

CSS Lay-out

Flexbox – Float - Position

**HO
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Inhoud

- ▶ Flexbox
 - Flex container
 - Flex items
 - Absolute & relative flex
 - Flexbox en margin: auto;
- ▶ Float
- ▶ Position

Lay-out

- ▶ De **normale flow (position: static)** van een pagina stapelt alle block elementen op elkaar. Elk block element begint op een nieuwe lijn. Zelfs als de breedte van een element wordt aangepast (verminderd) zal een onderliggend element niet deze ruimte innemen, tenzij men ingrijpt in de normale flow.



Lay-out

- ▶ De **normal flow (position: static)** is duidelijk niet de meest sexy layout.
- ▶ Om de normal flow te doorbreken heeft men de volgende mogelijkheden:
 - grid lay-out: vorige les
 - flexbox lay-out: flex
 - float lay-out: float
 - relatieve positionering
 - absolute positionering
 - fixed positionering

Flexbox

Gebruik Mozilla Firefox.

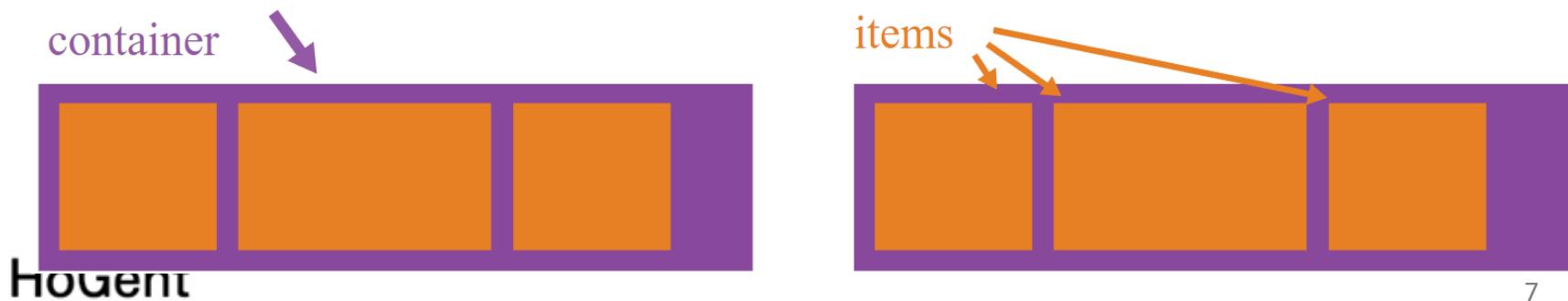
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Inleiding

- ▶ Flexbox is een één dimensionele manier in CSS om **delen van je webpagina** eenvoudig te lay-outen in rijen en/of kolommen
- ▶ Lost moeilijkheden zoals verticaal centreren in “gewone CSS” op.
- ▶ Basisidee: elementen positioneren langs **assen**.
 - Er is een **main axis** en een **cross axis**.
 - We spreken niet meer van **links en rechts** of van **horizontaal en verticaal**.
 - De main axis loopt default horizontaal van links naar rechts en de cross axis verticaal van boven naar onder.

Flex container

- ▶ Er is steeds een omvattende container.
- ▶ De rechtstreekse *children* van deze omvattende container zullen op *flexible* wijze getoond zullen worden: **flex items**
- ▶ CSS property om van de omvattende container een flexbox te maken is: **display: flex;** (block) of **display: inline-flex;** (inline). Dit zorgt ervoor dat de rechtstreekse children flex-items worden. Deze volgen niet meer de standaard lay-out.

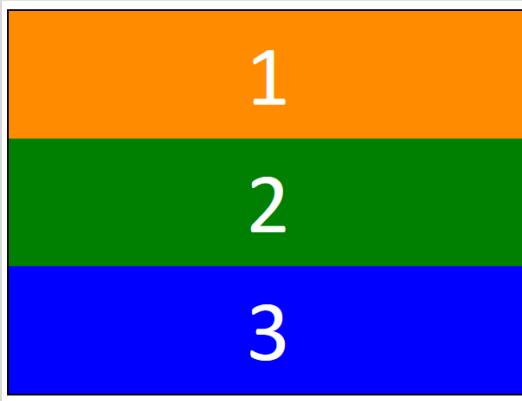


Flex container

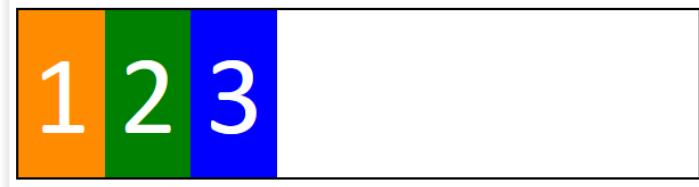
► 01-Flexbox/container

```
/* de flexcontainer */
h1+div {
    border: 2px solid black;
    display: flex;
}
```

Normal lay-out

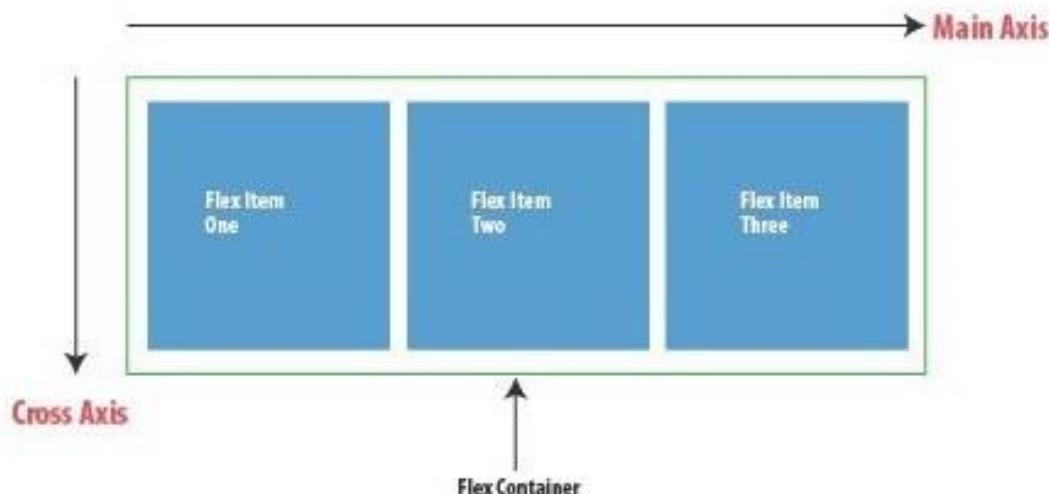


Flexbox lay-out: **display: flex;**



Flex containers

- ▶ Flex containers hebben een **main axis** en een **cross axis**
 - Standaard gaat de main axis van links naar rechts en de cross axis van boven naar onder
 - Wordt aangepast met *flex-direction* property
- ▶ De container wordt opgevuld langs de main axis.



