CSS Lay-out

Flexbox – Float - Position

Inhoud

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

HoGent

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.

HoGent

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

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HoGent

Flexbox

Gebruik Mozilla Firefox.

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Inleiding

▸ <u>Flexbox</u> 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.

HoGent

Flex container

- Er is steeds een omvattende container.
- De rechtstreekse *children* van deze omvattende container zullen op *flexibele* 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.
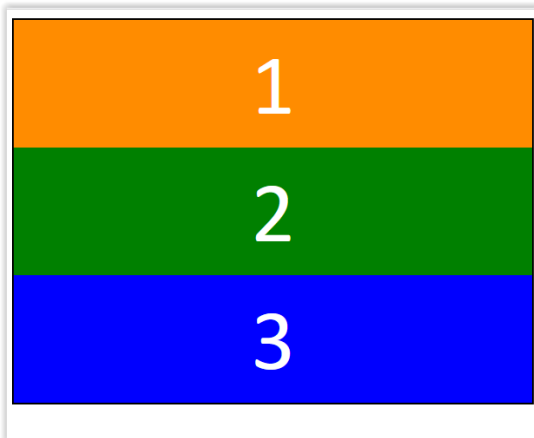
container

items
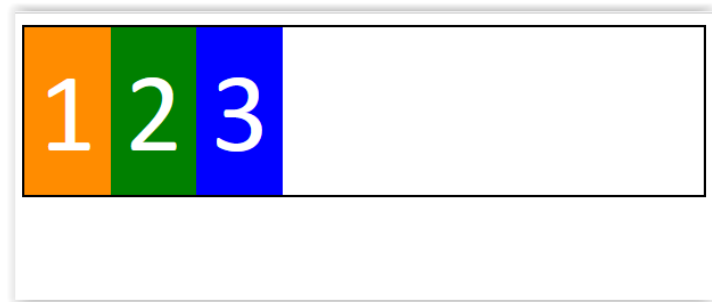
HoGent
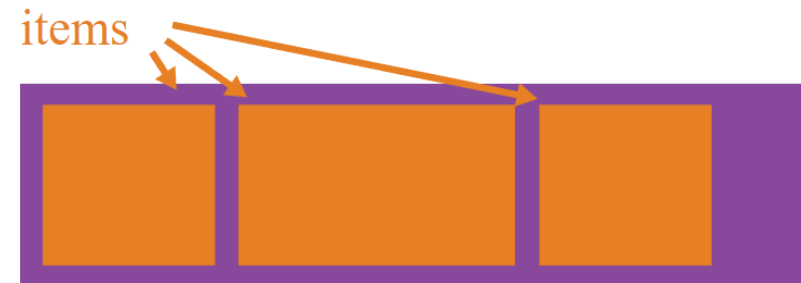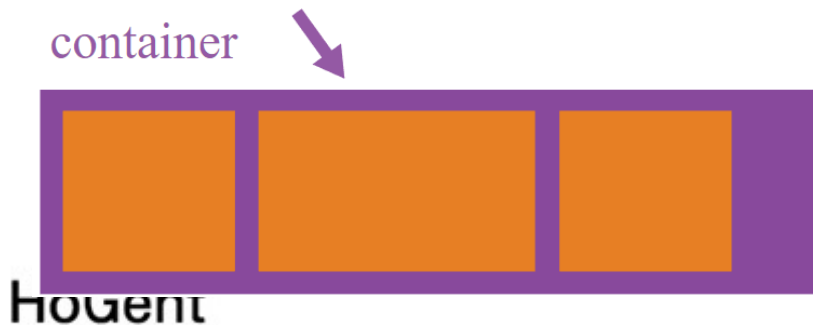
Flex container

▶ 01-Flexbox/container

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

Normal lay-out

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

1

2

3

1 2 3

HoGent
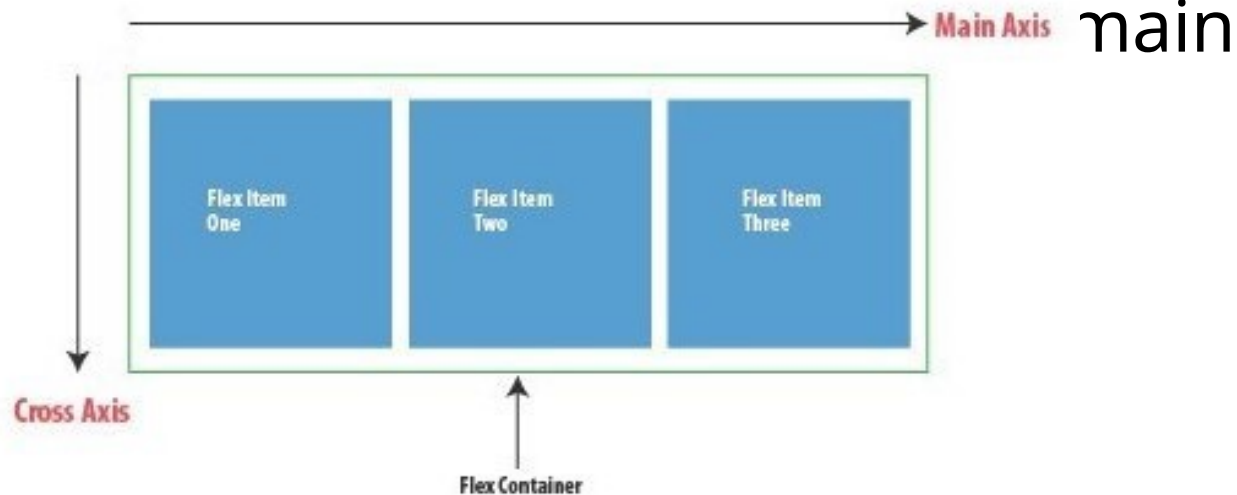
Flex containers

- 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 cormain 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;

