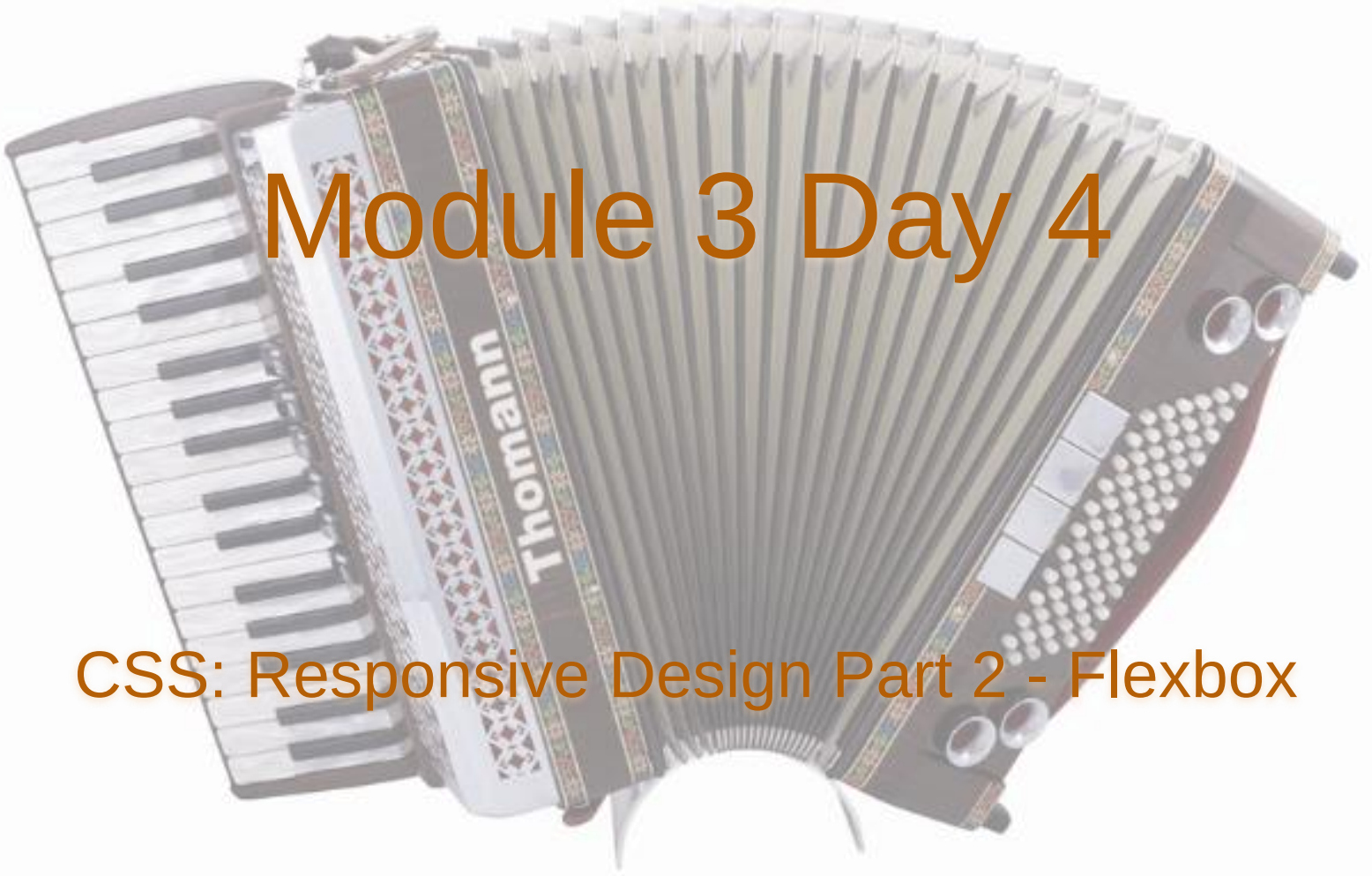
Module 3 Day 4



CSS: Responsive Design Part 2 - Flexbox

Today’s Objectives

- The Flexbox Container
  - flex-direction
  - justify-content
  - align-items
  - flex-wrap
- Flexbox Items
  - order
  - flex-grow / flex-shrink
  - flex-basis

Flexbox - Background

CSS Flexbox Layout Module

Before the Flexbox Layout module, there were four layout modes:

- Block, for sections in a webpage
- Inline, for text
- Table, for two-dimensional table data
- Positioned, for explicit position of an element

The Flexible Box Layout Module, makes it easier to design flexible responsive layout structure without using float or positioning.