Flex containers: flex-direction

- ▶ De richting van de **main axis** kan gewijzigd worden door de flex-direction:
 - flex-direction: row; (default value)



- flex-direction: column;



- flex-direction: row-reverse;

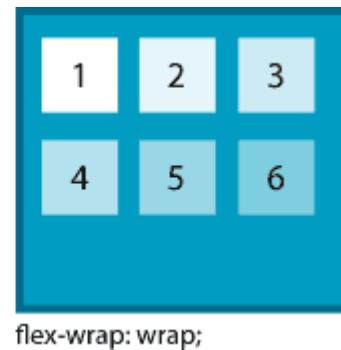
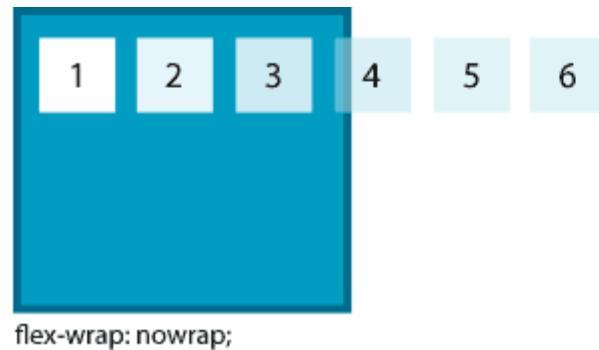


- flex-direction: column-reverse;



Flex containers: flex-wrap

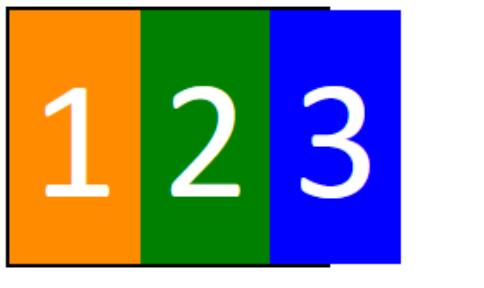
- ▶ Indien de container de flex-items niet meer langs de main-axis kan plaatsen (te weinig ruimte) vallen de flex-items standaard buiten de flex container.
- ▶ Kan gewijzigd worden met flex-wrap
 - flex-wrap: nowrap; (default value)
 - flex-wrap: wrap;
 - flex-wrap: wrap-reverse;



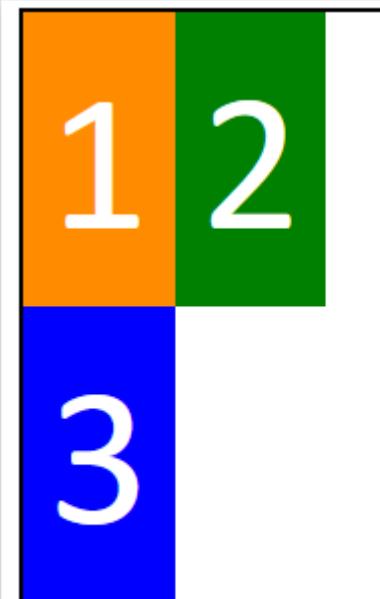
Flex containers: flex-wrap

► 01-Flexbox/container

```
/* de flexcontainer */
h1+div {
    border: 2px solid black;
    display: flex;
    width: 150px;
    flex-wrap: no-wrap; /* default value */
}
```

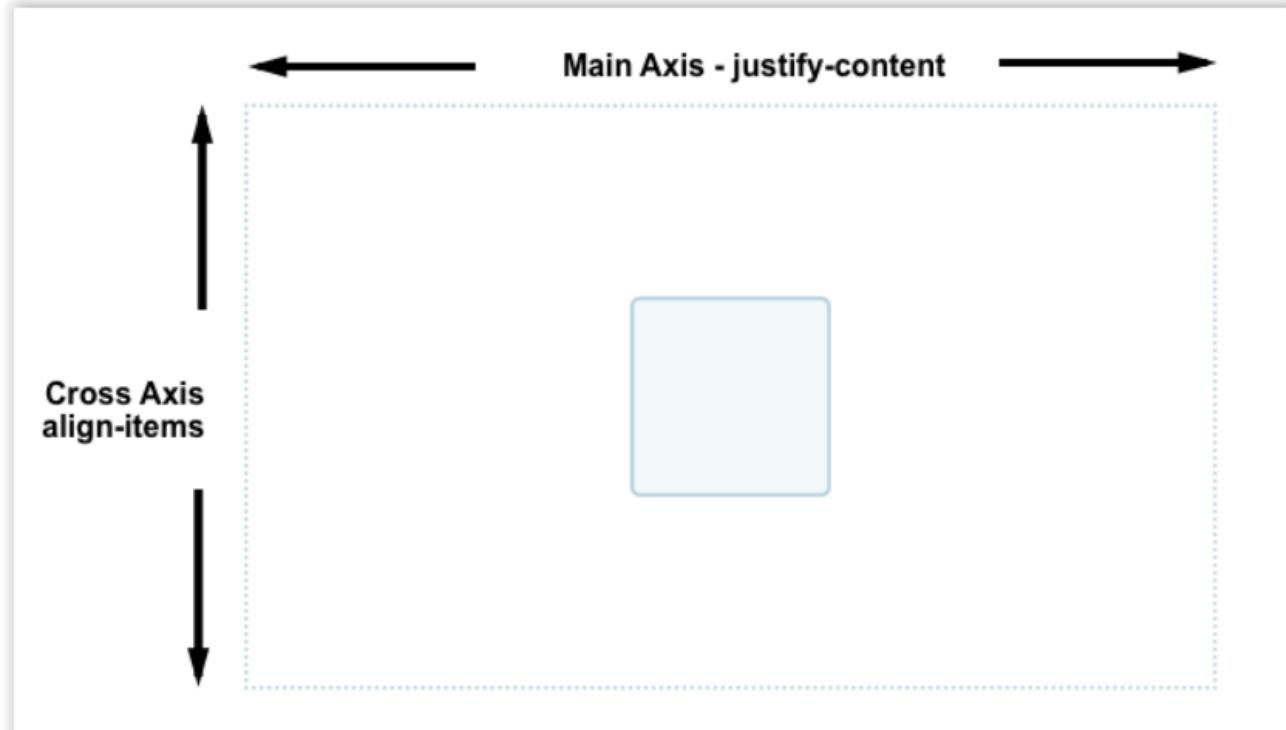


```
/* de flexcontainer */
h1+div {
    border: 2px solid black;
    display: flex;
    width: 150px;
    flex-wrap: wrap;
}
```



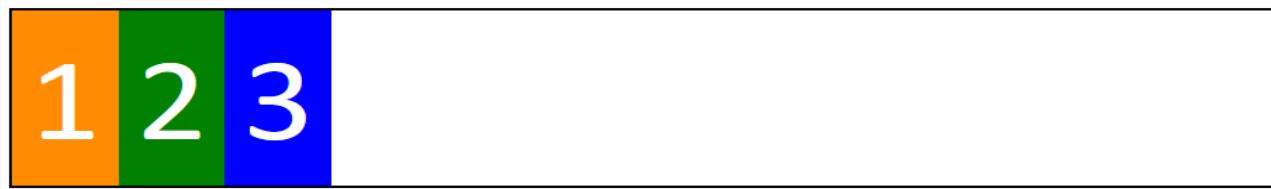
Flex container.

- ▶ Items uitlijnen:
 - langs de main-axis: **justify-content**
 - langs de cross-axis: **align-items**

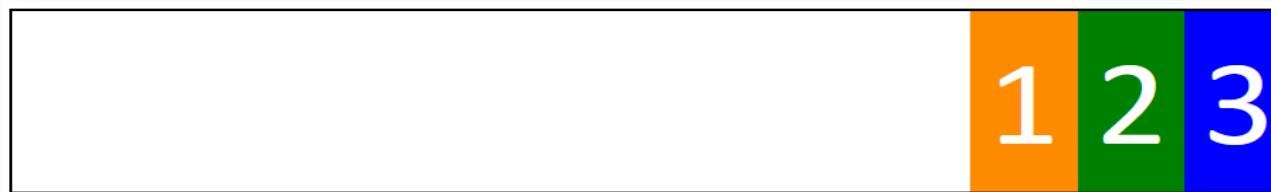


Flex containers: justify-content

- ▶ Items positioneren langs **main axis** met justify-content
 - justify-content: flex-start; (default)



- justify-content: flex-end;

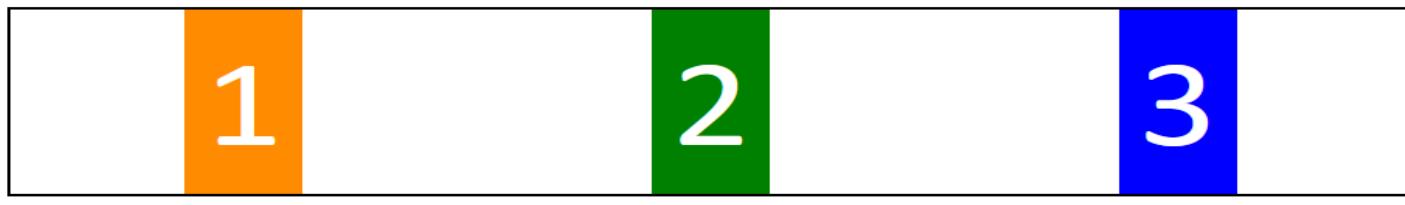


- justify-content: center;