HoGent

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;

◦

| 1 | 2 | 3 | 4 | 5 | 6 |

flex-wrap: nowrap;

| 1 | 2 | 3 |
| 4 | 5 | 6 |

flex-wrap: wrap;

HoGent
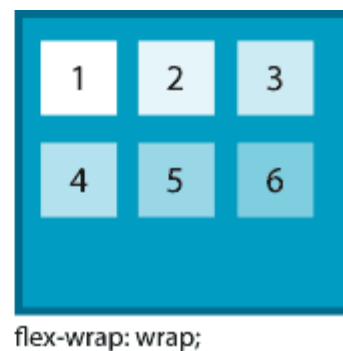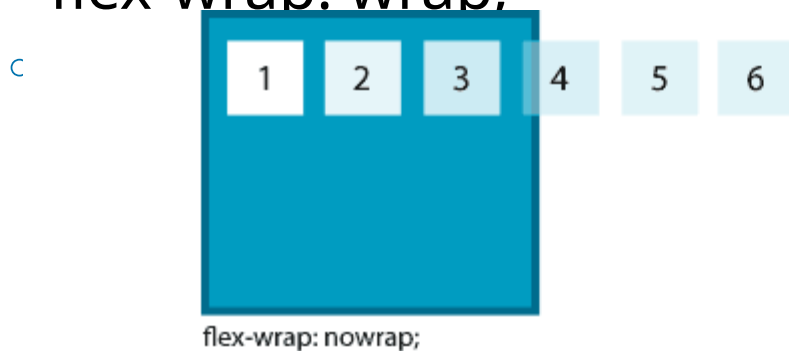
Flex containers: flex-wrap

▶ 01-Flexbox/container

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

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


HoGent
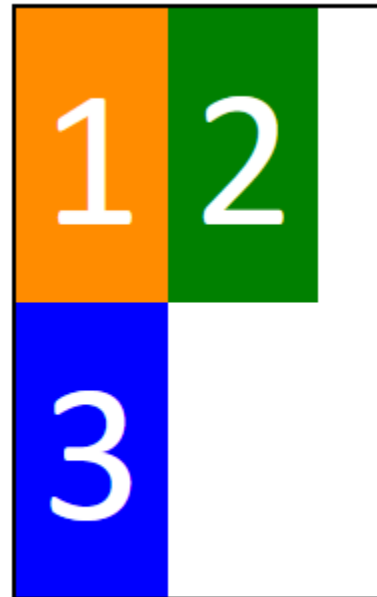
Flex container.

▶ <u>Items uitlijnen</u>:

◦ langs de main-axis: **justify-content**
◦ langs de cross-axis: **align-items**
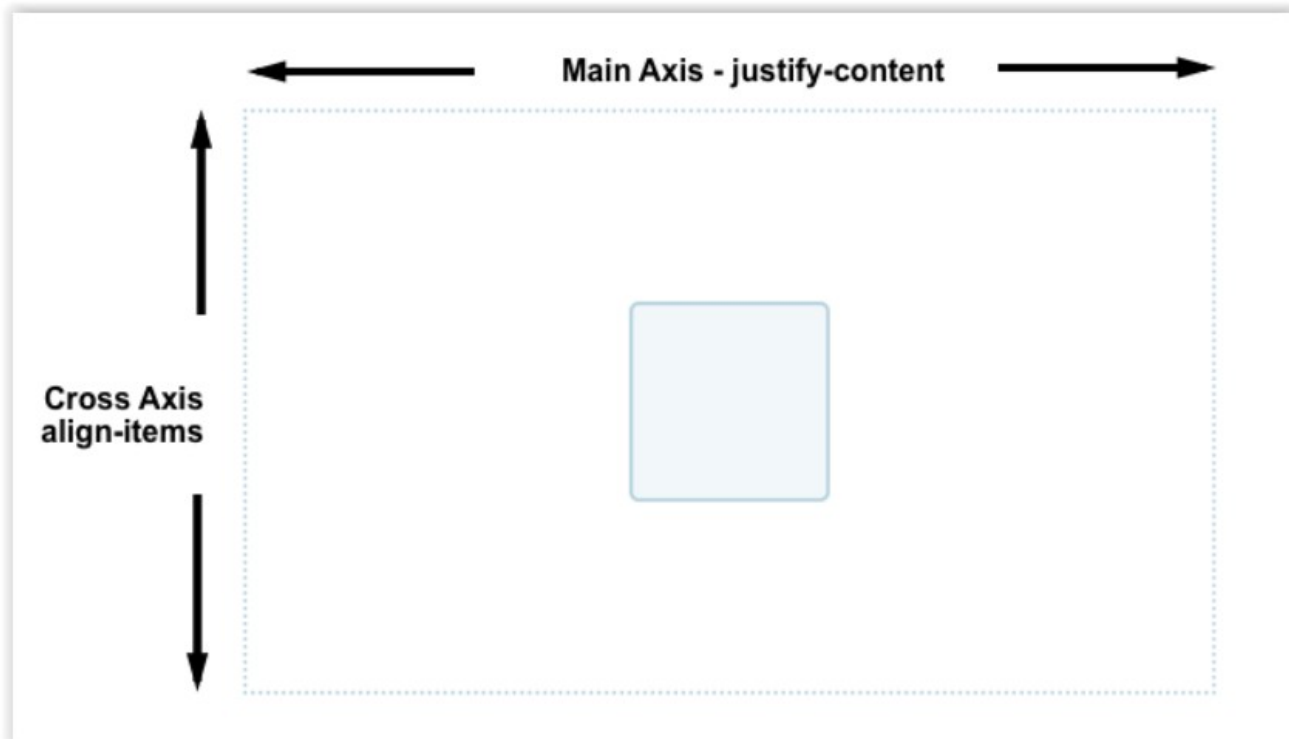
Flex containers: justify-content

