

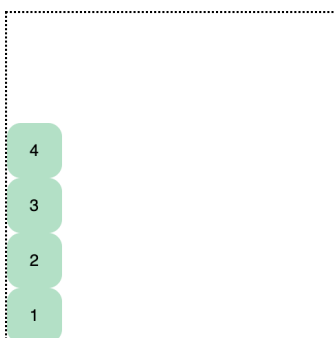
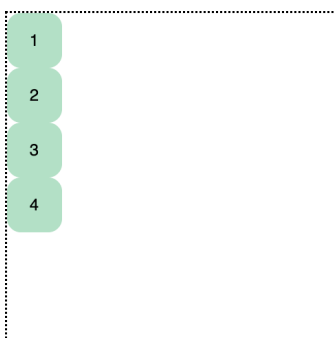
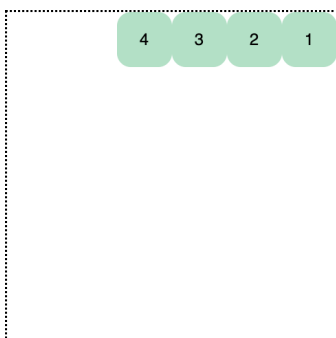
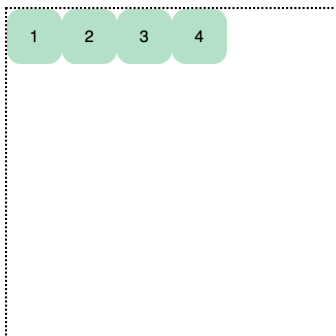
CSS layouts et Flexbox

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Flexbox

`display: flex` ^[1] ou "Flexbox" ou "Boîtes flexibles" est un outil de **mise en page moderne** permettant de disposer des boîtes sur **une seule dimension**.



RIP flex pour le layout de boîtes

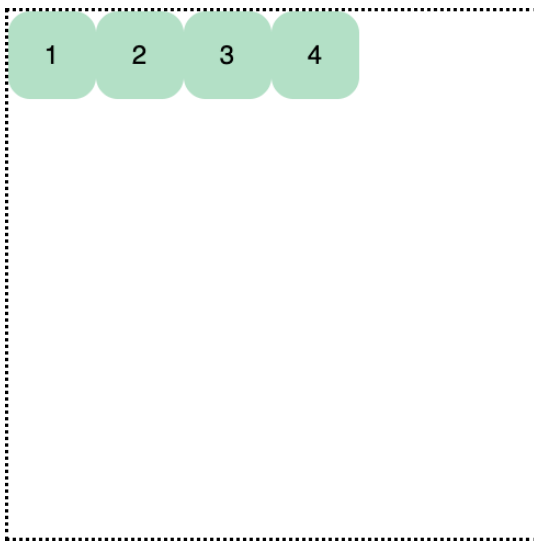
Les mises en page moderne visent à remplacer les anciennes techniques de mise en page qui détournaient l'usage de la propriété `float`.

C'est quoi flexbox

Un modèle de mise en page sur 1 dimension (une seule ligne ou une seule colonne)

Un conteneur auquel on applique `display:flex` (ou `display: inline-flex` ^[2]) et des propriétés qui s'appliquent sur ses enfants directs.

```
<style>
.conteneur{
  display: flex;
  display: inline-flex;
}
.item{
  width: 5rem;
  height: 5rem;
}
</style>
<div class="conteneur">
  <div class="item">Item 1</div>
  <div class="item">Item 2</div>
  <div class="item">Item 3</div>
  <div class="item">Item 3</div>
</div>
```



Axes

L'axe principal est défini par la propriété `flex-direction` qui peut prendre quatre valeurs :