Flex containers: justify-content

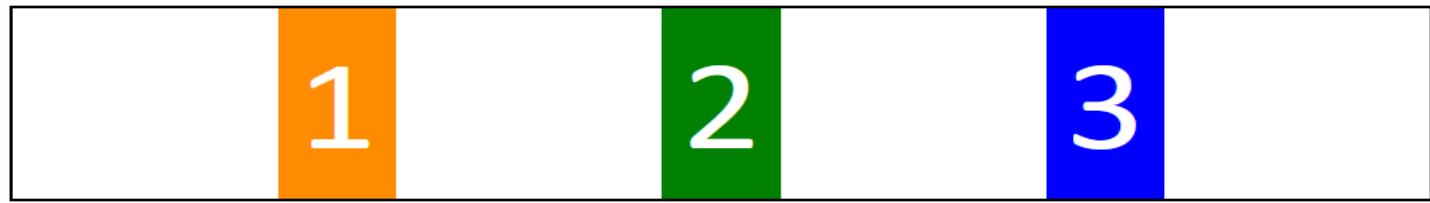
- justify-content: space-around; **Rond** elk item evenveel witruimte



- justify-content: space-between; **Tussen** elk item evenveel witruimte



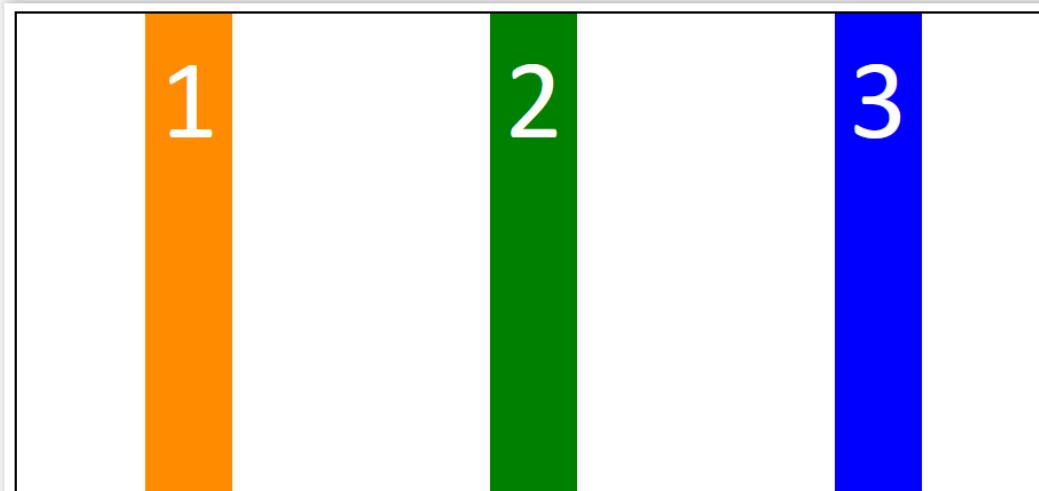
- justify-content: space-evenly; **Voor, na en tussen** elk item evenveel witruimte



Flex containers: align-items

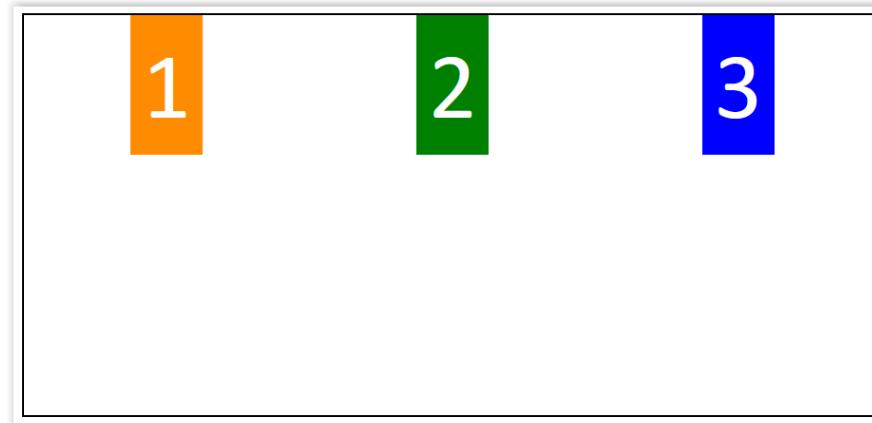
- ▶ **Items** positioneren langs **cross axis** met **align-items**
 - align-items: stretch; (default)

```
/* de flexcontainer */  
h1+div {  
    border: 2px solid black;  
    display: flex;  
    /* width: 150px;  
    flex-wrap: wrap; */  
    justify-content: space-around;  
    height: 50vh;  
    align-items: stretch; /* default value */  
}
```

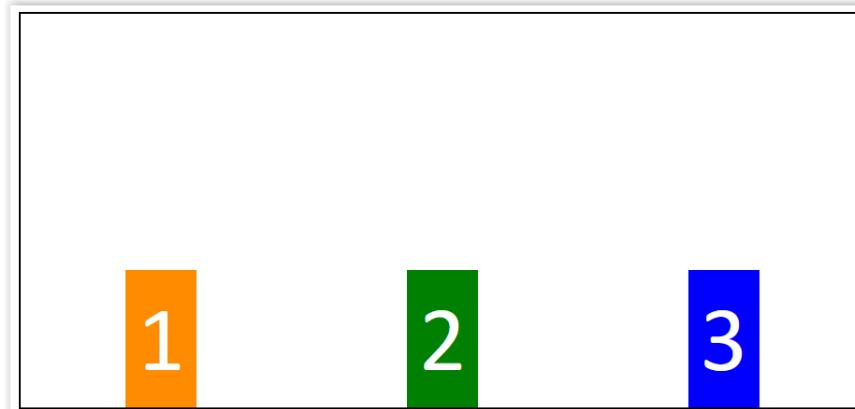


Flex containers: align-items

- ▶ **Items** positioneren langs **cross axis** met **align-items**
 - align-items: flex-start;

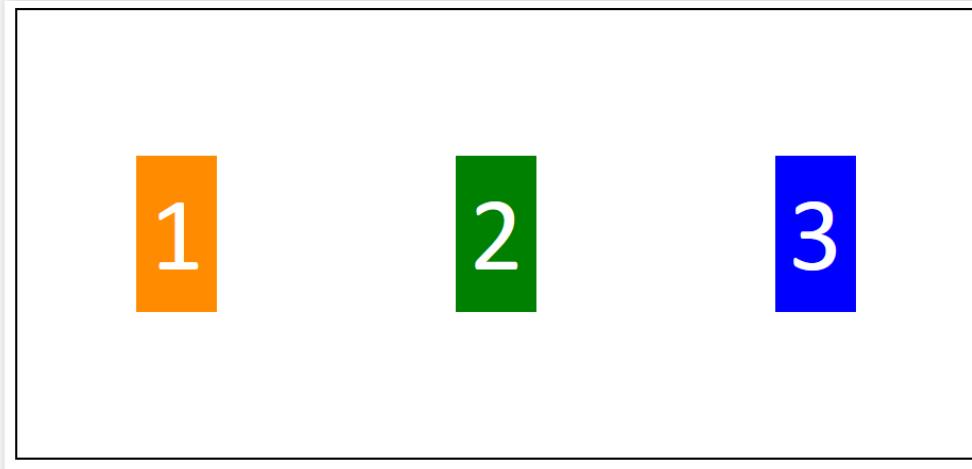


- align-items: flex-end;