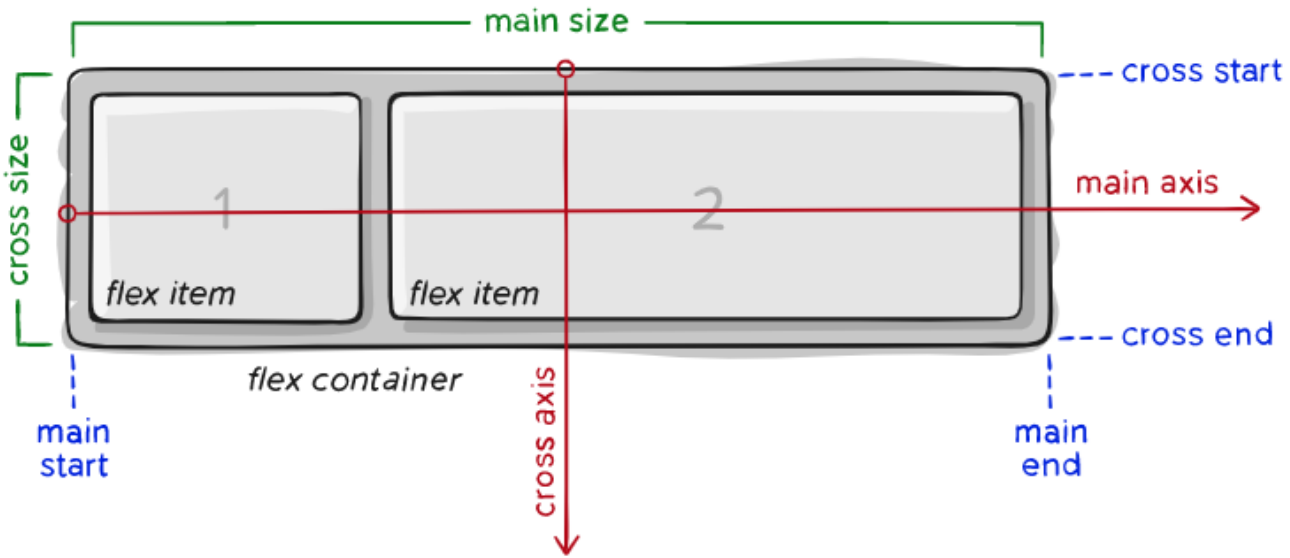
https://www.w3schools.com/css/css3_flexbox.asp

Flexbox (Flexible Box)

Flexible Box Layout Module allows us to design a flexible, responsive layout without using float or positioning.

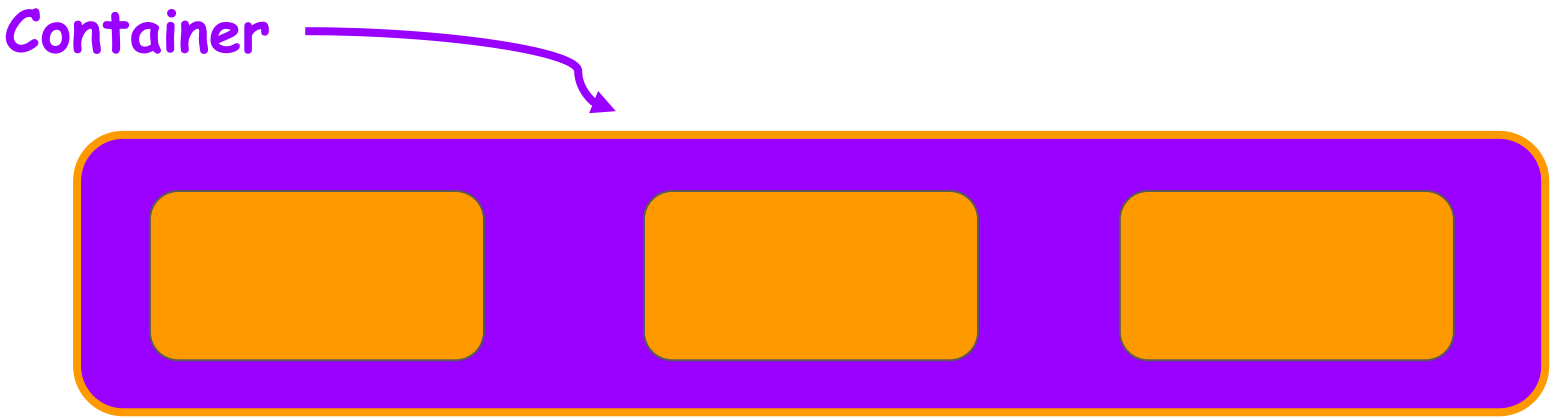
```
.flex-container {
  display: flex;
}
```