`row`, `row-reverse`, `column`, `column-reverse`

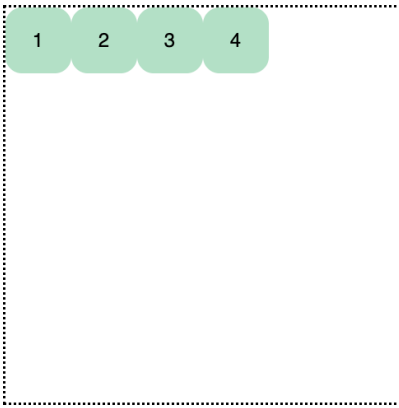


Figure 1. row

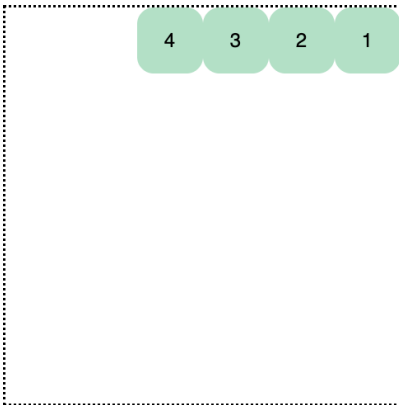


Figure 2. row-reverse

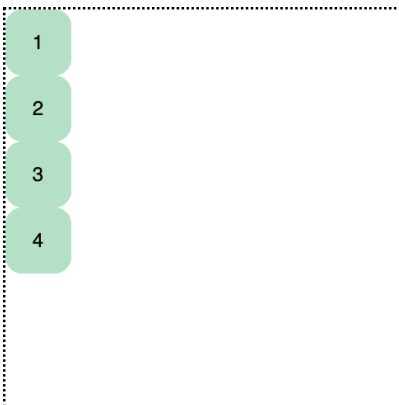


Figure 3. column

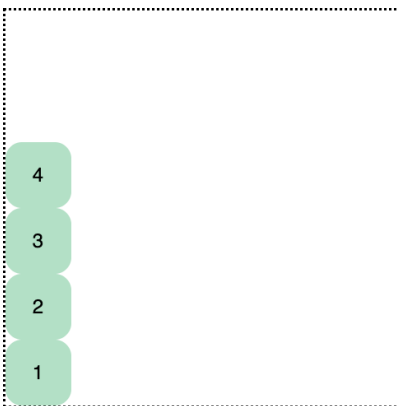


Figure 4. column-reverse

Axes selon flex-direction: row|row-reverse



Figure 5. Axe principal



Figure 6. Axe transverse

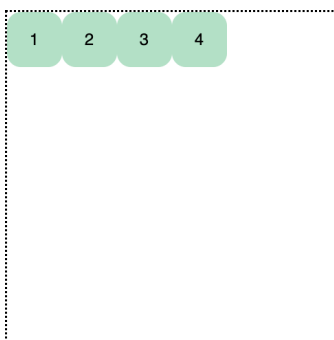


Figure 7. flex-direction: row;

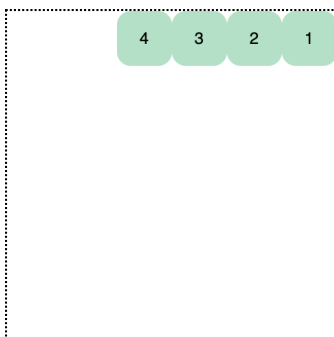


Figure 8. flex-direction: row-reverse;

Axes selon flex-direction: column|column-reverse

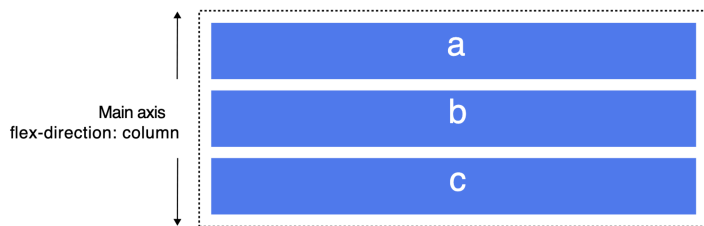


Figure 9. Axe principal

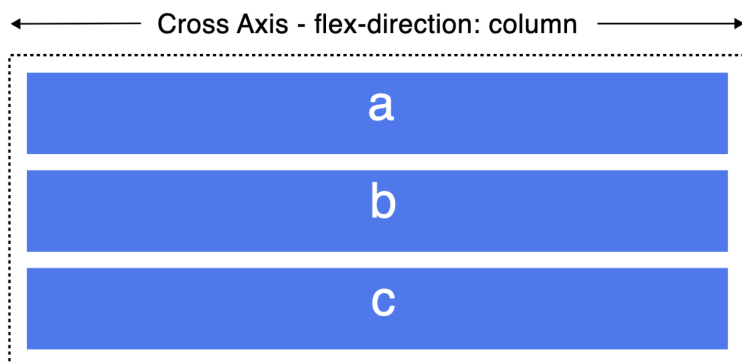


Figure 10. Axe transverse

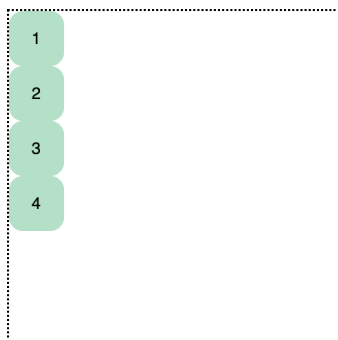


Figure 11. flex-direction: column;

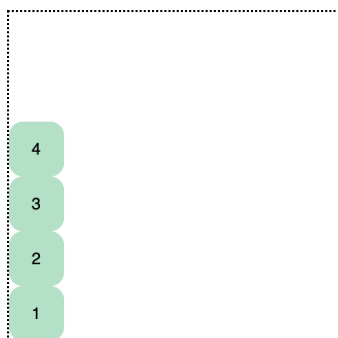
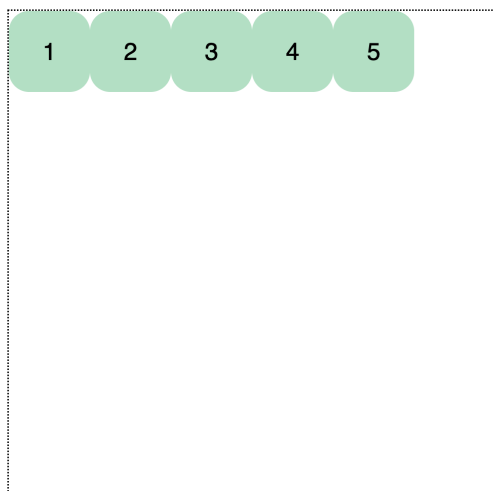