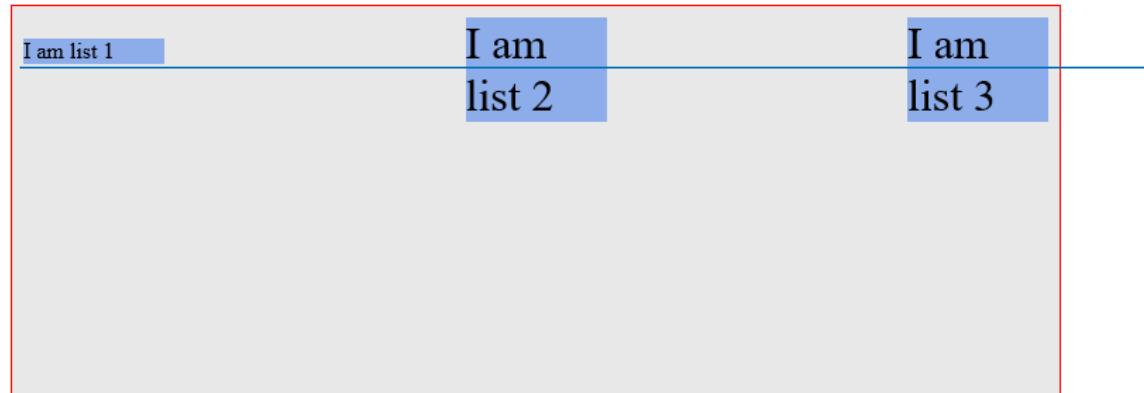


Flex containers: align-items

- align-items: center;



- align-items: baseline;
- aligneert items volgens “onderkant” tekst.



Flex containers: align-content

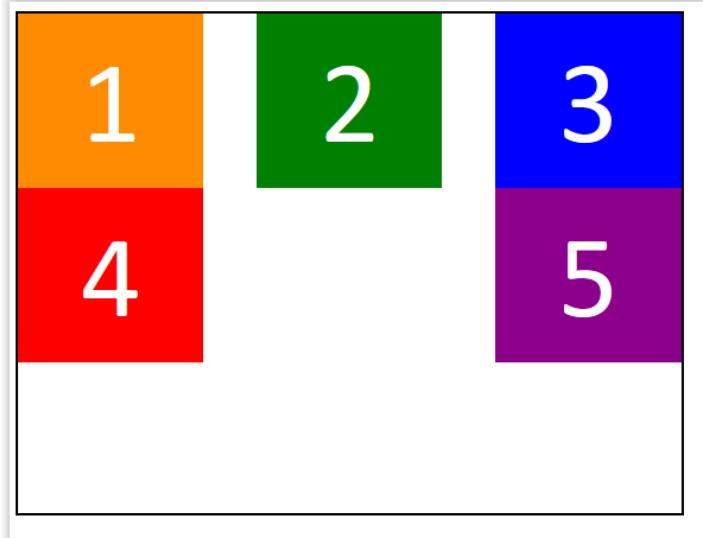
- ▶ Distributie van de ruimte langs de cross-axis met **align-content**.
Deze eigenschap heeft geen effect op single-line containers.

```
/* Some default styles to make each box visible */
div > div {
    color: white;
    font-size: 5em;
    text-align: center;
    padding: 10px;
    width: 10rem;
}

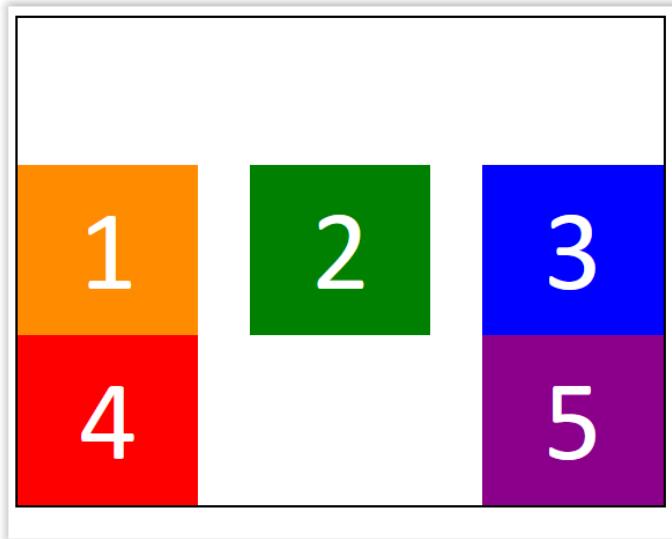
/* de flexcontainer */
h1+div {
    border: 2px solid black;
    display: flex;
    width: 35rem;
    flex-wrap: wrap;
    justify-content: space-between;
    height: 50vh;
    align-content: flex-start; /* default value */
}
```

Flex containers: align-content

- align-content: flex-start; (default)

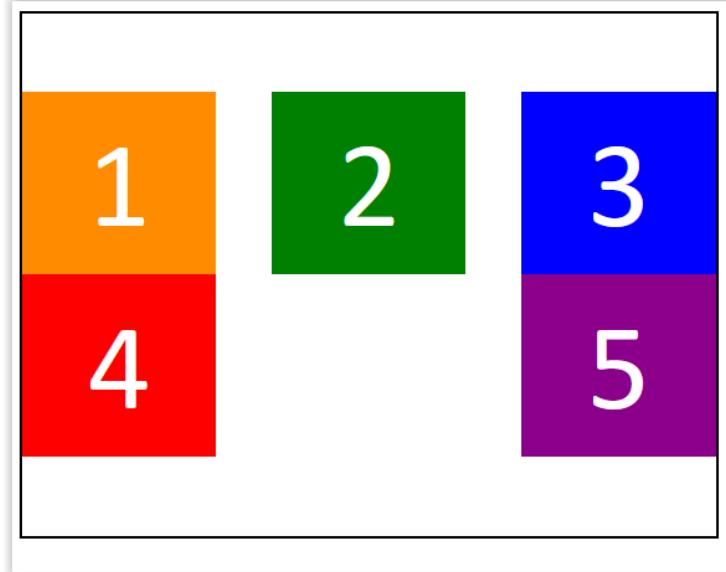


- align-content: flex-end;

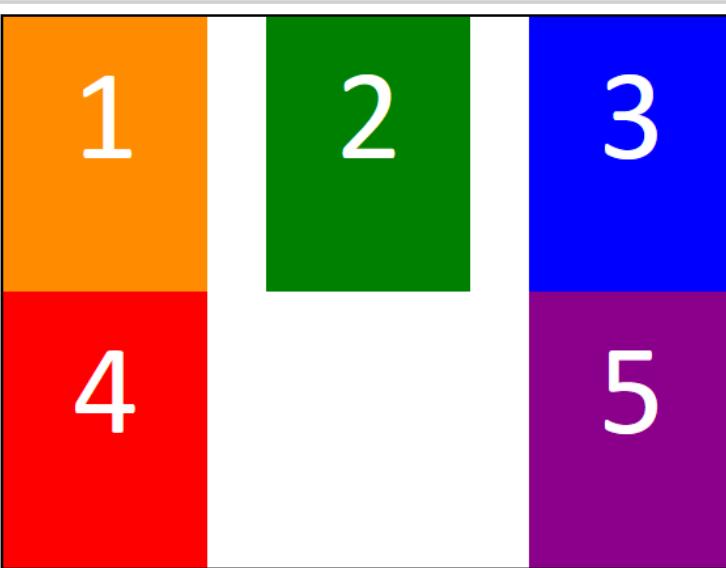


Flex containers: align-content

- align-content: center;



- align-content: stretch;



