start;  
    grid-column-end: sidebar-end;  
}
```

```
#container {  
    grid-template-columns:  
        [sidebar-start] 1fr [sidebar-end] 4fr;  
}
```

```
#item {  
    grid-area: sidebar;  
}
```

OEFENING

The Daily Cascade: bedenk zelf een grid en lijn de artikelen daarop uit

**Let op: in deze oefening zit er
geen wrapper om de artikelen**

herhaling in grid definities
met repeat()

herhaling in grid definities

```
#container {  
    grid-template-columns: repeat([count], [size]);  
}
```

herhaling in grid definities

```
#container {  
    grid-template-columns: repeat(4, 1fr);  
}
```

herhaling met autofocus

```
#container {  
    grid-template-columns: repeat(auto-fill, 10em);  
}
```

OEFENING

Herhalende grid items

picasso

braque

chagall

leger

miro

ernst

mondriaan

lipchitz

kandinsky

kokoschka

zadkine

appel

bazaine

corneille

delaunay

dubuffet

dagelijks geopend van 10-17 uur zondag van 14-18 uur

**van
abbemuseum
eindhoven**

autoplacement

Autoplacement is wat de browser doet met grid items die niet op het grid zijn geplaatst.

**Als daar niet genoeg rijen/
kolommen voor zijn, maakt de
browser extra rijen ('implicit grid')**

maten van het implicit grid

`grid-auto-rows: [size];`

`grid-auto-columns: [size];`

richting van het implicit grid

`grid-auto-flow: row | column;`

richting van het implicit grid

`grid-auto-flow: row | column;`

lege ruimtes
automatisch opvullen

grid-auto-flow: [row | column] dense;

**Let op met auto-flow: dense.
De locatie van items kan
onlogisch worden voor je
keyboardgebruiker.**

OEFENING

Freestyle! Wees creatief
en maak een grid voor
jouw project, hobby of werk

Grid in productie

“Is er ook een polyfill?”

Simplele fallbacks met de cascade

Feature queries