▸ Items positioneren langs **main axis** met <u>justify-content</u>

○ jus

○ jus

○ jus

Flex containers: justify-content

◦ justify-content: space-around; **Rond** elk item evenveel witru...

◦ justify-... witruir...

◦ justify-... evenve...

Flex containers: align-items

▸ **Items** positioneren langs **cross axis** met **align-items**
  ◦ align-items: stretch; (defau

```
/* 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 */
}
```
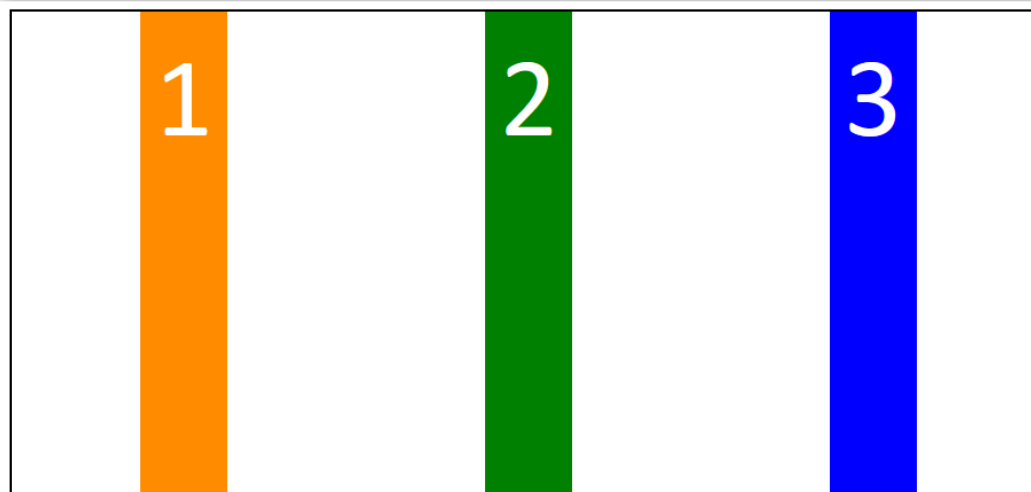

HoGent

Flex containers: align-items

▸ **Items** positioneren langs **cross axis** met **align-items**
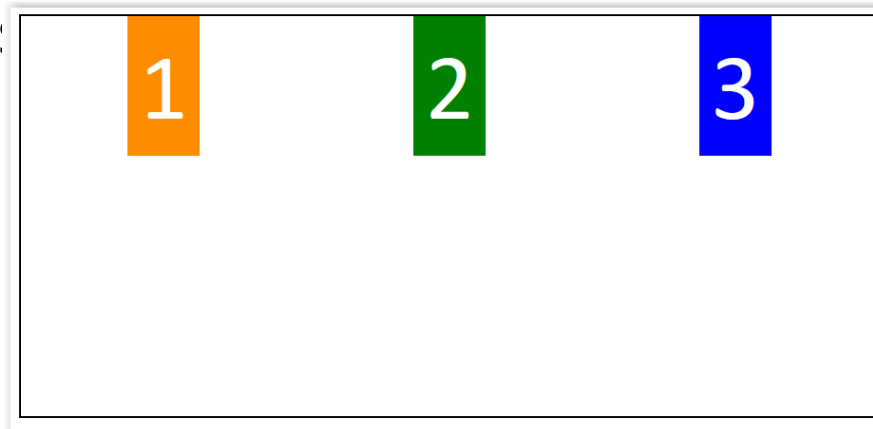
◦ align-items

◦ align-items

Flex containers: align-items

○ align-items: center;
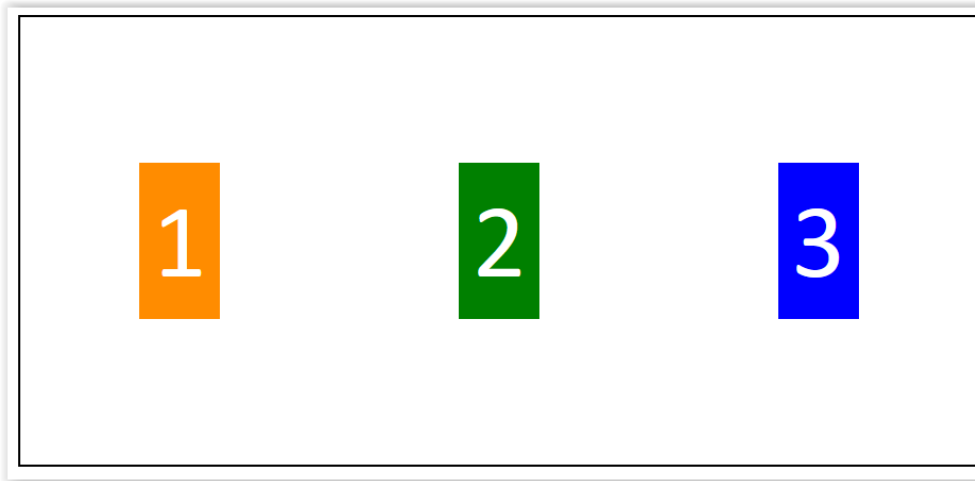
○ align-items: baseline;

    ▯ aligneert items volgens "onderkant" tekst.