Flex items: order

- ▶ 01-Flexbox/Items
- ▶ Volgorde waarin de items getoond worden wijzigen, zonder HTML aan te passen
 - Standaardwaarde is 0
 - Items worden geordend van klein naar groot.

```
/* Some default styles to make each box visible */
div > div {
  color: white;
  font-size: 5em;
  text-align: center;
  padding: 10px;
  width: 10rem;
}

/* de flexcontainer */
h1+div {
  border: 2px solid black;
  display: flex;
}
```

```
div > div:nth-child(1) {
  background-color: darkorange;
  order: 1;
}
```



Flex items: flex-grow & flex-shrink

- ▶ *flex-grow* en *flex-shrink* bepalen **hoeveel een item mag groeien/verkleinen** als er extra plaats is in de container
- ▶ Waarde: getal
 - 0: niet groeien
 - positief: groei in verhouding met andere items

```
/* Some default styles to make each box visible */
div > div {
  color: white;
  font-size: 5em;
  text-align: center;
  padding: 10px;
  width: 15rem;
}
```

```
/* Flex items */
div > div:nth-child(1) {
  background-color: darkorange;
  flex-grow: 0; /* default-value is 0 */
  flex-shrink: 0; /* default-value is 1 */
}
div > div:nth-child(2) {
  background-color: green;
  flex-grow: 2;
  flex-shrink: 2;
}
div > div:nth-child(3) {
  background-color: blue;
  flex-grow: 3;
  flex-shrink: 2;
}
```

Flex-items: flex-grow/flex-shrink

The screenshot shows a browser window displaying a flexbox example and the corresponding developer tools inspector.

Browser View:

The page title is "Flexbox - items". It displays three colored boxes (orange, green, blue) arranged horizontally. Each box contains a large white number (1, 2, 3) centered within it. The orange box has a dark orange background, the green box has a dark green background, and the blue box has a dark blue background.

Developer Tools Inspector:

The developer tools are open, showing the element tree and the styles panel.

Element Tree:

```
<!DOCTYPE html>
<html lang="en">
  <head></head>
  <body>
    <h1>Flexbox - items</h1>
    <div>flex
      <div>1</div>
      <div>2</div>
      <div>3</div>
      <!--<div>4</div>-->
    </div>
    <!--Code injected by live-server-->
    <script type="text/javascript"></script>
  </body>
</html>
```

Styles Panel:

The styles panel shows the CSS rules for the elements. The first child div has the following styles:

```
element { inline }
div > div:nth-child(1) { style.css:25
  background-color: darkorange;
  flex-grow: 0;
  flex-shrink: 0;
}
```

The second child div has the following styles:

```
div > div { style.css:10
  color: white;
  font-size: 5em;
  text-align: center;
  padding: 10px;
  width: 15rem;
}
```

The body has the following styles:

```
div { style.css:2
  box-sizing: border-box;
}
```

Indeling (Layout) Tab:

The Indeling tab is selected. It shows the layout configuration for the first child div. The "Basisgrootte" (basis/final) is set to 220px. The "Definitieve grootte" (definite size) is also set to 220px. The "Vakkenmodel" (grid model) section shows a margin of 0.

Flex items: flex-basis

- ▶ *flex-basis* bepaalt de initiele grootte van een item voordat *flex-grow* en *flex-shrink* worden toegepast.
- ▶ *flex-basis: auto;* - default value. Width en height van het item is de *flex-basis*.
- ▶ Let op: *flex-basis* heeft steeds voorrang op ingestelde width voor het item.

```
/* Flex items */
div > div:nth-child(1) {
    background-color: darkorange;
    flex-basis: 10rem;
    flex-grow: 0; /* default-value */
    flex-shrink: 0; /* default-value */
}
div > div:nth-child(2) {
    background-color: green;
    flex-basis: 15rem;
    flex-grow: 2;
    flex-shrink: 2;
}
div > div:nth-child(3) {
    background-color: blue;
    flex-basis: 12rem;
    flex-grow: 3;
    flex-shrink: 2;
}
```

Flex-items: flex-basis

The screenshot shows a browser window titled "FlexBox" displaying a flexbox layout with three items labeled 1, 2, and 3. Below the browser is a developer tools sidebar.

Browser Title Bar: FlexBox

Address Bar: 127.0.0.1:5501/Completed/01-Flexbox/Items/index.html

Developer Tools Sidebar:

- Inspector:** Shows the DOM structure:

```
<!DOCTYPE html>
<html lang="en">
  <head></head>
  <body>
    <h1>Flexbox - items</h1>
    <div>flex
      <div>1</div>
      <div>2</div>
      <div>3</div>
    </div>
  </body>
</html>
```
- Stijleditor:** Shows the CSS for the first flex item:

```
element { inline }
div > div:nth-child(1) { style.css:25
  background-color: darkorange;
  flex-basis: 10rem;
  flex-grow: 0;
  flex-shrink: 0;
}
```
- Indeling:** Shows the layout panel with the first item selected. It displays the "basis/final" value as "140px".

Basisgrootte (width: 15rem)	140px
Definitieve grootte	140px
- Raster:** Shows the message: "CSS-raster is niet in gebruik op deze pagina"
- Vakkenmodel:** Shows the "margin" property set to 0.

Flex items: flex - shorthand

- ▶ De *flex* property laat je toe flex-grow, flex-shrink en flex-basis in een keer te definieren
 - `flex-grow: 2;`
 - `flex-shrink: 1;`
 - `flex-basis: auto;``flex: 2 1 auto;`

Flex items: absolute flex

- ▶ Absolute flex items: ingenomen ruimte **enkel bepaald door Flexbox**
 - **flex: 1 1 0;**
 - item mag groeien, mag verkleinen, en er wordt **geen ruimte bepaald op voorhand**

This is just some random text to buttress the point been explained. Some more random text to buttress the point being explained.

This is just a shorter random text.

Flex items: relatieve flex

- ▶ Relative flex items: ingenomen ruimte **enkel bepaald door grootte inhoud**
 - **flex: 1 1 auto;**
 - item mag groeien, mag verkleinen, maar **ruimte wordt eerst automatisch bepaald door inhoud**

This is just some random text to buttress the point been explained. Some more random text to buttress the point being explained.

This is just a shorter random text.

Flexbox en margin: auto;

- ▶ margin: auto instellen op een item zal vrije ruimte “verplaatsen”.

```
<h1>Flexbox - margin</h1>
<ul>
    <li>Branding</li>
    <li>Home</li>
    <li>Services</li>
    <li>About</li>
    <li>Contact</li>
</ul>
```

```
ul{
    list-style-type: none;
    background-color: lightgray;
    display: flex;
    padding: 5px;
}
li{
    color: white;
    background-color: deepskyblue;
    border: 1px solid white;
    border-radius: 5px;
    font-size: 1.2rem;
    text-align: center;
    padding: 2px;
    margin: 5px;
    flex:0 0 auto; /* default value is 0 1 auto */
}
```

Flexbox - margin

Branding Home Services About Contact

Flexbox en margin: auto;

- ▶ Rechtermargin instellen zorgt dat daar de vrije ruimte geplaatst wordt.

```
li:nth-child(1){  
    margin-right: auto;  
}
```

Flexbox - margin

Branding

Home

Services

About

Contact

Flexbox en margin: auto;

- ▶ Beide margins instellen zorgt dat de vrije ruimte langs beide kanten verspreid wordt

```
li:nth-child(1){  
    margin-right: auto;  
    margin-left: auto;  
}
```

Flexbox - margin

Branding

Home Services About Contact

Float

HO
GENT

Floating elements (vlotten)

- ▶ float : left / right / none
 - Elementen worden uit de normale flow gehaald. Men kan dan meegeven in welke richting (right – left) ze zullen vlotten binnen hun bevattende container (parent block). Elementen worden tegen de opgegeven rand geplaatst.
 - De overige elementen binnen deze container (parent block) zullen dan de vrijgekomen plaats proberen op te vullen en zullen zich rond het element plaatsen.
 - Het is duidelijk dat voor het vlotende element een breedte zal moeten worden ingesteld (een block element neemt altijd de maximale breedte in van de bevattende container)