Figure 12. flex-direction: column-reverse;

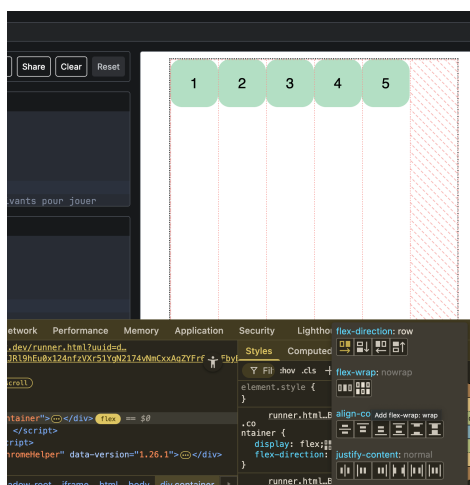
Playground



CSS Flexbox Playground [<https://developer.mozilla.org/fr/play?id=ws3ZoBPzuTgcK3pOt1LEEayyqQTh93ghbn-cAef4%2BFvq6GjYXCUVmfzObAej0vPsfNlZ9GO2yFzrf6AxY>]

Devtools

Les outils de développeurs disposent de petits utilitaires pour manipuler directement les différentes propriétés associées avec les boîtes flexibles.



[1] Les concepts de base pour flexbox [https://developer.mozilla.org/fr/docs/Web/CSS/CSS_flexible_box_layout/Basic_concepts_of_flexbox]

[2] Conteneur flex qui se comporte comme un élément en ligne [<https://developer.mozilla.org/fr/docs/Web/CSS/Reference/Values/display-legacy#inline-flex>]

Propriétés flexbox

La plupart des propriétés de flexbox s'appliquent au conteneur flex. Certaines d'entre-elles (*-self) s'appliquent sur les items.