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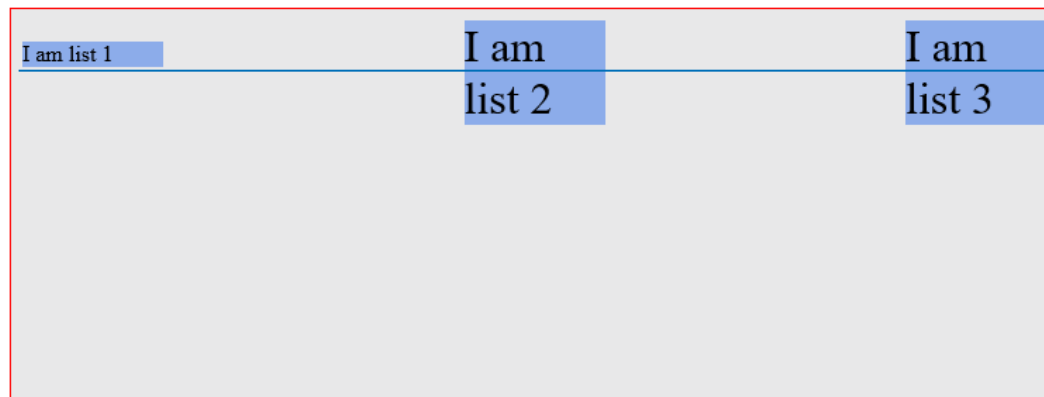
Flex containers: align-content

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

```css
/* 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 */
}
```
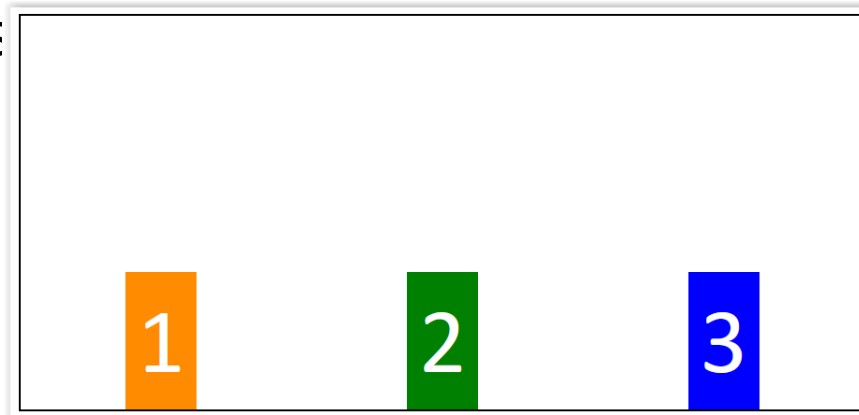
HoGent

Flex containers: align-content

○ align-content: flex-start; (defau

○ align-content: flex-end;
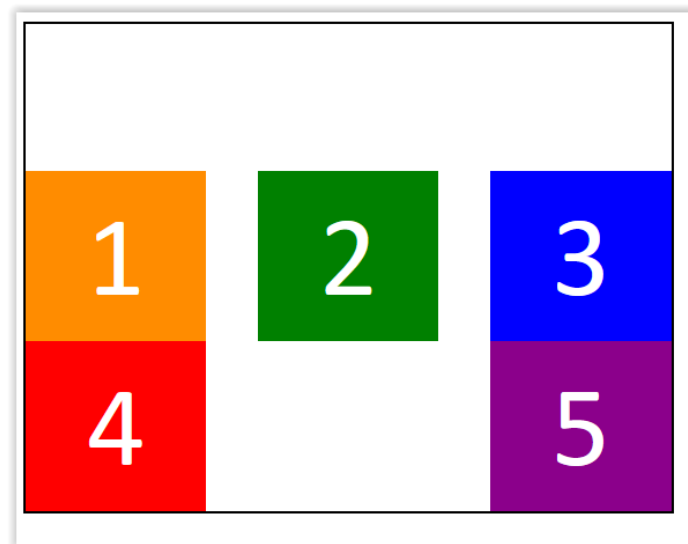
Flex containers: align-content