Floating left en right

► 02-Float/01-float.html

```
<body>
  <h1>The Evolution of the Bicycle</h1>
  <blockquote>
    "Life is like riding a bicycle. To keep your balance you must keep
    moving." - Albert Einstein
  </blockquote>
  <p>
    In 1817 Baron von Drais invented a walking machine that would help him get
    around the royal gardens faster: two same-size in-line wheels, the front
    one steerable, mounted in a frame upon which you straddled. The device was
    propelled by pushing your feet against the ground, thus rolling yourself
    and the device forward in a sort of gliding walk.
  </p>
  <p>
    The machine became known as the Draisienne (or "hobby horse"). It was made
    entirely of wood. This enjoyed a short lived popularity as a fad, not
    being practical for transportation in any other place than a well
    maintained pathway such as in a park or garden.
  </p>
  <p>
    The next appearance of a two-wheeled riding machine was in 1865, when
    pedals were applied directly to the front wheel. This machine was known as
```

Floating left en right

▶ Normal flow

```
<style>
body {
    width: 750px;
    font-family: Arial, Verdana, sans-serif;
    color: #665544;
}
h1 {
    background-color: #eefefef;
    padding: 10px;
}
blockquote {
    width: 250px;
    font-size: 130%;
    font-style: italic;
    font-family: Georgia, Times, serif;
    margin: 0px 0px 10px 10px;
    padding: 10px;
    border-top: 1px solid #665544;
    border-bottom: 1px solid #665544;
}
</style>
```

The Evolution of the Bicycle

"Life is like riding a bicycle. To keep your balance you must keep moving." - Albert Einstein

In 1817 Baron von Drais invented a walking machine that would help him get around the royal gardens faster: two same-size in-line wheels, the front one steerable, mounted in a frame upon which you straddled. The device was propelled by pushing your feet against the ground, thus rolling yourself and the device forward in a sort of gliding walk.

The machine became known as the Draisienne (or "hobby horse"). It was made entirely of wood. This enjoyed a short lived popularity as a fad, not being practical for transportation in any other place than a well maintained pathway such as in a park or garden.

The next appearance of a two-wheeled riding machine was in 1865, when pedals were applied directly to the front wheel. This machine was known as the velocipede (meaning "fast foot") as well as the "bone shaker," since its wooden structure combined with the cobblestone roads of the day made for an extremely uncomfortable ride. They also became a fad and indoor riding academies, similar to roller rinks, could be found in large cities.

Floating left en right

▶ Blockquote floating

```
blockquote {  
    float: right;  
    width: 250px;  
    font-size: 130%;  
    font-style: italic;  
    font-family: Georgia, Times, serif;  
    margin: 0px 0px 10px 10px;  
    padding: 10px;  
    border-top: 1px solid #665544;  
    border-bottom: 1px solid #665544;  
}
```

The Evolution of the Bicycle

In 1817 Baron von Drais invented a walking machine that would help him get around the royal gardens faster: two same-size inline wheels, the front one steerable, mounted in a frame upon which you straddled. The device was propelled by pushing your feet against the ground, thus rolling yourself and the device forward in a sort of gliding walk.

The machine became known as the Draisienne (or "hobby horse"). It was made entirely of wood. This enjoyed a short lived popularity as a fad, not being practical for

ay such as in a park or garden.

"Life is like riding a bicycle. To keep your balance you must keep moving." - Albert Einstein

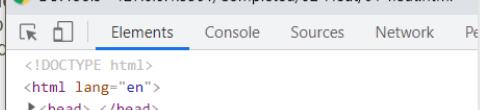
The Evolution of the Bicycle

In 1817 Baron von Drais invented a walking machine that would help him get around the royal gardens faster: two same-size inline wheels, the front one steerable, mounted in a frame upon which you straddled. The device was propelled by pushing your feet against the ground, thus rolling yourself and the device forward in a sort of gliding walk.

The machine became known as the Draisienne (or "hobby horse"). It was made entirely of wood. This enjoyed a short lived popularity as a fad, not being practical for transportation in any other place than a well maintained pathway such as in a park or garden.

The next appearance of a two-wheeled riding machine was in 1865, when pedals were applied directly to the front wheel. This machine was known as the velocipede, or "bone shaker," since its wooden structure combined with the cobblestone roads of the day made for an extremely uncomfortable ride. They also became a fad and could be found in large cities.

1865, when pedals were applied directly to the front wheel ("fast foot") as well as the "bone shaker," since its wooden structure combined with the cobblestone roads of the day made for an extremely uncomfortable ride. They also became a fad and could be found in large cities.



Floating: stacking order

- ▶ Stacking order : meerdere vloottende elementen
 - Floating elements worden vaak gebruikt om block elementen naast elkaar te plaatsen. Dit kan soms voor problemen zorgen.
 - Floating elements vlotten eerst tegen de bovenrand van de parent en dan tegen de volgende beschikbare rand

```
<body>
  <h1>The Evolution of the Bicycle</h1>
  <div>
    <p>
      In 1817 Baron von Drais invented a walking machine that would help him
      get around the royal gardens faster.
    </p>
    <p>
      The device known as the Draisienne (or "hobby horse") was made of wood,
      and propelled by pushing your feet on the ground in a gliding movement.
    </p>
    <p>
      It was not seen as suitable for any place other than a well maintained
      pathway.
    </p>
    <p>
      In 1865, the velocipede (meaning "fast foot") attached pedals to the
      front wheel, but its wooden structure made it extremely uncomfortable.
    </p>
    <p>
      In 1870 the first all-metal machine appeared. The pedals were attached
      directly to the front wheel.
    </p>
    <p>
      Solid rubber tires and the long spokes of the large front wheel provided
      a much smoother ride than its predecessor.
    </p>
  </div>
```

Floating: stacking order

```
<style>
body {
    width: 760px;
    font-family: Arial, Verdana, sans-serif;
    color: #665544;
}
/*
div {
    border: 1px solid #665544;
} */
p {
    width: 230px;
    height: 125px;
    float: left;
    margin: 5px;
    padding: 5px;
    background-color: #efefef;
}
</style>
```

The Evolution of the Bicycle

In 1817 Baron von Drais invented a walking machine that would help him get around the royal gardens faster.

The device known as the Draisienne (or "hobby horse") was made of wood, and propelled by pushing your feet on the ground in a gliding movement.

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Floating: stacking order

```
p {  
    width: 230px;  
    /* height: 125px; */  
    float: left;  
    margin: 5px;  
    padding: 5px;  
    background-color: #efefef;  
}  
</style>
```

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Floating: stacking order

- ▶ Een oplossing voor dit probleem kan zijn om het element dat vastzit, de float te laten clearen met clear: left;
- ▶ Om terug te keren naar de normale flow van de pagina moeten we de **floatende elementen clearen**. De **clear** eigenschap kan volgende waarden hebben: **left – right – both – none**.
- ▶ De eigenschap clear betekent: plaats het element (vlottend of niet) onder het voorafgaande floating element.

Floating: stacking order

```
p:nth-of-type(4) {  
  clear: left;  
}
```

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Clearing floats

- ▶ **Probleem:** de background en border van parent loopt niet tot onder floating elementen.

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```
div {  
    border: 1px solid #665544;  
    background-color: #445566;  
}
```



- ▶ **Probleem:** Of indien binnen een container alle elementen floated zijn, dan is het alsof de bevattende container geen hoogte of breedte meer heeft, dit is gekend onder de term: **container collapse**.

Clearing floats

- ▶ **Probleem:** De background en border van parent loopt niet tot onder floating elementen
 - **Oplossing 1 :** voeg extra leeg element toe

```
<p>
  Solid rubber tires and the long
  a much smoother ride than its pr
</p>
<div></div>
</div>
```

```
p:nth-of-type(4) {
  clear: left;
}
div > div{
  clear:both; /* left is ook goed*
}
</style>
```

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Clearing floats

- ▶ **Probleem:** De background en border van parent lopen niet tot onder floating elementen
 - **Oplossing 2:** display: flow-root toepassen op parent-element.