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



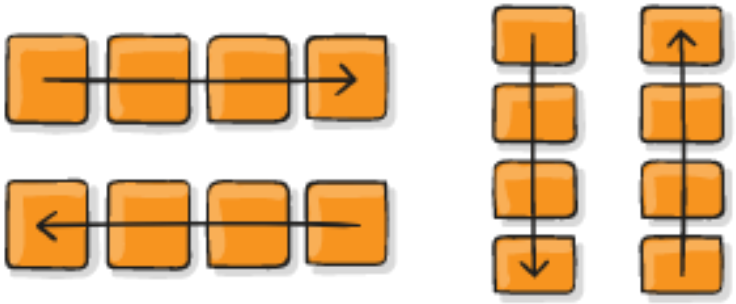
[CSS Flexbox (Flexible Box)]
[A Complete Guide to Flexbox]

Flexbox Container Attributes



Flexbox: flex-direction

flex-direction: the direction flex items are placed in the flex container. Flexbox is, wrapping aside, a single-direction layout container. Flex items flow in either horizontal rows or vertical columns.



NOTE: The main axis follows the flex direction!

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

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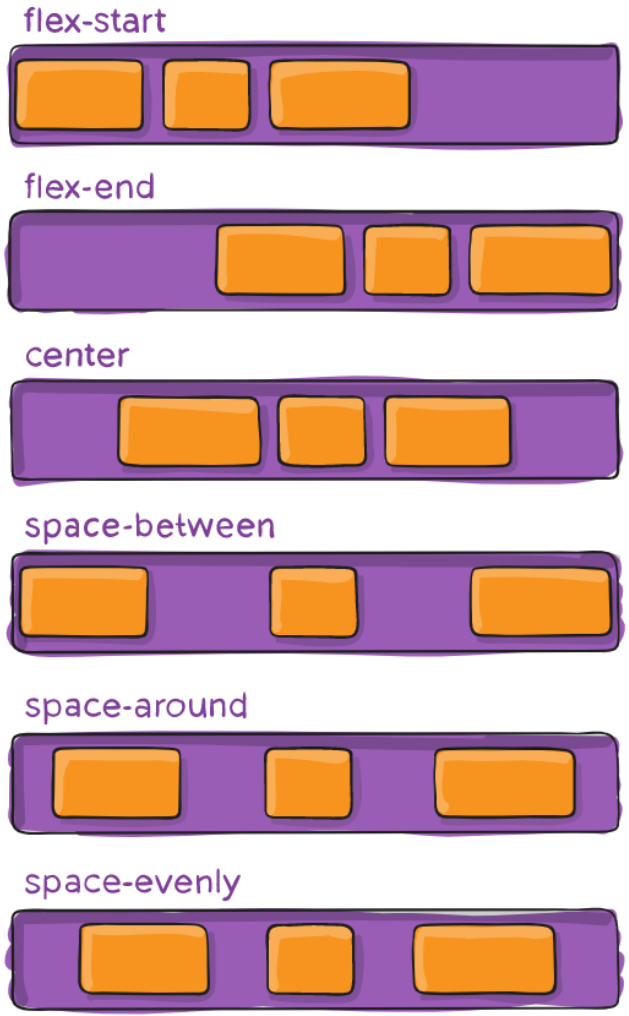
Flexbox: justify-content

justify-content tells a flex container how to layout the items within it on the **main axis.**

```
.flex-container {
  display: flex;
  justify-content: flex-start;
}
```



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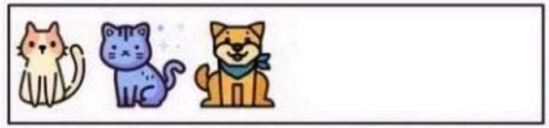
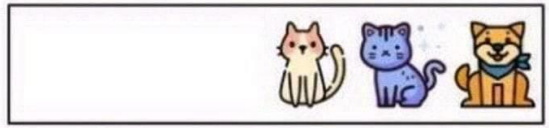
justify-content