○ align-content: center;
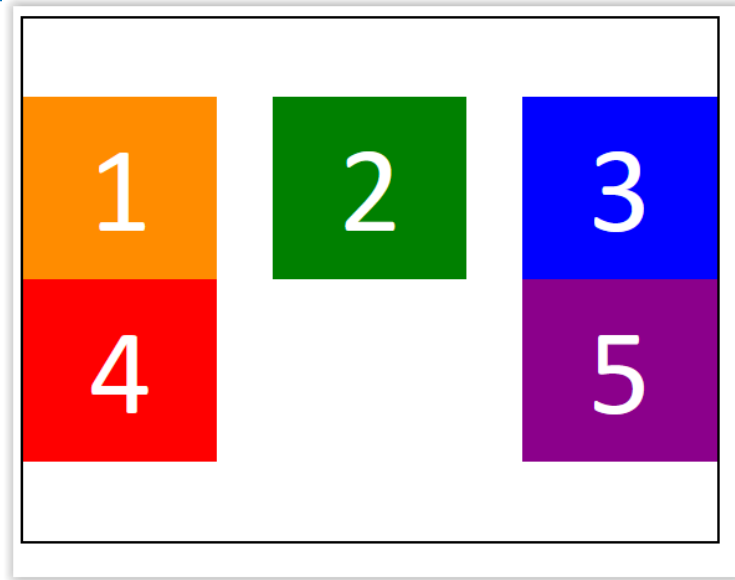
○ align-content: stretch;
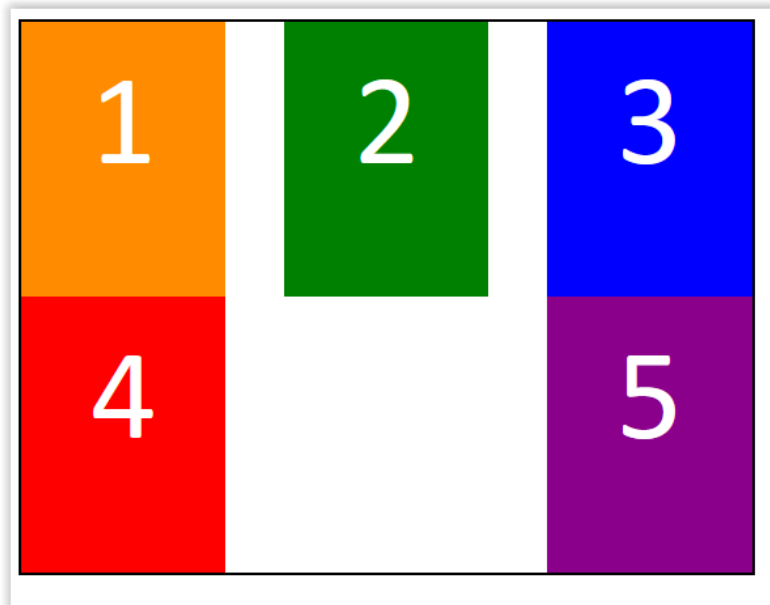
Flex items: order

▶ 01-Flexbox/Items

▶ Volgorde waarin de items geto̶~~...~~ worden wijzigen, zonder HTML aan te passen

  ◦ Standaardwaarde is 0

  ◦ Items worden geordend van klein naar groot.

```css
/* 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;
}
```

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


HoGent

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

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

```css
/* 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;
}
```

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Flex-items: flex-grow/flex-shrink
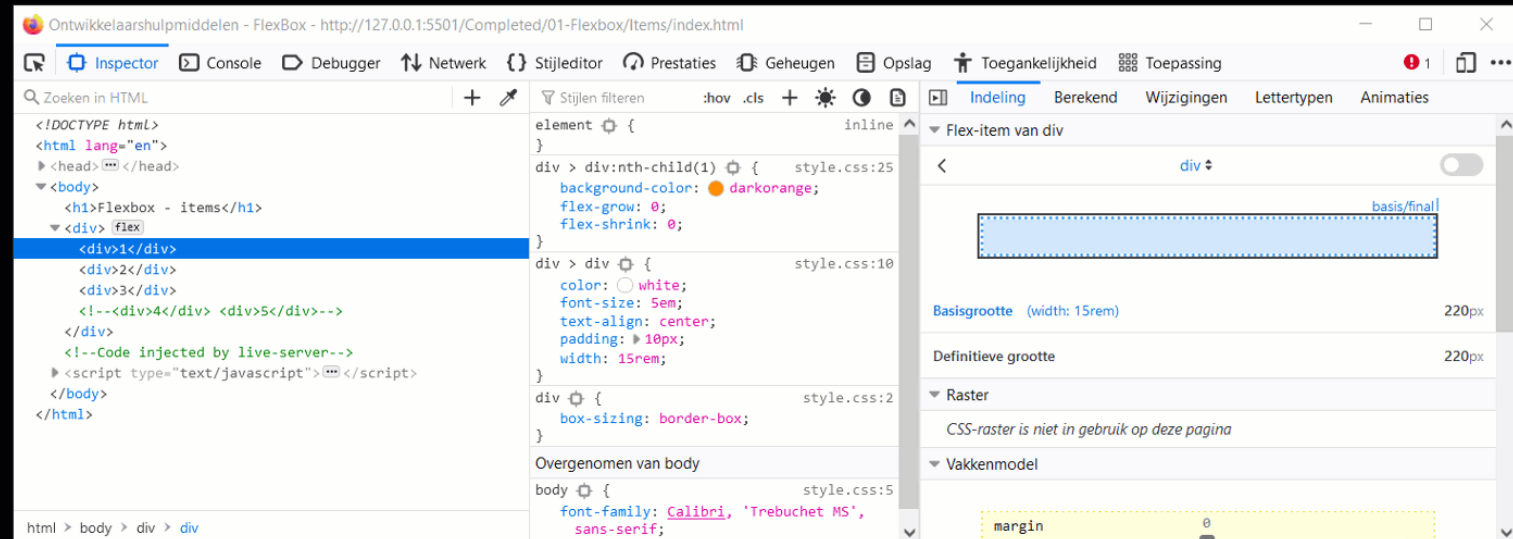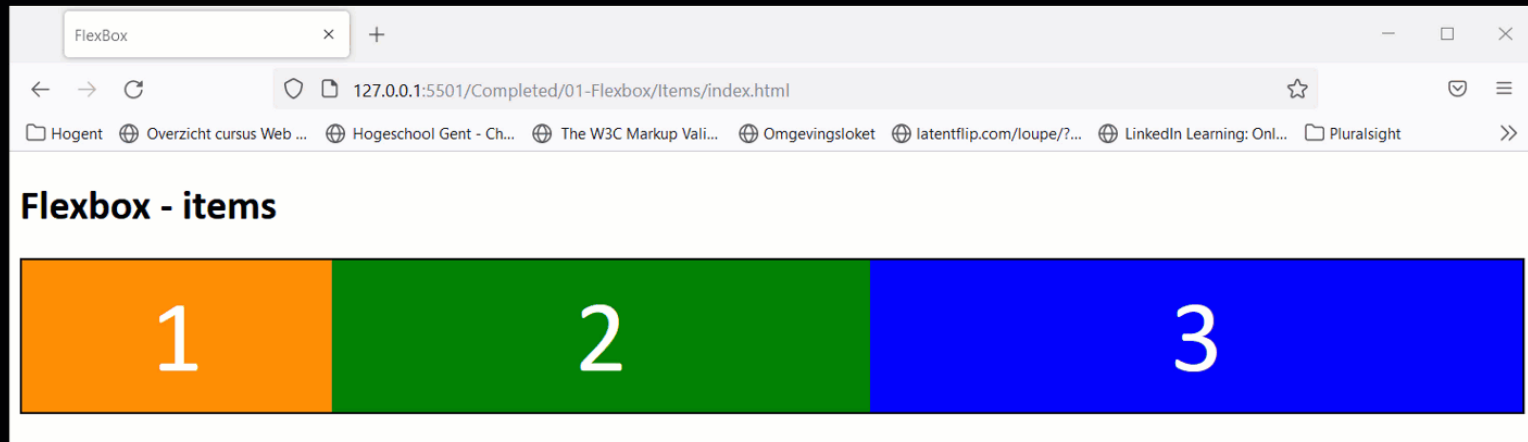
Flex items: flex-basis