```
div.clearfix {  
    display: flow-root;  
}
```

- **Oplossing 3 (verouderd):** clearfix toe te passen op parent element
 - <https://css-tricks.com/snippets/css/clear-fix/>

Position

HO
GENT

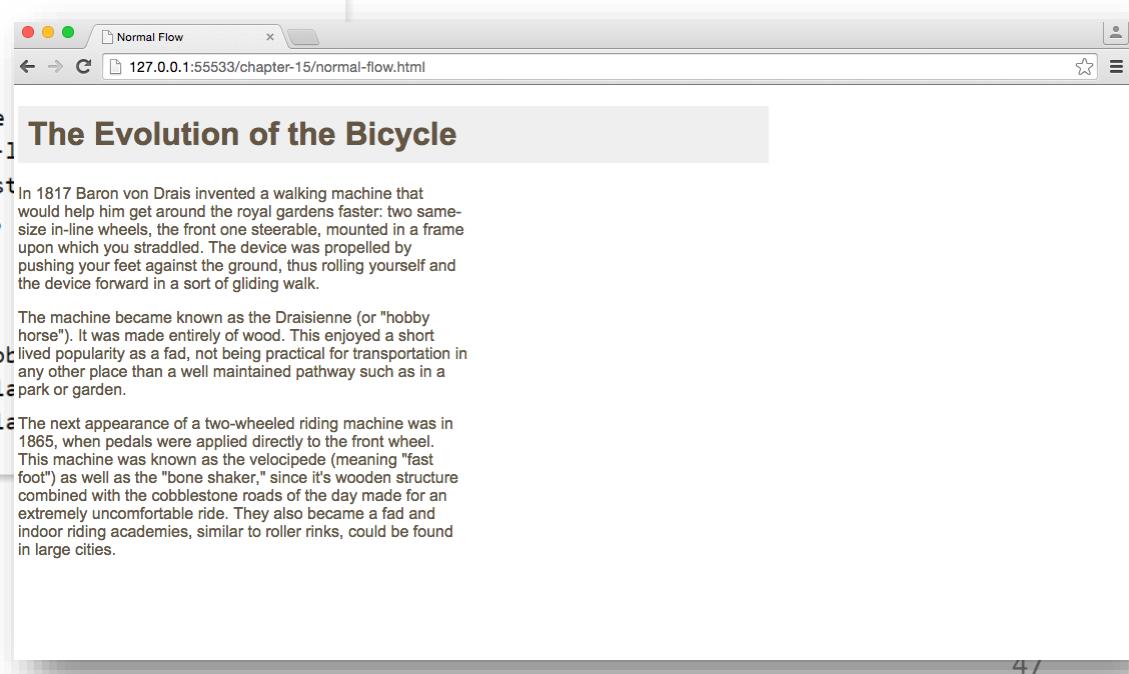
Layout: met positionering

Om de normale flow te doorbreken bekijken we nu:

- relatieve positionering: position: relative
- absolute positionering: position: absolute
- fixed positionering: position: fixed

De normale flow ziet er als volgt uit (position: static)

```
<body>
  <h1>The Evolution of the Bicycle</h1>
  <p>
    In 1817 Baron von Drais invented a walking machine
    around the royal gardens faster: two same-size in-
    one steerable, mounted in a frame upon which you st
    propelled by pushing your feet against the ground,
    and the device forward in a sort of gliding walk.
  </p>
  <p class="example">
    The machine became known as the Draisienne (or "hobby
    horse"). It was made entirely of wood. This enjoyed a short
    lived popularity as a fad, not being practical for transportation in
    any other place than a well maintained pathway such as in a
    park or garden.
  </p>
```



Relatieve positionering

- ▶ **position: relative**
- ▶ Relatieve positionering verplaatst het element **relatief tot zijn positie in de normale flow**. Dit heeft geen invloed op de positie van de andere elementen. Deze behouden hun normale positie.
- ▶ Offset wordt bepaald door:
 - verticale verplaatsing: **top – bottom**
 - horizontale verplaatsing: **left – right**

```
body {  
    width: 750px;  
    font-family: Arial, Verdana, sans-serif;  
    color: #665544;  
}  
  
p {  
    width: 450px;  
}  
  
p.example {  
    position: relative;  
    top: 275px;  
    left: 100px;  
}
```

The Evolution of the Bicycle

In 1817 Baron von Drais invented a walking machine that would help him get around the royal gardens faster: two same-size in-line wheels, the front one steerable, mounted in a frame upon which you straddled. The device was propelled by pushing your feet against the ground, thus rolling yourself and the device forward in a sort of gliding walk.

The next appearance of a two-wheeled riding machine was in 1865, when pedals were applied directly to the front wheel. This machine was known as the velocipede (meaning "fast foot") as well as the "bone shaker," since its wooden structure combined with the cobblestone roads of the day made for an extremely uncomfortable ride. They also became a fad and indoor riding academies, similar to roller rinks, could be found in large cities.

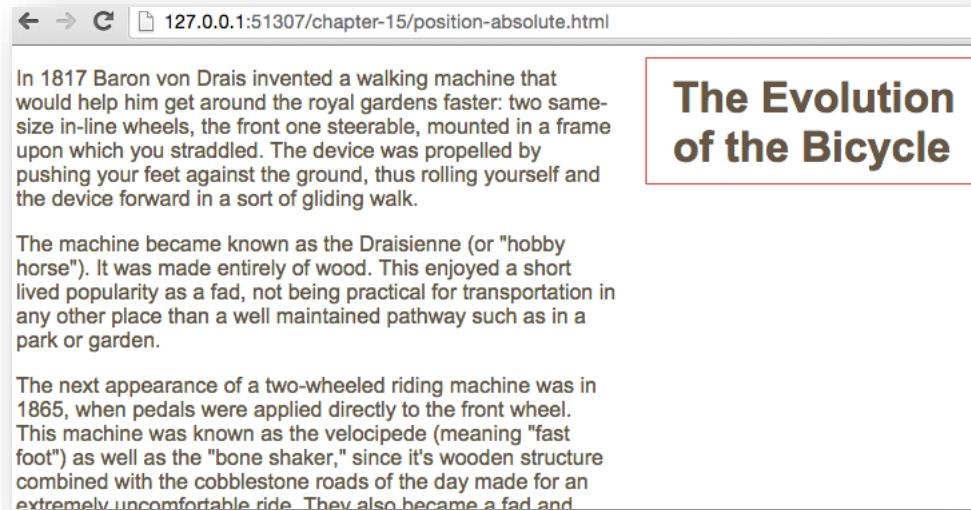
The machine became known as the Draisienne (or "hobby horse"). It was made entirely of wood. This enjoyed a short lived popularity as a fad, not being practical for transportation in any other place than a well maintained pathway such as in a park or garden.

Absolute positionering

- ▶ **position: absolute**
- ▶ Absolute positionering verplaatst het element **relatief tov zijn eerste niet static parent** element, of het body element indien alle parent elementen static zijn.
Voor de overige elementen is het alsof dit element nooit aanwezig is geweest in de normale flow.
Ze nemen dus posities in zonder rekening te houden met het absolute geïnlineerde element. Bij het scrollen beweegt het element mee.
- ▶ Offset (px - % - em) wordt bepaald door:
 - verticale verplaatsing: **top – bottom**
 - horizontale verplaatsing: **left – right**

Absolute positioning