flex-start



flex-end



center

space-between

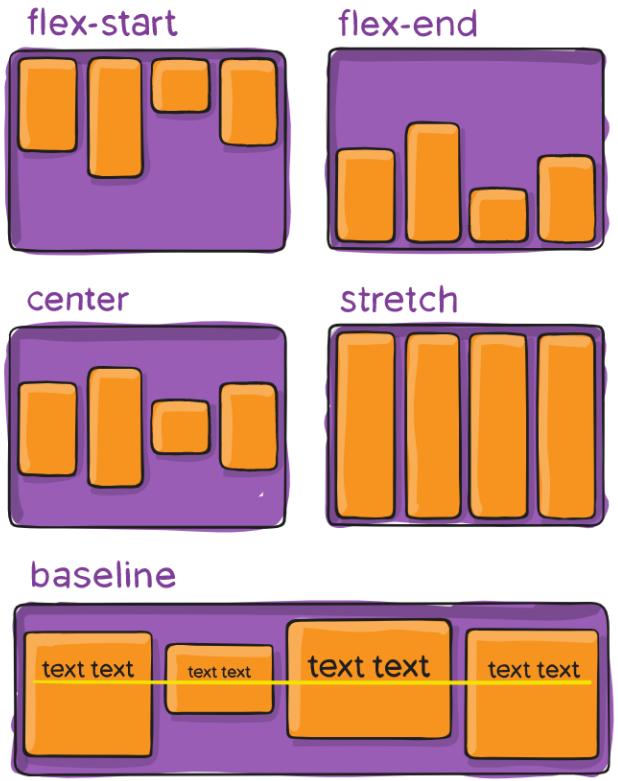
space-around

space-evenly

Flexbox: align-items

align-items will layout and
align items on the **cross axis.**

```
.flex-container {
  display: flex;
  height: 200px;
  align-items: flex-start;
}
```



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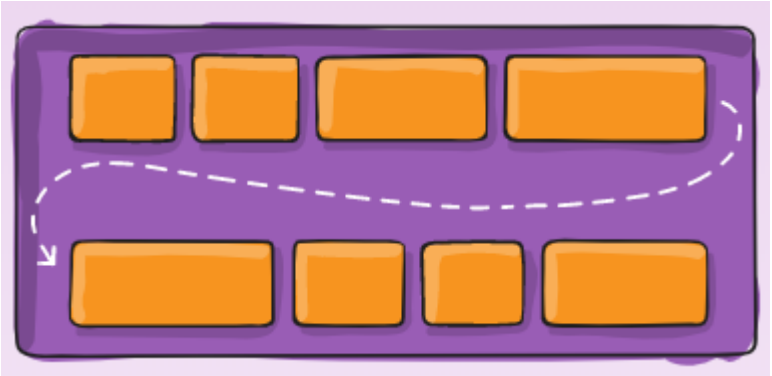
Flexbox: flex-wrap

flex-wrap will tell the flex container that items may wrap.

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



- **nowrap** (default): all flex items will be on one line
- **wrap**: flex items will wrap onto multiple lines, from top to bottom.
- **wrap-reverse**: flex items will wrap onto multiple lines from bottom to top