- *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.

```css
/* 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;
}
```

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Flex-items: flex-basis
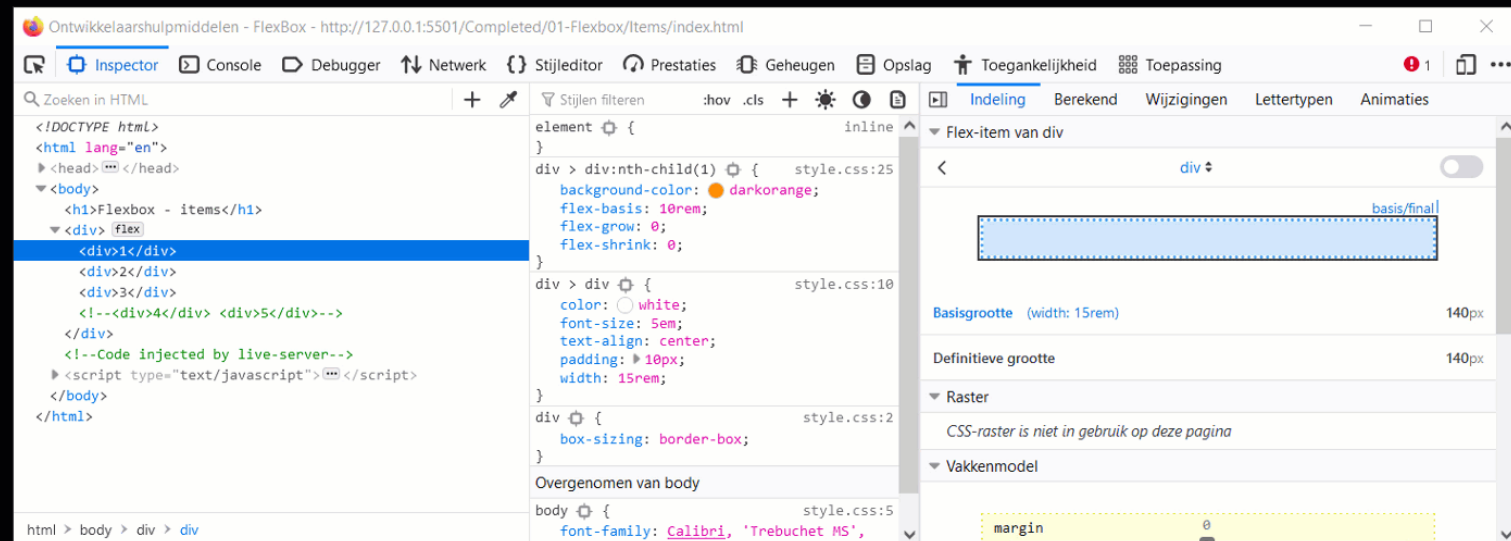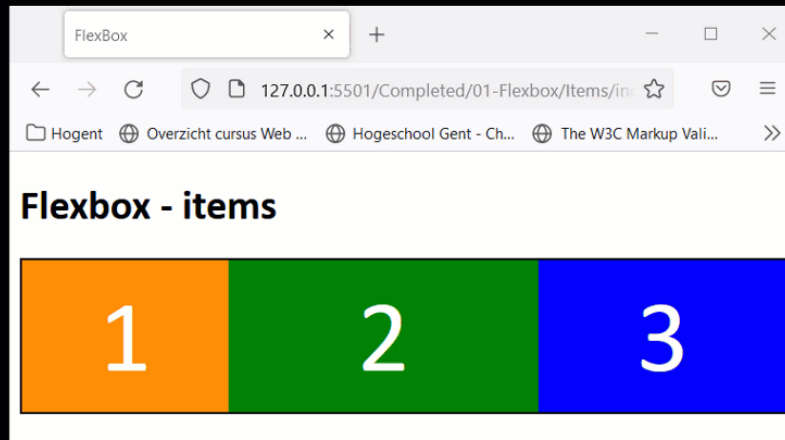
Flex items: flex - shorthand

▶ 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: 2 1 auto;
  flex-basis: auto;

HoGent

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.