```
body {  
    width: 750px;  
    font-family: Arial, Verdana, sans-serif;  
    color: #665544;}  
  
h1 {  
    position: absolute;  
    top: 0px;  
    left: 500px;  
    width: 250px;}  
  
p {  
    width: 450px;}
```



The screenshot shows a web browser window with the URL 127.0.0.1:51307/chapter-15/position-absolute.html. The page content is as follows:

In 1817 Baron von Drais invented a walking machine that would help him get around the royal gardens faster: two same-size in-line wheels, the front one steerable, mounted in a frame upon which you straddled. The device was propelled by pushing your feet against the ground, thus rolling yourself and the device forward in a sort of gliding walk.

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**The Evolution
of the Bicycle**

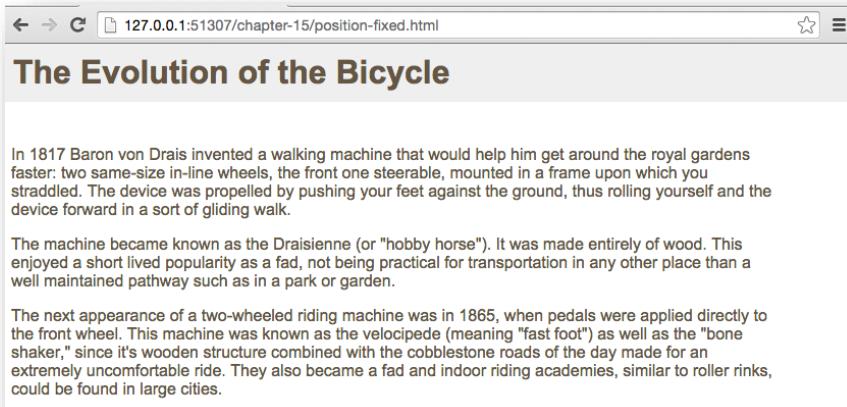
Vaste positionering

- ▶ **position: fixed**
- ▶ Vaste positionering verplaatst het element **relatief tot het browser venster**. Voor de overige elementen is het alsof dit element nooit aanwezig is geweest in de normale flow. Ze nemen dus posities in zonder rekening te houden met het vast geïnlineerde element. Bij het scrollen beweegt het element NIET mee. Wordt gedaan bij menubalken die niet mogen meescrollen.
- ▶ Offset (px - % - em) wordt bepaald door:
 - verticale verplaatsing: **top – bottom**
 - horizontale verplaatsing: **left – right**

Vaste positionering

```
body {  
    width: 750px;  
    font-family: Arial, Verdana, sans-serif;  
    color: #665544;}  
  
h1 {  
    position: fixed;  
    top: 0px;  
    left: 0px;  
    padding: 10px;  
    margin: 0px;  
    width: 100%;  
    background-color: #eefefef;}  
  
.example {  
    margin-top: 100px;}
```

Header blijft vast bij het scrollen.

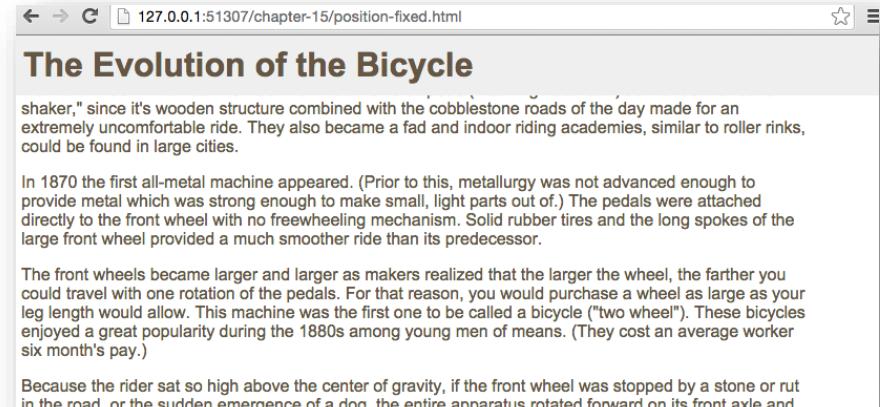


The Evolution of the Bicycle

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The Evolution of the Bicycle

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The front wheels became larger and larger as makers realized that the larger the wheel, the farther you could travel with one rotation of the pedals. For that reason, you would purchase a wheel as large as your leg length would allow. This machine was the first one to be called a bicycle ("two wheel"). These bicycles enjoyed a great popularity during the 1880s among young men of means. (They cost an average worker six month's pay.)

Because the rider sat so high above the center of gravity, if the front wheel was stopped by a stone or rut in the road, or the sudden emergence of a dog, the entire apparatus rotated forward on its front axle and

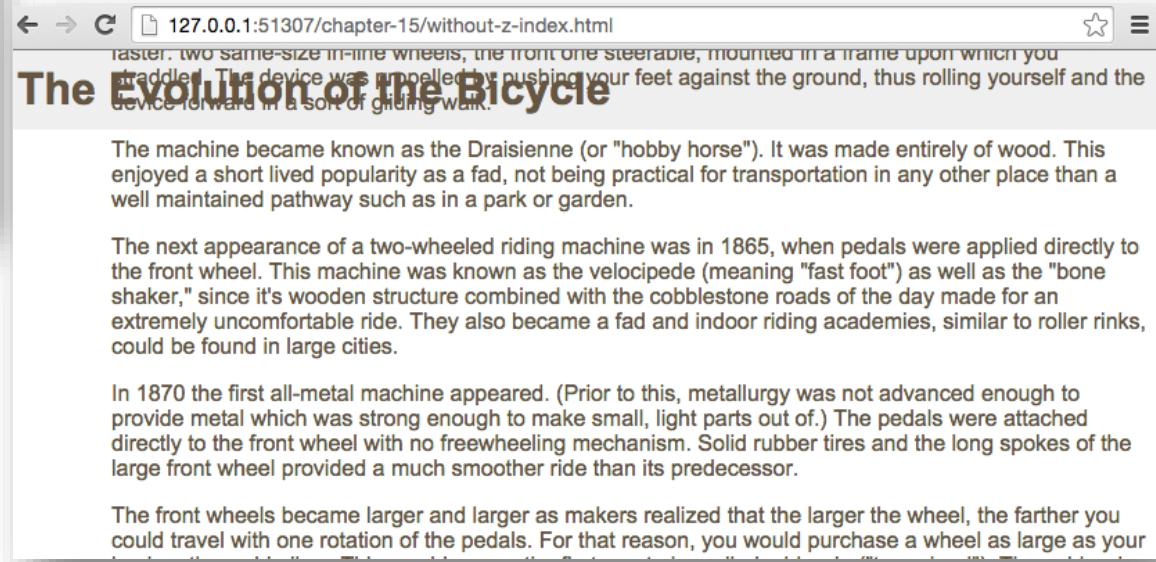
Positionering: z-index

- ▶ Indien de positionering van elementen gewijzigd worden, kan het zijn dat elementen gaan overlappen. De volgorde van de elementen in de html pagina bepaalt welke bovenaan staat: het bovenste element zit steeds onder een element daaronder (stapelen van dozen, te beginnen met het eerste element)
- ▶ Deze volgorde kan gewijzigd worden door de **z-index**. de mogelijke waarde is een geheel getal. Hoe hoger de waarde, hoe hoger op de stapel.

Positionering: z-index

▶ zonder z-index

```
h1 {  
    position: fixed;  
    top: 0px;  
    left: 0px;  
    margin: 0px;  
    padding: 10px;  
    width: 100%;  
    background-color: #efefef;}  
  
p {  
    position: relative;  
    top: 70px;  
    left: 70px;}
```



The Evolution of the Bicycle

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Positionering: z-index

▶ met z-index

```
color: #cccccc;  
h1 {  
    position: fixed;  
    top: 0px;  
    left: 0px;  
    margin: 0px;  
    padding: 10px;  
    width: 100%;  
    background-color: #eefefef;  
    z-index: 10;}  
  
p {  
    position: relative;  
    top: 70px;  
    left: 70px;}
```

127.0.0.1:51307/chapter-15/position-fixed.html

The Evolution of the Bicycle

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Because the rider sat so high above the center of gravity, if the front wheel was stopped by a stone or rut in the road, or the sudden emergence of a dog, the entire apparatus rotated forward on its front axle and the rider, with his legs trapped under the handlebars, was dropped unceremoniously on his head. Thus