CSS Notes For Students By Geekster

Geekster

Flex-box in CSS

Flexbox is a layout model that **allows elements to align and distribute space within a container**. Using flexible widths and heights, elements can be aligned to fill a space or distribute space between elements, which makes it a great tool to use for responsive design systems.

To start using the Flexbox model, you need to first define a flex container.

```html
<div class="flex-container">
  <div>1</div>
  <div>2</div>
  <div>3</div>
</div>
```

The flex container becomes flexible by setting the `display` property to `flex`:

```css
.flex-container {
  display: flex;
}
```

The flex container properties are:

- [flex-direction](#)
- [flex-wrap](#)
- [flex-flow](#)
- [justify-content](#)
- [align-items](#)
- [Align-content](#)

The flex-direction Property

The `flex-direction` property defines in which direction the container wants to stack the flex items.

```css
.flex-container {
  display: flex;
  flex-direction: column;
```

```
}
```

```
.flex-container {
  display: flex;
  flex-direction: column-reverse;
}
.flex-container {
  display: flex;
  flex-direction: row;
}
.flex-container {
  display: flex;
  flex-direction: row-reverse;
}
```

The flex-wrap Property

The `flex-wrap` property specifies whether the flex items should wrap or not.

```
// The wrap value specifies that the flex items will wrap if necessary:
.flex-container {
  display: flex;
  flex-wrap: wrap;
}

//The nowrap value specifies that the flex items will not wrap (this is default):
.flex-container {
  display: flex;
  flex-wrap: nowrap;
}

//The wrap-reverse value specifies that the flexible items will wrap if
necessary, in reverse order:
.flex-container {
  display: flex;
  flex-flow: row wrap;
}
```

The justify-content Property

The `justify-content` property is used to align the flex items:

```
//The centre value aligns the flex items at the center of the container:
.flex-container {
  display: flex;
  justify-content: center;
}

//The flex-start value aligns the flex items at the beginning of the container (this is
default):
.flex-container {
  display: flex;
  justify-content: flex-start;
}

//The flex-end value aligns the flex items at the end of the container:
.flex-container {
  display: flex;
  justify-content: flex-end;
}

//The space-around value displays the flex items with space before, between,
and after the lines:
.flex-container {
  display: flex;
  justify-content: space-around;
}

//The space-between value displays the flex items with space between the
lines:
.flex-container {
  display: flex;
  justify-content: space-between;
}
```

The flex-flow Property

The `flex-flow` property is a shorthand property for setting both the `flex-direction` and `flex-wrap` properties.

```css
.flex-container {
  display: flex;
  flex-flow: row wrap;
}
```

The align-items Property

The `align-items` property is used to align the flex items.

```css
.flex-container {
  display: flex;
  height: 200px;
  align-items: center;
}
.flex-container {
  display: flex;
  height: 200px;
  align-items: flex-start;
}
.flex-container {
  display: flex;
  height: 200px;
  align-items: flex-end;
}
.flex-container {
  display: flex;
  height: 200px;
  align-items: stretch;
}
.flex-container {
  display: flex;
  height: 200px;
  align-items: baseline;
}
```

The align-content Property

The `align-content` property is used to align the flex lines.

```css
.flex-container {
  display: flex;
  height: 600px;
  flex-wrap: wrap;
  align-content: space-between;
}
.flex-container {
  display: flex;
  height: 600px;
  flex-wrap: wrap;
  align-content: space-around;
}
.flex-container {
  display: flex;
  height: 600px;
  flex-wrap: wrap;
  align-content: stretch;
}
.flex-container {
  display: flex;
  height: 600px;
  flex-wrap: wrap;
  align-content: center;
}
.flex-container {
  display: flex;
  height: 600px;
  flex-wrap: wrap;
  align-content: flex-start;
}
.flex-container {
  display: flex;
  height: 600px;
  flex-wrap: wrap;
  align-content: flex-end;
}
```

The CSS Flexbox Container Properties

The following table lists all the CSS Flexbox Container properties:

Property	Description
align-content	Modifies the behaviour of the flex-wrap property. It is similar to align-items, but instead of aligning flex items, it aligns flex lines
align-items	Vertically aligns the flex items when the items do not use all available space on the cross-axis
display	Specifies the type of box used for an HTML element
flex-direction	Specifies the direction of the flexible items inside a flex container
flex-flow	A shorthand property for flex-direction and flex-wrap
flex-wrap	Specifies whether the flex items should wrap or not, if there is not enough room for them on one flex line
justify-content	Horizontally aligns the flex items when the items do not use all available space on the main-axis

Child Elements (Items)

The direct child elements of a flex container automatically becomes flexible (flex) items.