Feature queries

```
@supports ( display: grid ) {  
  #item {  
    margin: 0;  
    width: auto;  
  }  
}
```

**“Is er ook een Grid
Layout framework?”**

**“Waar kan ik Grid
voor gebruiken?”**

**Om te laten zien
wat je aanbiedt**

Aardappel, groente, fruit online bestellen | AH.nl

Aardappel, groente, fruit online X +

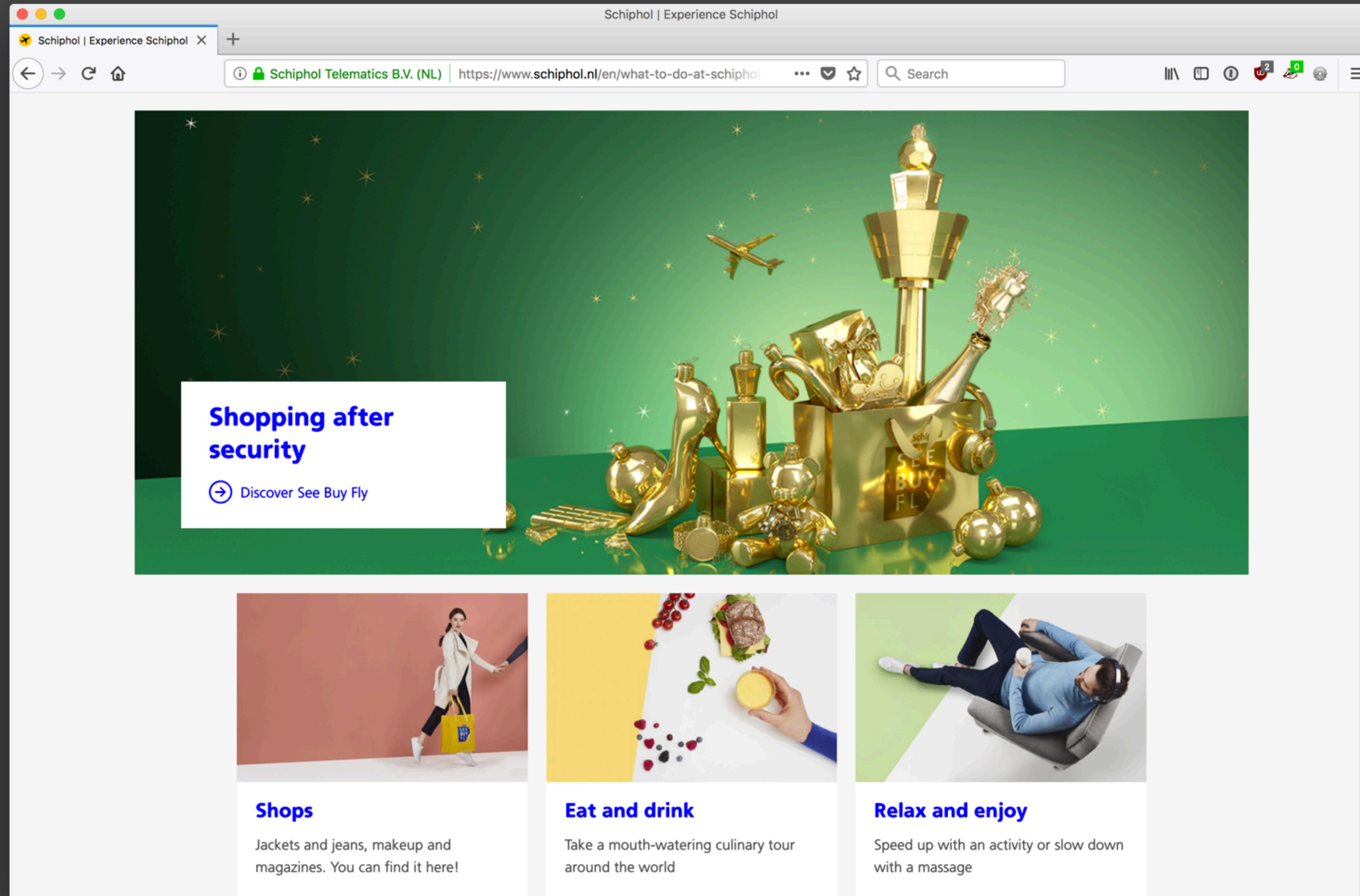
https://www.ah.nl/producten/aardappel-groente-fruit ... Search

Producten Bonus Allerhande box Recepten Winkels Acties Meer... Online bestellen 0

Proef heerlijk herfstfruit Bekijk Allerhande maaltijdkit Eet een salade

Stevige soep na een wandeling Maak zelf de lekkerste soep De lekkerste producten voor de herfst >

 AH Verspakket pompoensoep 1,2 kg	 AH Verse pureersoep pompoen-wortel 528 g	 AH Verspakket erwtensoep 900 g	 AH Verspakket tomatensoep 1,1 kg	
 AH Verse pureersoep tomaat-oregano 638 g	 AH Romatomaten 750 g	 AH Verspakket groentesoep 850 g	 AH Fijne soepgroente 250 g	 AH Erwtensoepgroente 500 g
				



Reisgids - KLM.com

Reisgids - KLM.com X + https://www.klm.com/destinations/nl/nl/search 90% ... Search

Zin in zon, zee en cultuur? Boek vliegtickets naar Alicante en ontdek deze levendige stad aan de Spaanse Costa Blanca. Ontspan op een van de fijne zandstranden of geniet van de vele watersportmogelijkheden die de Middellandse zee te bieden heeft. Alicante...

Lees alles over Alicante >

2u 35m Eten & drinken Geschiedenis Strand

Het barokke stadhuis van Alicante...

Aruba Aruba Retour vanaf: EUR 549

Klinken zon, zee en ontspanning u als muziek in de oren? Boek vliegtickets naar Aruba en geniet op parelwitte stranden van een lekkere cocktail. Ga duiken of snorkelen en verken de kleurrijke onderwaterwereld rondom het eiland. Verblijf in luxe...