HoGent

Flexbox en margin: auto;

▸ margin: auto instellen op een item zal vrije ruimte "verplaatsen".

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

```css
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

HoGent

Flexbox en margin: auto;

▸ Rechtermarge 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

HoGent

Float

Floating elements (vlotten)

▸ <u>float</u> : 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 vlottende element een breedte zal moeten worden ingesteld (een block element neemt altijd de maximale breedte in van de bevattende container)

HoGent

Floating left en right

▶ 02-Float/01-float.html

```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
```

HoGent

Floating left en right

▸ Normal flow

```
<style>
  body {
    width: 750px;
    font-family: Arial, Verdana, sans-se
    color: ■#665544;
  }
  h1 {
    background-color: □#efefef;
    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 it's 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.

HoGent

Floating left en right

▶ Blockquote floating

```css
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;
}
```

Floating: stacking order

▸ Stacking order : meerdere vlottende 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 pa... 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 know as the Draisienne (or "hobby horse") was made of wood,
      and propelled by pushing your feed on the ground in a gliding movement.
    </p>
    <p>
      It was not seen a 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>
</body>
```

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 know as the Draisienne (or "hobby horse") was made of wood, and propelled by pushing your feed on the ground in a gliding movement.	It was not seen a suitable for any place other than a well maintained pathway.
In 1865, the velocipede (meaning "fast foot") attached pedals to the front wheel, but its wooden structure made it extremely uncomfortable.	In 1870 the first all-metal machine appeared. The pedals were attached directly to the front wheel.	Solid rubber tires and the long spokes of the large front wheel provided a much smoother ride than its predecessor.

HoGent

Floating: stacking order

```css
p {
    width: 230px;
    /* height: 125px; */
    float: left;
    margin: 5px;
    padding: 5px;
    background-color: ☐#efefef;
}
</style>
```
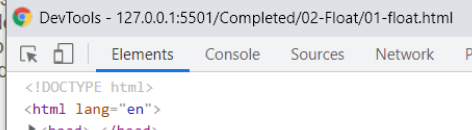
The Evolution of the Bicycle

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

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

It was not seen a suitable for any place other than a well maintained pathway.

In 1865, the velocipede (meaning "fast foot") attached pedals to the front wheel, but its wooden structure made it extremely uncomfortable.

In 1870 the first all-metal machine appeared. The pedals were attached directly to the front wheel.

Solid rubber tires and the long spokes of the large front wheel provided a much smoother ride than its predecessor.

HoGent

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;
}
```

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 know as the Draisienne (or "hobby horse") was made of wood, and propelled by pushing your feed on the ground in a gliding movement.	It was not seen a suitable for any place other than a well maintained pathway.
In 1865, the velocipede (meaning "fast foot") attached pedals to the front wheel, but its wooden structure made it extremely uncomfortable.	In 1870 the first all-metal machine appeared. The pedals were attached directly to the front wheel.	Solid rubber tires and the long spokes of the large front wheel provided a much smoother ride than its predecessor.

HoGent

Clearing floats

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

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

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 know as the Draisienne (or "hobby horse") was made of wood, and propelled by pushing your feed on the ground in a gliding movement.	It was not seen a suitable for any place other than a well maintained pathway.
In 1865, the velocipede (meaning "fast foot") attached pedals to the front wheel, but its wooden structure made it extremely uncomfortable.	In 1870 the first all-metal machine appeared. The pedals were attached directly to the front wheel.	Solid rubber tires and the long spokes of the large front wheel provided a much smoother ride than its predecessor.

▸ **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.

HoGent

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>
```

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 know as the Draisienne (or "hobby horse") was made of wood, and propelled by pushing your feed on the ground in a gliding movement.	It was not seen a suitable for any place other than a well maintained pathway.
In 1865, the velocipede (meaning "fast foot") attached pedals to the front wheel, but its wooden structure made it extremely uncomfortable.	In 1870 the first all-metal machine appeared. The pedals were attached directly to the front wheel.	Solid rubber tires and the long spokes of the large front wheel provided a much smoother ride than its predecessor.

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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-eleme

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

   ◦ Oplossing 3 (verouderd): clearfix toe te passen op parent element

       https://css-tricks.com/snippets/css/clear-fix/

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Position

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Layout: met positionering

Om de normale flow te doorbreken bekijken we nu:

- relatieve positionering: position: relative
- absolute positionering: position: absolute
- fixed positionering: position: fixed
- ~~volgt uit (position:~~

```html
<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-l
    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 "hob
    entirely of wood. This enjoyed a short lived popula
    being practical for transportation in any other pla
    maintained pathway such as in a park or garden.
```

Normal Flow — 127.0.0.1:55533/chapter-15/normal-flow.html

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 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 it's 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.

Relatieve positionering

- position: relative
- Relatieve positionering verplaatst het element **relatief tov 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 – botto[m]
  - [horizontale verplaa]tsing: left – ri[g]

```css
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.

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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 gepositioneerde element. Bij het scrollen beweegt het element mee.
- Offset (px - % - em) wordt bepaald door:
  - verticale verplaatsing: top – bottom
  - horizontale verplaatsing: left – right

HoGent

Absolute positionering

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

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

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.