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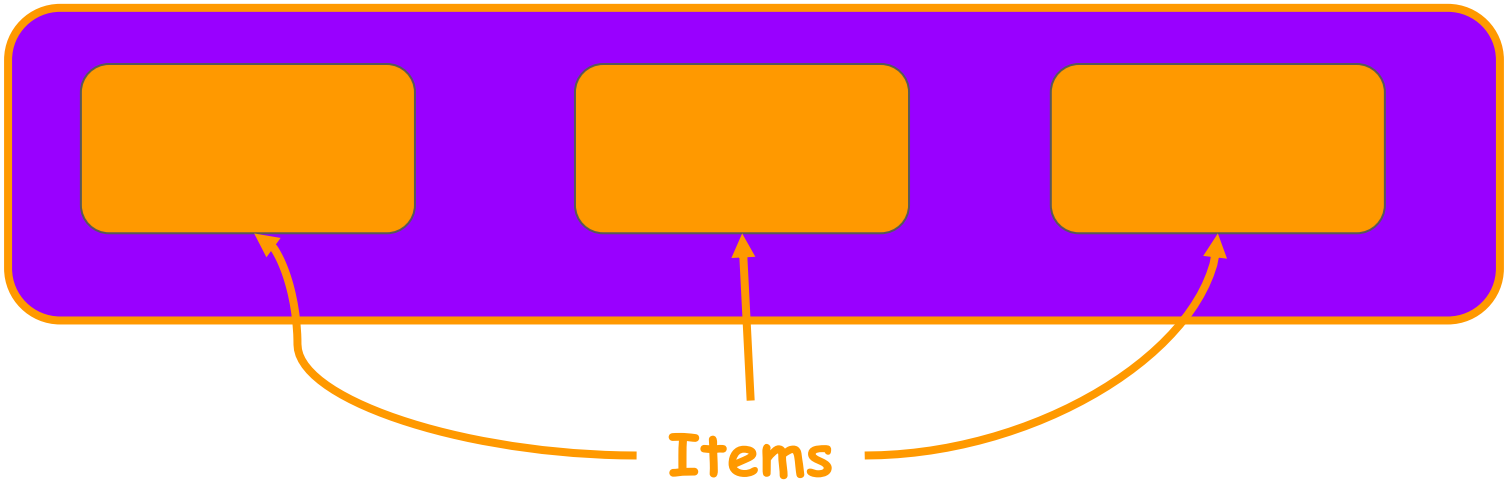
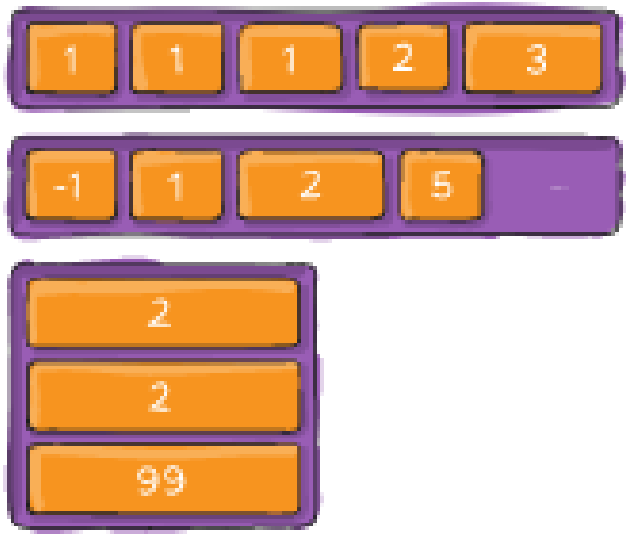
Flexbox Item Attributes



Flexbox: Order

order dictates the 0 based position of the item in the collection of container items

```
.flex-item {
  order: 3;
}
```



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Flexbox: Flex-Grow & Flex-Shrink

flex-grow: governs the ability of a flex item to grow. The value is unit-less and sets the proportion of available space inside the flex container that the item should take up.

```
.flex-item-2 {
  flex-grow: 2;
}
```

flex-shrink: has the opposite effect of **flex-grow**

Default is 1, space is evenly distributed

If one item has flex-grow set to 2, it will take up twice as much space as the other items (if possible)

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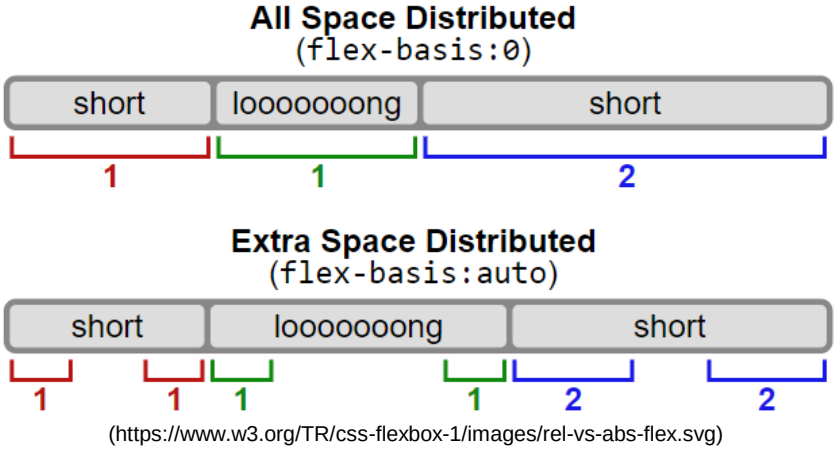
Flexbox: Flex-basis**

flex-basis:

- Defines the default size of an item before any remaining space is distributed.
- It is length and takes a unit of measure or a keyword.
  - ***auto*** defers to the element's width/height properties.
  - ***content*** sizes the item based on its' content*

Note: If set to 0, the extra space around content isn't factored in. If set to auto, the extra space is distributed based on its flex-grow value.



(https://www.w3.org/TR/css-flexbox-1/images/rel-vs-abs-flex.svg)

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```
.flex-item {
  flex-basis: auto; /*← default
*/
}
```

This keyword isn't well supported and has had its share of bugs, revisions, and reversion; so, it's hard to test and hard to know what it and the related `max-content`, `min-content`, and `fit-content` do in a browser.

What questions do you have?

Flexbox Froggy - A game for learning CSS flexbox