Propriétés couramment utilisées en boîtes flexibles

Axe principal

- justify-content
- justify-items
- justify-self

Axe secondaire

- align-content
- align-items
- align-self

flex

- flex-basis
- flex-grow
- flex-shrink

flex-flow

- flex-direction
- flex-wrap

gap

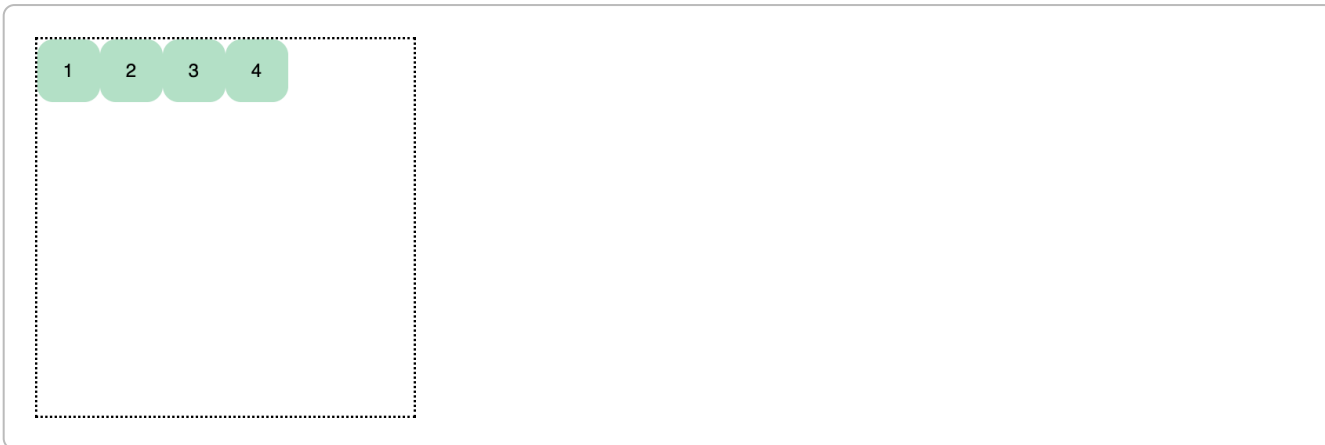
- column-gap
- row-gap

justify-content en direction row

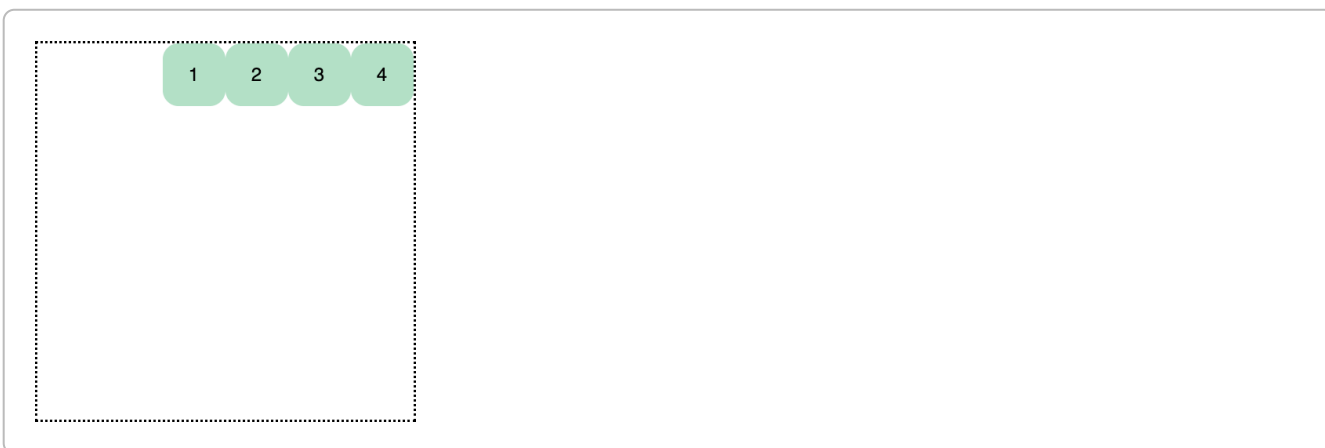
Aligne les items le long de l'axe principal

Ici, quand flex-direction est row ou row-reverse

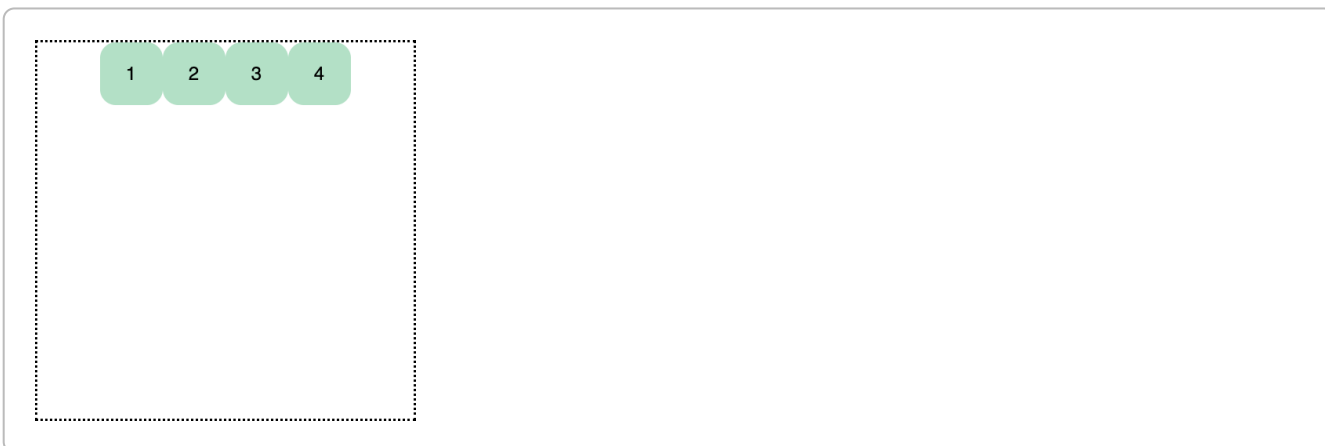
Example 1. *flex-start* ^[1]