Lees alles over Aruba >

10u 5m Duiken & Snorkelen Strand Romantiek Surfen

Palm Beach, Aruba >

Thailand Bangkok Retour vanaf: EUR 605

Houdt u van winkelen, luxe hotels en een dynamisch nachtleven? Boek vliegtickets naar Bangkok en dwaal door eeuwenoude tempels, verken authentieke markten of bestel een cocosnoot in een van de vele barretjes. Bezoek het Koninklijk Paleis en probeer een...

Lees alles over Bangkok >

Filter & zoek

Collecties

Collecties +

https://www.bibliotheek.nl/onze-collectie.html

Hoog contrast | Zet voorlezen aan

de Bibliotheek

home collecties in de Bibliotheek jeugd & jongeren meer van de bieb word lid

Waar ben je naar op zoek? Catalogus Vind

Collecties

Meer dan 4,3 miljoen items

Hier kan je door het totale bezit van alle Nederlandse Bibliotheken bladeren. Van boeken tot films, van games tot e-books. Verbaas je over de rijkdom van onze collecties. Wil je iets lenen? Dan verwijzen we je graag door naar de website van jouw eigen Bibliotheek.

Zoeken op materiaal

Voor je programma

Lock X CodePen - CSS Grid #6: Codev +

https://codepen.io/Rumyra/full/ZaoegM/ ... ⌂ ⌂ Search Fork Change View Log In Sign Up

CSS Grid #6: Codevember '17

A PEN BY Rumyra

Columbia University Graduate School of Architecture, Planning and Preservation

Lectures
and
Exhibitions
Fall 1985

Wednesday Lecture Series

6:00 PM
Wood Auditorium
Avery Hall

100 Level Avery Hall

Exhibitions

Oct 2: Werner Seligman, Architect, Dean, School of Architecture, Syracuse University. "Frank Lloyd Wright: The Evolution of the Prairie House"

Oct 9: Sam Bass Warner Jr, William Edwards, Huntington Professor of University Boston. University The Awful History and Fresh Promise of Urban Gardens

SEP 23-OCT 18: Tianjin University China "Student Work"

OEFENING

Neem je grid, en voeg zoveel fallbacks toe als je nodig vindt. Gebruik feature queries voor je Grid-only CSS.