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The Evolution of the Bicycle

HoGent

Vaste positionering

▶ position: fixed
▶ Vaste positionering verplaatst het element **relatief tov 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 gepositioneerde 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

HoGent

Vaste positionering

```css
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: #efefef;}
p.example {
    margin-top: 100px;}
```

Header blijft vast bij het scrollen.
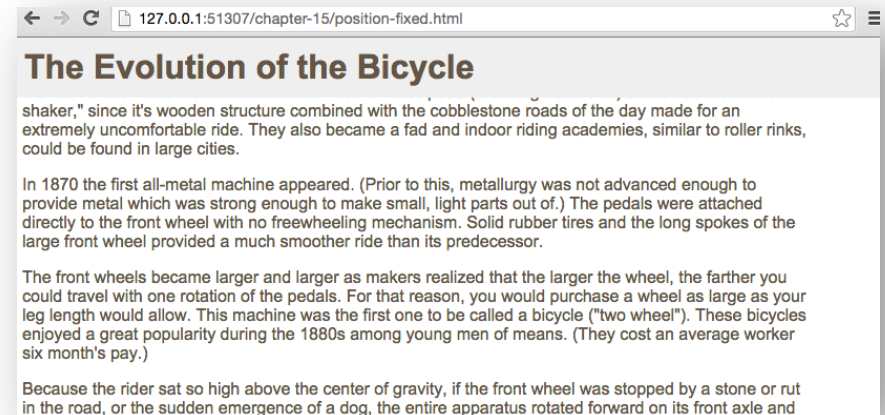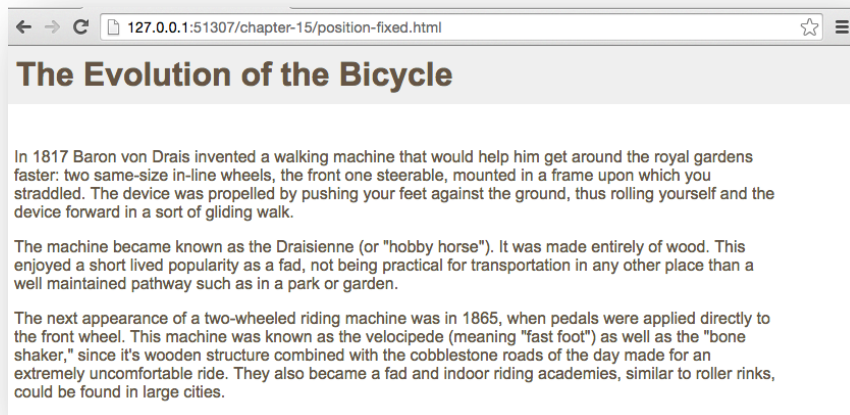
Positionering: z-index

▶ 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.

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Positionering: z-index

▸ zonder z-index

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


HoGent
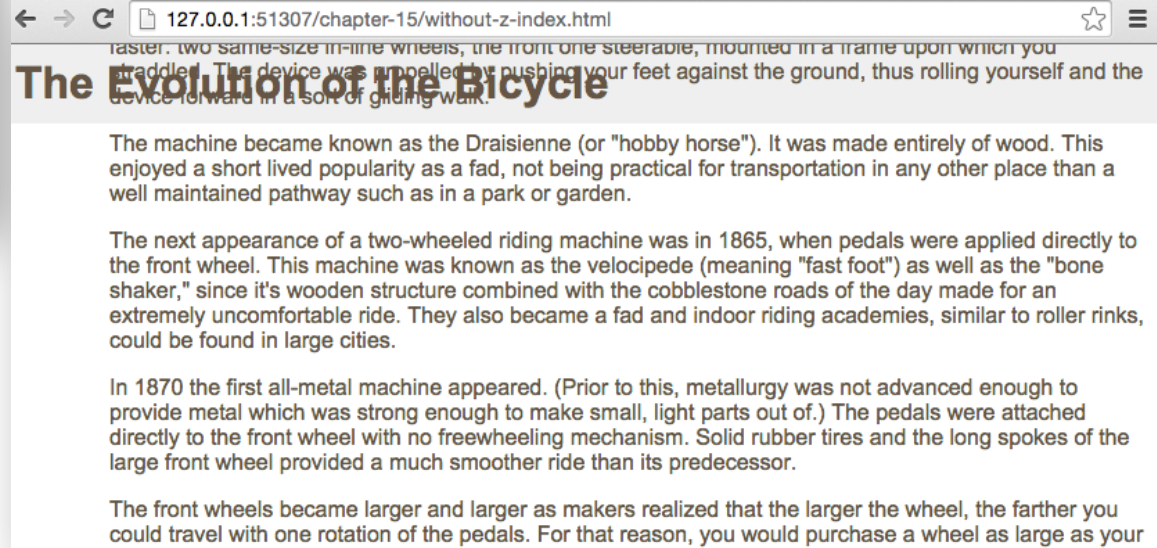
Positionering: z-index

▸ met z-index

```
color: #663344;;
h1 {
    position: fixed;
    top: 0px;
    left: 0px;
    margin: 0px;
    padding: 10px;
    width: 100%;
    background-color: #efefef;
    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

snaker," since it's 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.

In 1870 the first all-metal machine appeared. (Prior to this, metallurgy was not advanced enough to provide metal which was strong enough to make small, light parts out of.) The pedals were attached directly to the front wheel with no freewheeling mechanism. Solid rubber tires and the long spokes of the large front wheel provided a much smoother ride than its predecessor.

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 the rider, with his legs trapped under the handlebars, was dropped unceremoniously on his head. Thus

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