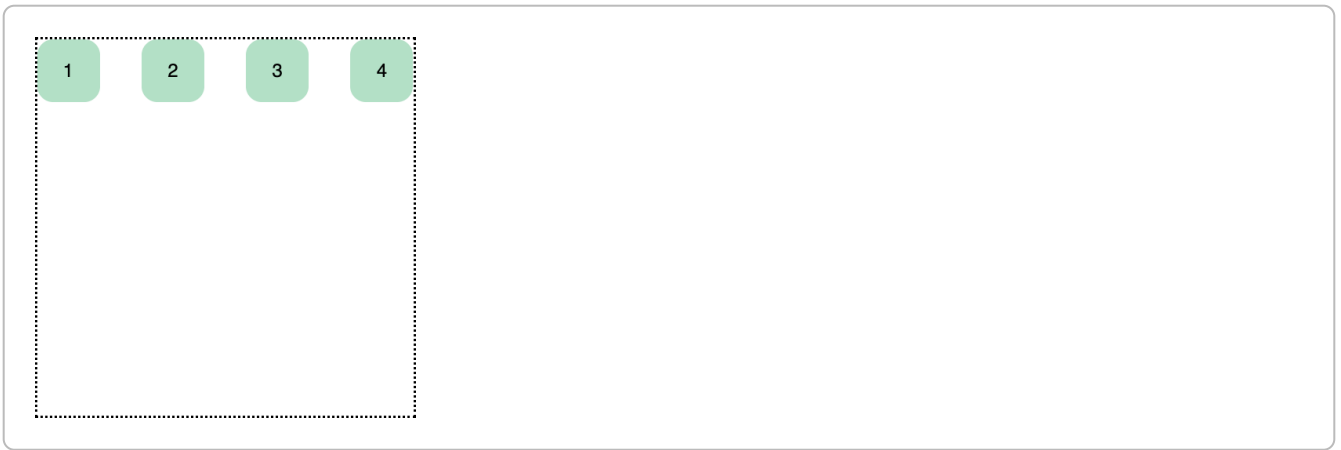
Example 2. *flex-end*



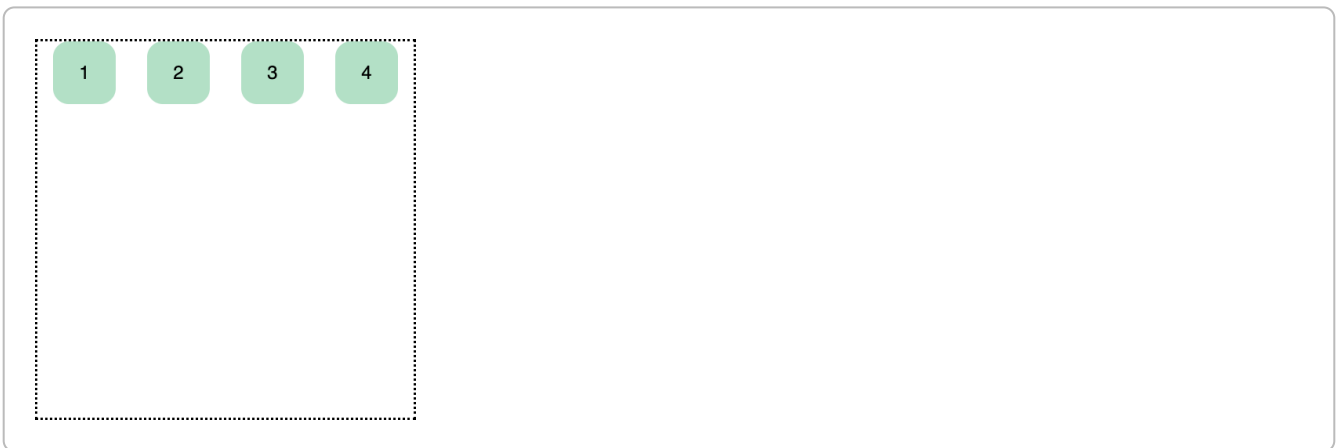
Example 3. *center*



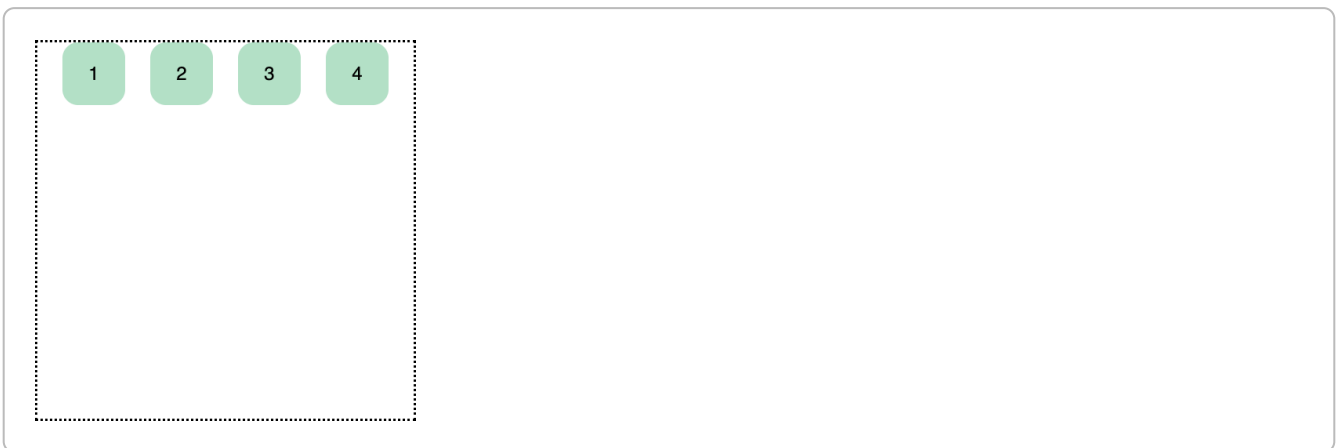
Example 4. space-between



