

Lesson

Wednesday

# Introduction to Programming

## (/introduction-to-programming)

### / Git, HTML and CSS (/introduction-to-programming/git-html-and-css)

### / HTML Divs and Spans, and CSS Sizing Units

Text

Cheat sheet

In this lesson, we'll learn about HTML `div` and `span` elements that we can use to group block elements, or sections of text within an element. Then, at the end of the lesson, we'll shift back to CSS and learn about sizing units.

## HTML `div` Elements

Classes are great for selectively applying styles to certain parts of your web pages. But sometimes you'll have entire sections of your pages that you want to style a certain way, and adding a style to every tag gets annoying. Here's a new page I made about fish. Notice how several elements in a row all have the same class:

**fish.html**

```
<!DOCTYPE html>
<html lang="en-US">
<head>
  <link href="css/styles.css" rel="stylesheet" type="text/css">
  <title>Everything about fish</title>
</head>
<body>
  <h1>Everything about fish</h1>

  <p>Here is everything you need to know about fish. First,
the important stuff:</p>

  <h2 class="important">Types of fish</h2>

  <p class="important">There are many types of fish. Lorem
ipsum dolor sit amet, consectetur adipisicing elit, sed do
eiusmod tempor incididunt ut labore et dolore magna aliqua.
Ut enim ad minim veniam, quis nostrud exercitation ullamco
laboris nisi ut aliquip ex ea commodo consequat.</p>

  <p class="important">Here are some types of fish:</p>

  <ul class="important">
    <li>Goldfish</li>
    <li>Catfish</li>
    <li>And lots, lots more!</li>
  </ul>

  <h2 class="important">Other important stuff</h2>

  <p class="important">Here is some other really important
stuff about fish. Ut enim ad minim veniam, quis nostrud
exercitation ullamco laboris nisi ut aliquip ex ea commodo
consequat. Duis aute irure dolor in reprehenderit in voluptate
velit esse cillum dolore eu fugiat nulla pariatur.</p>

  <p>Now, for some less important stuff about fish.</p>

  <h2 class="unimportant">Fish like to play golf</h2>
```

```
<p class="unimportant">Little-known fact: fish like to play golf. Sed ut perspiciatis unde omnis iste natus error sit voluptatem accusantium doloremque laudantium, totam rem aperiam, eaque ipsa quae ab illo inventore veritatis et quasi architecto beatae vitae dicta sunt explicabo.</p>
```

```
<h2 class="unimportant">Fish are not mammals</h2>
```

```
<p class="unimportant">Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Eaque ipsa quae ab illo inventore veritatis et quasi architecto beatae vitae dicta sunt explicabo.</p>
```

```
</body>
```

```
</html>
```

Let's learn a new tag that will simplify all of this: the `<div>` tag.

**fish.html**

```
<!DOCTYPE html>
<html lang="en-US">
<head>
  <link href="css/styles.css" rel="stylesheet" type="text/css">
  <title>Everything about fish</title>
</head>
<body>
  <h1>Everything about fish</h1>

  <p>Here is everything you need to know about fish. First,
the important stuff:</p>

  <div class="important">
    <h2>Types of fish</h2>

    <p>There are many types of fish. Lorem ipsum dolor sit
amet, consectetur adipisicing elit, sed do eiusmod tempor i
ncidunt ut labore et dolore magna aliqua. Ut enim ad mini
m veniam, quis nostrud exercitation ullamco laboris nisi ut
aliquip ex ea commodo consequat.</p>

    <p>Here are some types of fish:</p>

    <ul>
      <li>Goldfish</li>
      <li>Catfish</li>
      <li>And lots, lots more!</li>
    </ul>

    <h2>Other important stuff</h2>

    <p>Here is some other really important stuff about fis
h. Ut enim ad minim veniam, quis nostrud exercitation ullam
co laboris nisi ut aliquip ex ea commodo consequat. Duis au
te irure dolor in reprehenderit in voluptate velit esse cil
lum dolore eu fugiat nulla pariatur.</p>
  </div>

  <p>Now, for some less important stuff about fish.</p>
```

```
<div class="unimportant">
  <h2>Fish like to play golf</h2>

  <p>Little-known fact: fish like to play golf. Sed ut pe
rspiciatis unde omnis iste natus error sit voluptatem accus
antium doloremque laudantium, totam rem aperiam, eaque ipsa
quae ab illo inventore veritatis et quasi architecto beatae
vitae dicta sunt explicabo.</p>

  <h2>Fish are not mammals</h2>

  <p>Duis aute irure dolor in reprehenderit in voluptate
velit esse cillum dolore eu fugiat nulla pariatur. Eaque ip
sa quae ab illo inventore veritatis et quasi architecto bea
tae vitae dicta sunt explicabo.</p>
</div>
</body>
</html>
```