Meer leren?

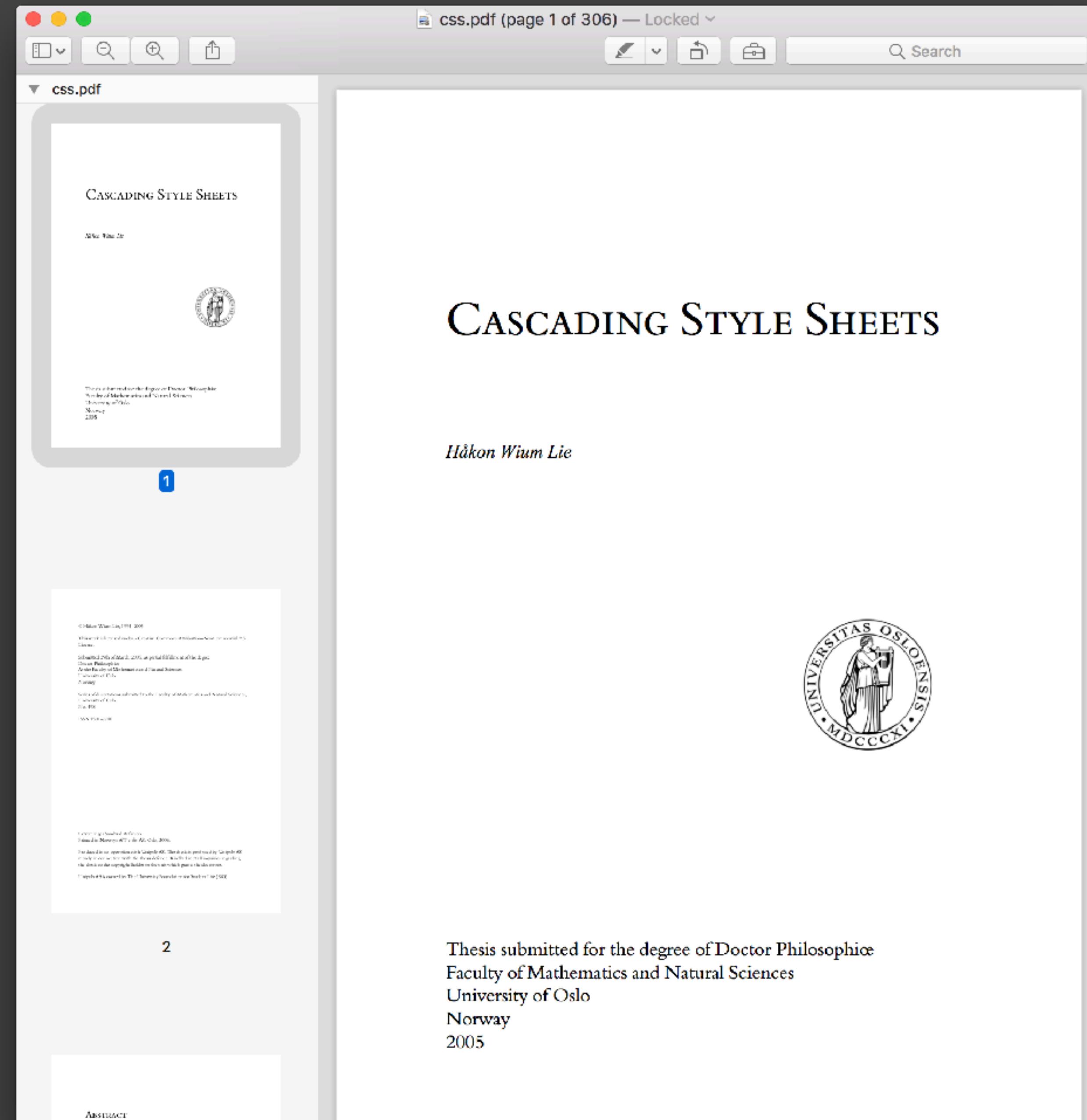
The New CSS Layout, Rachel Andrew

<https://abookapart.com>



De PhD thesis van Håkon Wium Lie

<http://www.wiumlie.no/2006/phd/css.pdf>



Jen Simmons | Labs

Jen Simmons | Labs [x](#) [+](#)

[labs.jensimmons.com](#)

Intro to CSS Grid

5 Basic Examples of how CSS Grid Works

12 Variations of Card Layouts

Example of Nesting Flexbox and Grid

AEA Boston 2017 2016 demos

See how these demos work by inspecting them with the [Firefox Grid Inspector Tool](#). Learn how to use [CSS Grid](#).

The Experimental Layout Lab of Jen Simmons

on Codepen

The Experimental Layout Lab of Jen Simmons

<http://labs.jensimmons.com/>

Learn CSS Grid

<http://learncssgrid.com>

Learn CSS Grid - A Guide to Learning CSS Grid Layout | Jonathan Suh

Learn CSS Grid - A Guide to Learning CSS Grid Layout | Jonathan Suh

learncssgrid.com

Search



A guide to learning CSS grid by @jonsuh

CSS Grid is a powerful tool that allows for two-dimensional layouts to be created on the web. This guide was created as a resource to help you better understand and learn Grid, and was organized in a way I thought made the most sense when learning it.

Table of Contents

- 1. Grid Container
- 2. Explicit Grid
- 3. Minimum and Maximum Grid Track Sizes
- 4. Repeating Grid Tracks
- 5. Grid Gaps (Gutters)
- 6. Positioning Items by Grid Line Numbers
- 7. Spanning Items Across Rows and Columns
- 8. Naming Grid Lines
- 9. Positioning Items by Line Names
- 10. Naming and Positioning Items by Lines with the Same Name

CSS Day 2018, 14th and 15th of June, Amsterdam

CSS Day 2018, 14th and 15th of June, Amsterdam X +

CSS Day 2018, 14th and 15th of June, Amsterdam https://cssday.nl/2018 Search

2018 2017 2016 2015 2014 2013



#ux-special + .css-day {
 June 14 & 15, 2018;
}

Compagnietheater, Amsterdam

Subscribe for updates!