Example 5. space-around



Example 6. space-evenly

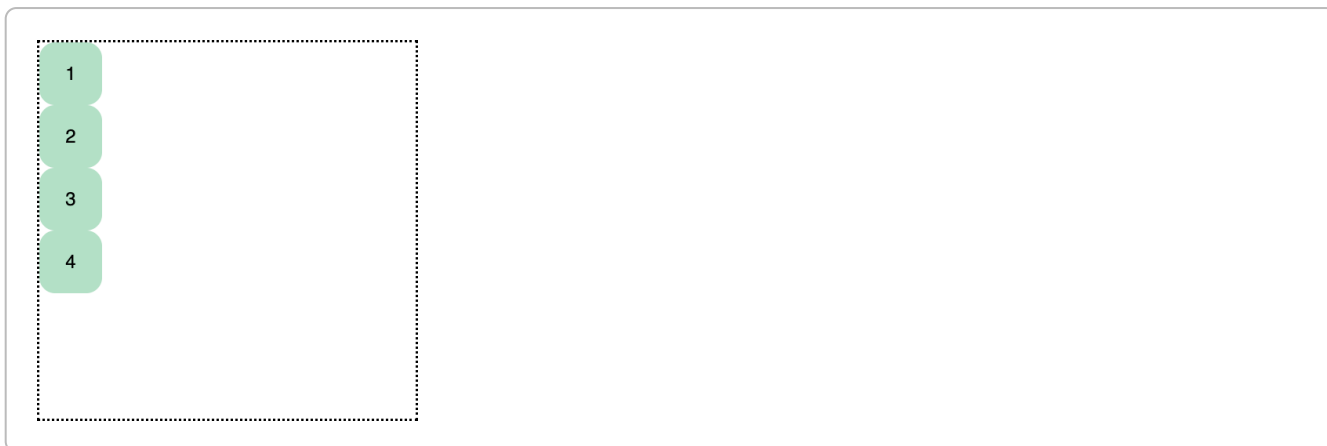


justify-content en direction column

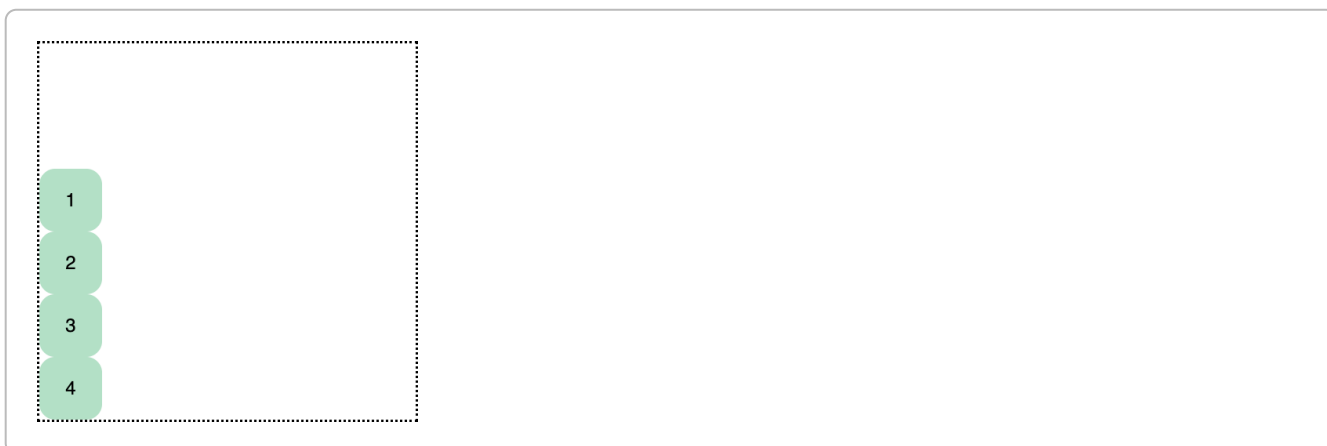
Aligne les items le long de l'axe principal