Then, we can style entire areas of the page using selectors for `.important` and `.unimportant`, for example:

### styles.css

```
.important {
  color: red;
}

.unimportant {
  color: blue;
}
```

The `<div>` tag does nothing on its own: it's just a place to add a class that is then applied to everything that is nested within it. It's *very* common to apply styles by using `<div>` tags to separate the content of your pages. Typically, in your CSS, you won't even explicitly label a selector as being for a `<div>`; in other words, you'd write `.important`, rather than `div.important`.

Remember my little lecture about how good code is code that is easy to change? We just made our code easier to change: if we want to change the class name, we only have to change one `<div>` instead of all of the elements that are now nested inside of it. Nice!

## HTML span Elements

For inline elements, there's a similar tag called `<span>`:

### fish.html

```
<p>There are many types of <span class="highlight">fish</span>. For example, there are <span class="fish-type">red</span> fish, <span class="fish-type">green</span> fish, <span class="fish-type">one</span> fish, and <span class="fish-type">two</span> fish. There are also <span class="highlight">more types of fish than you could possibly imagine</span>.</p>
```

And we can style these inline elements with `.highlight` and `.fish-type`.

At first, it might be a little confusing to know when to use a `div` versus a `span`. Let's look at a quick example. The following code uses both a `div` and a `span`:

```
<div class="important">
  All of the code within the div class "important" will be
  <span class="highlight">red</span>. Note how the span here
  is inline because it targets only one word? We can use span
  s to target text that is less than one line (inline) while
  we'd use divs to target text that is more than one line (mu
  ltiline).
</div>
```

As noted in the code, we'd use a `div` for text that covers multiple lines of text while we'd use a `span` for text that covers less than a line of code.

We won't be using spans very often but it's still important to know about them. On the other hand, we'll be using `divs` all the time.

## CSS Sizing Units

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Next up, we'll cover CSS sizing units. There are many CSS sizing units and each have different use cases. In the following video, we cover:

- `px` for pixels, which sets an element to a fixed size on the page.
- `%` for percentage, which sets an element to a percentage of its parent element.
- `vh` or `vw`, which sets an element to a percentage of the viewport's width or height. The **viewport** is the area of a webpage that's visible to a user.
- `em` or `rem`. Using `em` sets the size of an HTML element relative to its parent element's font-size. Using `rem` sets the size of an HTML element relative to the root element's font-size. We won't use `em` or `rem` in the program, so further exploration is up to you.
- We'll also learn how `%`, `vh`, `vw`, `em`, and `rem` are sizing units that are **responsive**, which causes elements not to be fixed sizes, but to change in size based on the size of HTML elements that they are relative to.

03:05

[Previous \(/introduction-to-programming/git-html-and-css/practice-styling-with-classes-and-ids\)](#)

[Next \(/introduction-to-programming/git-html-and-css/practice-html-divs-and-spans-and-css-sizing-units\)](#)

Lesson 41 of 64

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[disable dark mode](#)



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