On Thursday 14th and Friday 15th of June, 2018, CSS Day is returning with two conference days: a UX Special on Thursday, and a regular CSS Day on Friday.

See the [coverage of the 2017 edition](#) for an idea of what you can expect. (Or [2016](#), for that matter.)

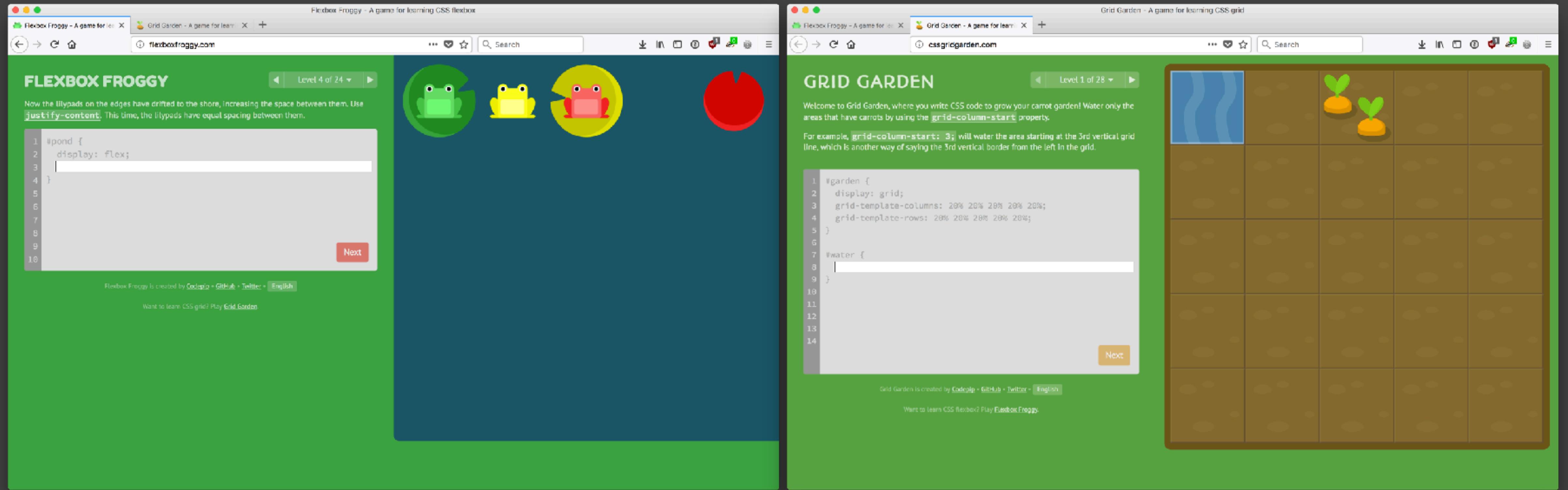
As always the conference will take place in [Het Compagnietheater](#). Ticket sales haven't started yet, but you can [subscribe for updates](#).

We hope to see you then!

CSS Day

<https://cssday.nl/2018>

€50 korting op
twee dagen met
HDV50



Flexbox Froggy / CSS Grid Garden

<http://flexboxfroggy.com/>

<http://cssgridgarden.com/>



Jen Simmons / @jensimmons

Rachel Andrew / @rachelandrew

Elika J. Etemad / @fantasai

Tab Atkins / @tabatkins

Hui Jing Chen / @hj_chen

Mary Lou / @crnacura

Eric Meyer / @ericmeyer

CSS Working Group / @csswg

WORKSHOP

CSS Layout

Bedankt voor jullie
komst! Zijn er vragen?

Mag ook naar:

@hdv
hidde@hiddedevries.nl