Ici, quand flex-direction est column ou column-reverse

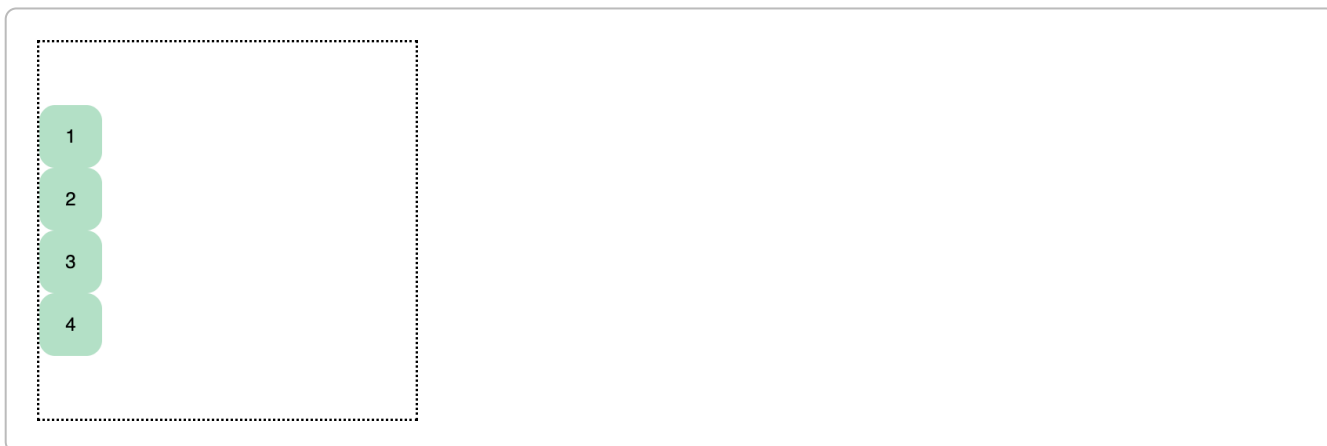
Example 7. flex-start



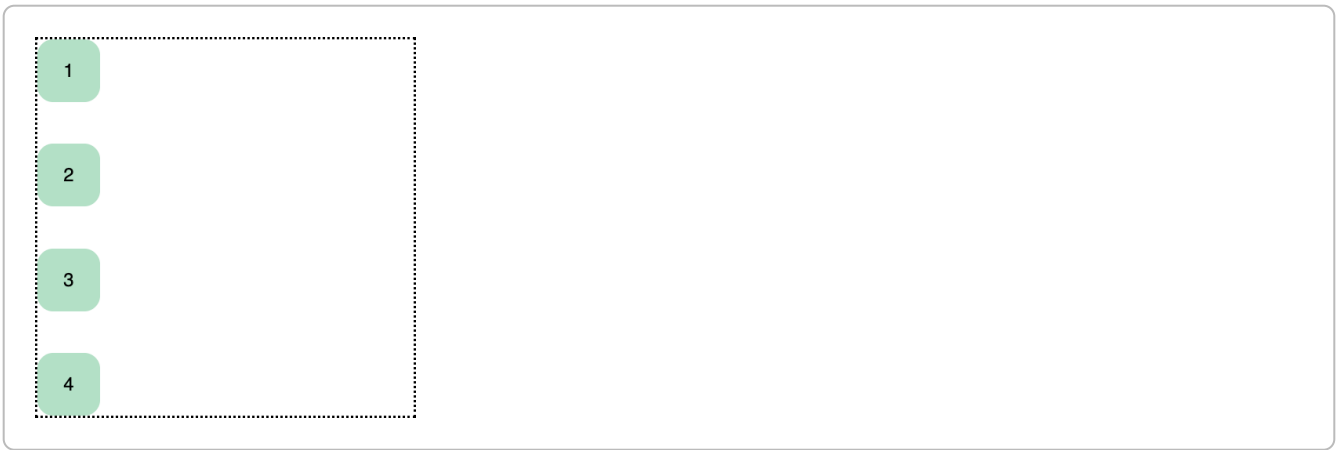
Example 8. flex-end



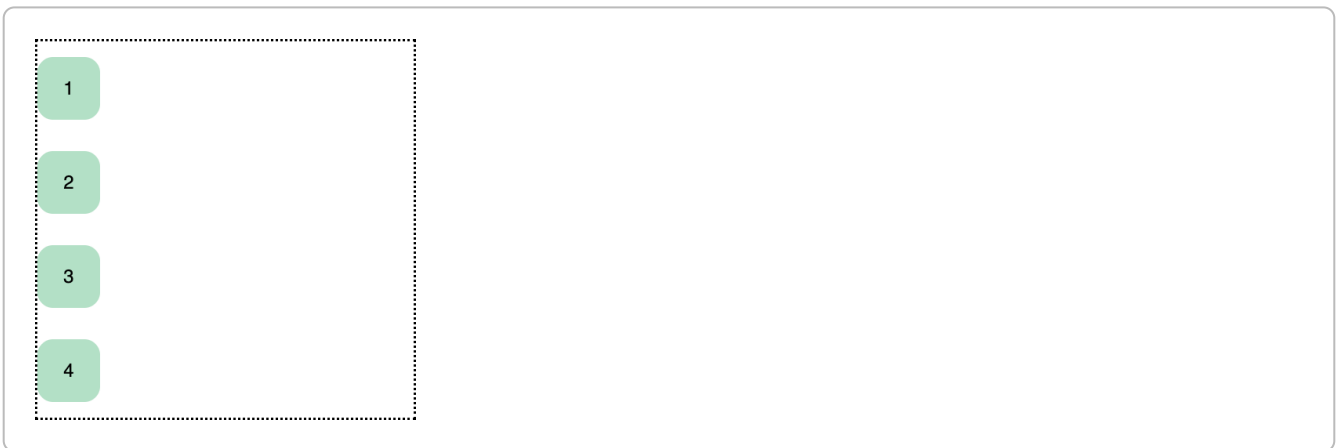
Example 9. center



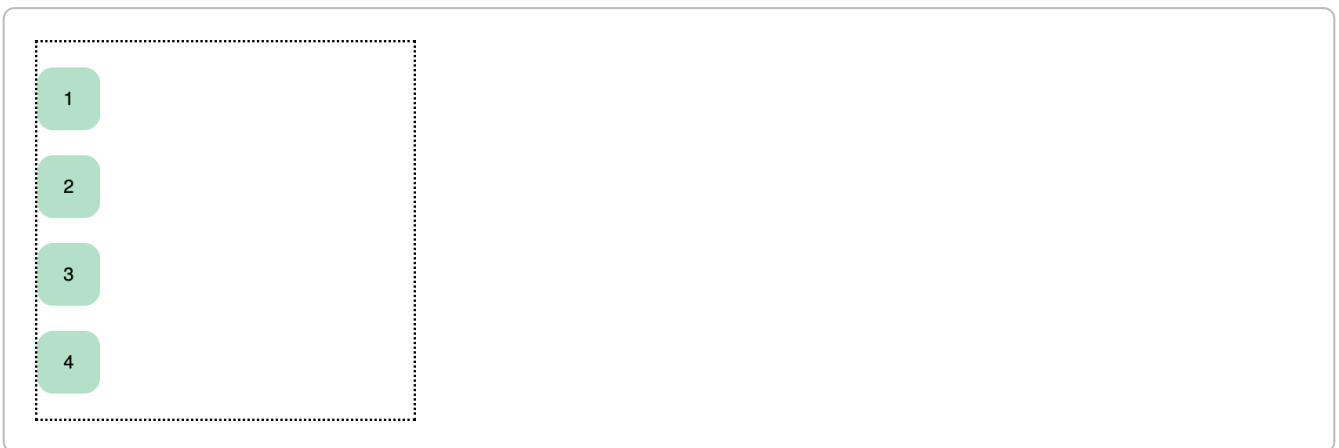
Example 10. space-between



Example 11. space-around



Example 12. space-evenly



align-items

Distribue des items le long de l'**axe transverse** ^[1].

- align-items: stretch;; ^[2] étire les items le long de l'axe transverse
- align-items: center;; centré
- align-items: flex-start;; au début



Par défaut, les éléments sont étirés. Ca signifie que si les items n'ont pas de hauteur max définie, ils vont occuper tout l'espace vertical

flex-wrap

flex-flow

gap

align-content

justify-items

flex-basis

flex-grow

flex-shrink

flex

order

[1] Rappel : l'axe transverse est perpendiculaire à l'axe principal

[2] Valeur par défaut

CSS Flexbox Review

Introduction to CSS Flexbox and Flex Model

Definition

CSS flexbox is a one-dimensional layout model that allows you to arrange elements in rows and columns within a container.

Flex Model

This model defines how flex items are arranged within a flex container. Every flex container has two axes: the main axis and the cross axis.

The flex-direction Property

Definition

This property sets the direction of the main axis. The default value of flex-direction is row, which places all the flex items on the same row, in the direction of your browser's default language (left to right or right to left).

flex-direction: row-reverse;

This reverses the items in the row.

flex-direction: column;

This will align the flex items vertically instead of horizontally.

flex-direction: column-reverse;

This reverses the order of the flex items vertically.

The flex-wrap Property