The flex item properties are:

- order
- flex-grow
- flex-shrink
- flex-basis
- flex
- align-self

The order Property

The order property specifies the order of the flex items.

The *order* property can change the order of the flex items:

```
<div class="flex-container">
  <div style="order: 3">1</div>
  <div style="order: 2">2</div>
  <div style="order: 4">3</div>
  <div style="order: 1">4</div>
</div>
```

The flex-grow Property

The flex-grow property specifies how much a flex item will grow relative to the rest of the flex items.

Make the third flex item grow eight times faster than the other flex items:

```
<div class="flex-container">
  <div style="flex-grow: 1">1</div>
  <div style="flex-grow: 1">2</div>
  <div style="flex-grow: 8">3</div>
</div>
```

The flex-shrink Property

The `flex-shrink` property specifies how much a flex item will shrink relative to the rest of the flex items.

The value must be a number, default value is 1.

Do not let the third flex item shrink as much as the other flex items:

```html
<div class="flex-container">
  <div>1</div>
  <div>2</div>
  <div style="flex-shrink: 0">3</div>
  <div>4</div>
  <div>5</div>
  <div>6</div>
  <div>7</div>
  <div>8</div>
  <div>9</div>
  <div>10</div>
</div>
```

The flex-basis Property

The `flex-basis` property specifies the initial length of a flex item.

Set the initial length of the third flex item to 200 pixels:

```html
<div class="flex-container">
  <div>1</div>
  <div>2</div>
  <div style="flex-basis: 200px">3</div>
  <div>4</div>
</div>
```

The flex Property

The `flex` property is a shorthand property for the `flex-grow`, `flex-shrink`, and `flex-basis` properties.

Make the third flex item not growable (0), not shrinkable (0), and with an initial
length of 200 pixels:

```html
<div class="flex-container">
  <div>1</div>
  <div>2</div>
  <div style="flex: 0 0 200px">3</div>
  <div>4</div>
</div>
```

The align-self Property

The `align-self` property specifies the alignment for the selected item inside the
flexible container.

The `align-self` property overrides the default alignment set by the container's
`align-items` property.

```html
// Align the third flex item in the middle of the container:
<div class="flex-container">
  <div>1</div>
  <div>2</div>
  <div style="align-self: center">3</div>
  <div>4</div>
</div>

//Align the second flex item at the top of the container, and the third flex item
at the bottom of the container:
<div class="flex-container">
  <div>1</div>
  <div style="align-self: flex-start">2</div>
  <div style="align-self: flex-end">3</div>
  <div>4</div>
</div>
```

The CSS Flexbox Items Properties

The following table lists all the CSS Flexbox Items properties:

Property	Description
align-self	Specifies the alignment for a flex item (overrides the flex container's align-items property)
flex	A shorthand property for the flex-grow, flex-shrink, and the flex-basis properties
flex-basis	Specifies the initial length of a flex item
flex-grow	Specifies how much a flex item will grow relative to the rest of the flex items inside the same container
flex-shrink	Specifies how much a flex item will shrink relative to the rest of the flex items inside the same container
order	Specifies the order of the flex items inside the same container

References:
1. https://www.w3schools.com/css/css3_flexbox.asp
2. https://www.w3schools.com/css/css3_flexbox_container.asp
3. https://www.w3schools.com/css/css3_flexbox_items.asp
4. https://www.w3schools.com/css/css3_flexbox_responsive.asp
5. *https://www.youtube.com/watch?v=5gVuORLniwM*
6. *https://www.youtube.com/watch?v=JJSoEo8JSnc*