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# Flexbox

In this lesson, you'll learn about the CSS layout module, Flexbox. While this module has many properties, you'll focus on the most commonly used ones. Flexbox is really useful, so get going and add this to your skillset!



Flexbox  
HTML & CSS

21:50 16-01-2021

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# What is Flexbox?

We are going to learn about Flexbox, a CSS layout module. Have you heard of this before?

No I haven't. What can you do with Flexbox?

Up until now, we've used `float` for aligning items horizontally. However, now we can use Flexbox to achieve the same thing more efficiently.

First, let's take a look at what we'll be creating in this lesson.

Got it!

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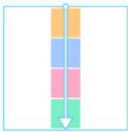
Getting Started

## What Flexbox Can Do


With **Flexbox**, you can easily create different layouts as shown below.

### Stacking Items

Vertical

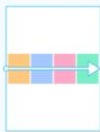


Horizontal




### Wrapping Items


No wrap



Wrap





## Creating a Horizontal Layout



That's so cool that we can create different kinds of layouts! I can't wait to learn how to do this.

Wonderful, let us start with creating a horizontal layout.





Let's do it!


display: flex

## What is display: flex?


Setting `display: flex` on an element will horizontally stack its children.

display: flex

Before



After



display: flex

## How to use display: flex

Any time you have items that you want to stack horizontally, set `display: flex;` on the parent element.

index.html

```
<ul class="flex-list">
  <li class="li1">item1</li>
  <li class="li2">item2</li>
  <li class="li3">item3</li>
  <li class="li4">item4</li>
</ul>
```

parent


elements to horizontally stack

stylesheet.css

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

set the parent of the elements you want to horizontally stack

Result



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## Making the Elements Full Width

Master Woolly, I was able to make the list horizontal!

Great job. Now let's style the elements so that they will fill the width of the window.

Yes sir!

Type here to search

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## What is flex: auto?

flex: auto

When you set `flex: auto` on an element, it will expand to fill as much space as it can within the parent.

Before

After

Type here to search

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flex: auto

## How to use flex: auto

If you have an element that you want to expand as much as it can within the parent element, set `flex: auto` on it.

index.html

```
<ul class="flex-list">
  <li class="li1">item1</li>
  <li class="li2">item2</li>
  <li class="li3">item3</li>
  <li class="li4">item4</li>
</ul>
```

parent

elements to expand

stylesheet.css

```
.flex-list {
  display: flex;
}
.flex-list li {
  flex: auto;
}
```

set on the elements that you want to expand to the parent width

Result

## Wrapping the Elements Into Two Rows

You've successfully made the elements fill the width of the window. 🤖

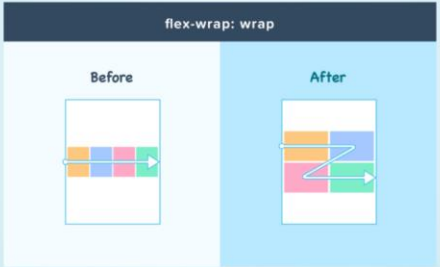
I did it! 🤖

Next let's make it so that the elements can wrap into two rows. 🤖

flex-wrap: wrap

## What is flex-wrap: wrap?

By setting `flex-wrap: wrap`, a single row of elements will be able to wrap into multiple rows based on the element size.



flex-wrap: wrap

Before

After

flex-wrap: wrap

## How to use flex-wrap: wrap

Set `flex-wrap: wrap` on the parent of the elements that should be wrapped. The elements themselves will need to have the `width` set. This time, since we want to break the list into two rows, we'll set `width: 50%`.

index.html

```
<ul class="flex-list">
  <li class="li1">item1</li>
  <li class="li2">item2</li>
  <li class="li3">item3</li>
  <li class="li4">item4</li>
</ul>
```

parent

elements to wrap

stylesheet.css

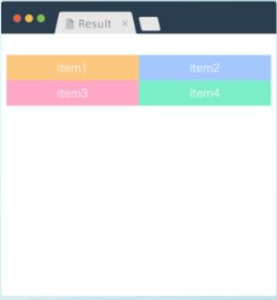
```
.flex-list {
  display: flex;
  flex-wrap: wrap;
}

.flex-list li {
  flex: auto;
  width: 50%;
}
```

set on the parent of the elements you want to wrap

set on the elements you want to wrap

Result



flex-wrap: wrap

Review of Percentage Size

Let's review using a percentage for the size of an element. When using a percentage % for the height or width of an element, the size of the element will become relative to the size of its parent.

stylesheet.css

```
.flex-list {
  display: flex;
  flex-wrap: wrap;
}
.flex-list li {
  flex: auto;
  width: 50%;
}
```

Widths for the Wrapped List

Wrapping on Smaller Screens

I made the list into two rows!

Well done. Now we are going to apply a concept that we have learned in the past, **responsive design**.

Great!

We are going to make it so that the list will break into two rows on smaller screens such as a tablet screen.

1100px

900px (1000px and under)

Media Queries

Using Media Queries

To make a site responsive, we'll use [media queries](#), which we have covered in HTML Study III. We can make it so that the list only wraps when the screen width is small.

stylesheet.css

```
@media (max-width: 1000px) {  
  .flex-list {  
    flex-wrap: wrap;  
  }  
  .flex-list li {  
    width: 50%;  
  }  
}
```

media query  
applied on widths 1000px and under

1001px  
and above

1000px  
and under

Using One Column for the Smallest Screens

I think I got how to make the list change rows based on the screen width!

Great job. Lastly, let's make the list into just a single column for smartphone screens.

I'm ready!

900px (1000px and under)

600px (670px and under)



flex-direction

## What is flex-direction: column?

Setting `flex-direction: column` makes all elements stack vertically instead of horizontally.

flex-direction: column

Before  
stacked left to right

After  
stacked top to bottom

flex-direction

## How to use flex-direction: column

For elements that you want to stack vertically, set `flex-direction: column` on their parent element.

index.html

```
<ul class="flex-list">
  <li class="li1">item1</li>
  <li class="li2">item2</li>
  <li class="li3">item3</li>
  <li class="li4">item4</li>
</ul>
```

parent

elements to vertically stack

stylesheet.css

```
.flex-list {
  flex-direction: column;
}
```

set on the parent of the elements you want to vertically stack

Result

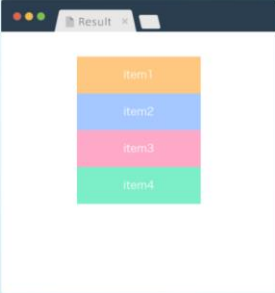
flex-direction

## Centering Block Elements

Let's review how to center block elements. By setting `margin: 0 auto` and the `width` of an element, you can center it. Since we've already set the width of the elements for screens `1000px and under`, we only need to set the `margin` here.

```
index.html<ul class="flex-list"><li class="li1">item1</li><li class="li2">item2</li><li class="li3">item3</li><li class="li4">item4</li></ul>
```

```
stylesheet.css.flex-list {flex-direction: column;}<div>.flex-list li {margin: 0 auto;align center}</div>width: 50%;has also been set for widths 1000px and under
```



flex-direction

## Using Media Queries

By using media queries, we can make it so that the list becomes a single column on the smallest of screen sizes.

```
stylesheet.css@media (max-width: 670px) {<div>.flex-list {flex-direction: column;}</div>.flex-list li {margin: 0 auto;}</div>
```