Definition

This property determines how flex items are wrapped within a flex container to fit the available space. flex-wrap can take three possible values: nowrap, wrap, and wrap-reverse.

flex-wrap: nowrap;

This is the default value. Flex items won't be wrapped onto a new line, even if their width exceed the container's width.

flex-wrap: wrap;

This property will wrap the items when they exceed the width of their container.

flex-wrap: wrap-reverse;

This property will wrap flex items in reverse order.

flex-flow Property

This property is a shorthand property for flex-direction and flex-wrap.

```
flex-flow: column wrap-reverse;
```

- Afficher plusieurs blocs en ligne
- Centrer du contenu horizontalement ou verticalement

Usages avancés

Conteneurs imbriqués

Margin dans un conteneur flex

Applications

Motifs communs

- Grille flexbox
- Objets média (ex. image à gauche, texte à droite)
- Mise en page de formulaires
- Mise en page de site web
- Mise en page réactive (responsive) avec media queries
- Mise en page réactive (responsive) fluide (sans media queries)

Cas d'utilisations

- Répartir le logo, titre, navigation, compte sur une entête de site
- Galerie photo
- Cards

Quelques exemples communs avec du code [<https://www.quackit.com/css/flexbox/examples/>]

Quelques ressources

- CSS-Tricks - CSS Flexbox Layout Guide [<https://css-tricks.com/snippets/css/a-guide-to-flexbox/>]
- front-end - Apprendre et comprendre flexbox en 12 minutes [<https://www.youtube.com/watch?v=DPH-gIIdrmFk>]
- Coding2GO - Learn CSS Flexbox in 20 Minutes [<https://www.youtube.com/watch?v=wsTv9y931o8>]
- freeCodeCamp - CSS Flexbox [<https://www.freecodecamp.org/learn/full-stack-developer/lecture-working-with-css-flexbox/what-is-css-flexbox>]
- Flexbox Defense [<http://www.flexboxdefense.com/>]

