LEARN WEB

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github.com/ale66/learn-web

STRUCTURE

IMPORTANT PROPERTIES

Whereas rendered pages are normally related to a linear, left-to-right, top-down reading, browsers see pages as *trees*

Biological tree: one *root* element at the bottom which splits up repeatedly in smaller and smaller branches; leaves at the top

HTML tree: flipped upside down

a single root element at the top

branching out into several smaller elements, some of which are siblings

PARSING

Automated reading of a formal (code) file with *recognition* of the commands

HTML branch tags must be strictly contained into their *root*

are mistyping can throw the automated parsing off track

```
1 <!doctype html>
```

This is not HTML but a directive (via the `!`)

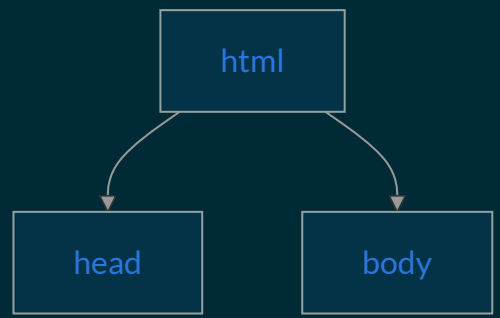
the browser (and the operating system and the network services running below it) will know how to handle it.

```
1 <!doctype html>
2 <html lang="en">
3   ...
4 </html>
```

Mandatory: one root with two branches

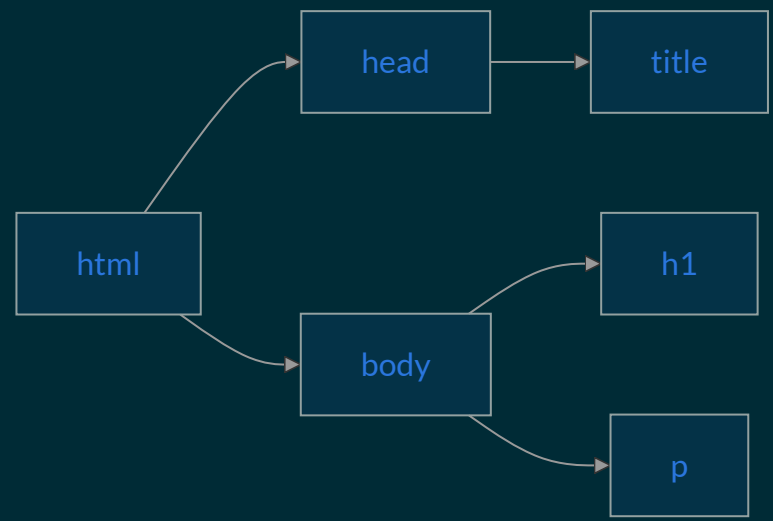
```html
<!doctype html>

<html lang="en">
  <head></head>
  <body></body>
</html>
```

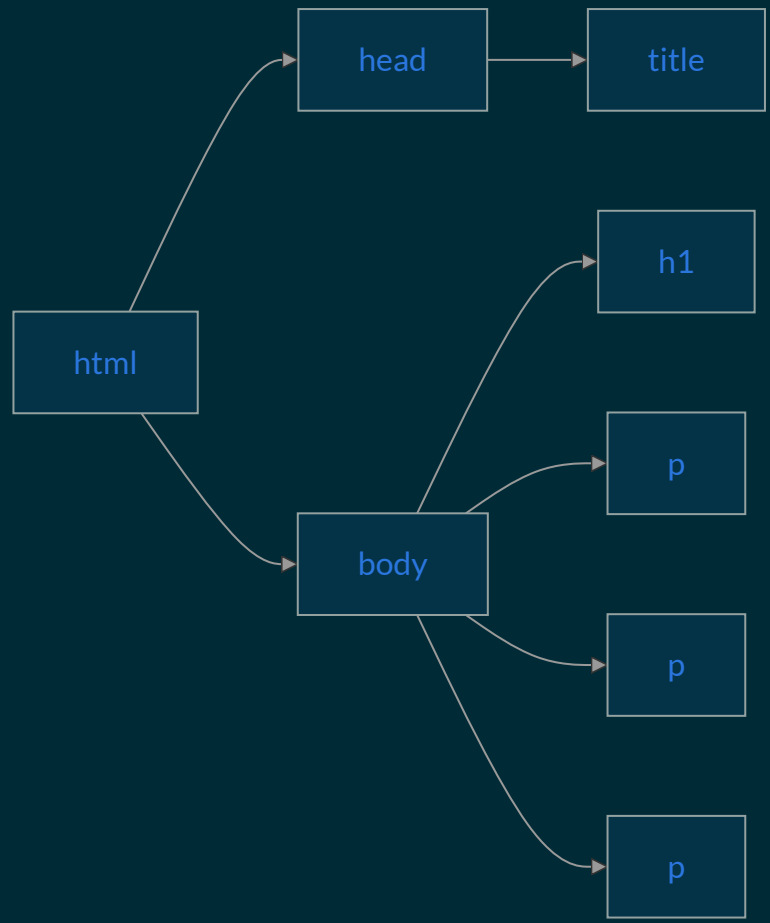


One root, two branches and two leaves

```
 1  <!doctype html>
 2
 3  <html>
 4    <head>
 5      <title>My DOM page</title>
 6    </head>
 7    <body>
 8      <h1>Visible title</h1>
 9      <p>First para</p>
10    </body>
11  </html>
```



```html
<html>
  <head>
    <title>My DOM page</title>
  </head>
  <body>
    <h1>Visible title</h1>
    <p>First para.</p>
    <p>More text.</p>
    <p>Further text.</p>
...
```



Browsers process each tag as a *path* from root to the respective leaf:

```
<html><body><h1>Visible title</h1>
```

```
<html><Body><p>First para</p>
```

Additionally, leaves may be assigned an `id` name:

```
<html><body><p id="top-para">First para.</p>
```

And so on:

```
<html><body><p id="middle-para">More text</p>

<html><body><p id="bottom-para">Further text.</p>
```

Next, all the needed CSS command will be picked up from the CSS file and attached to the element

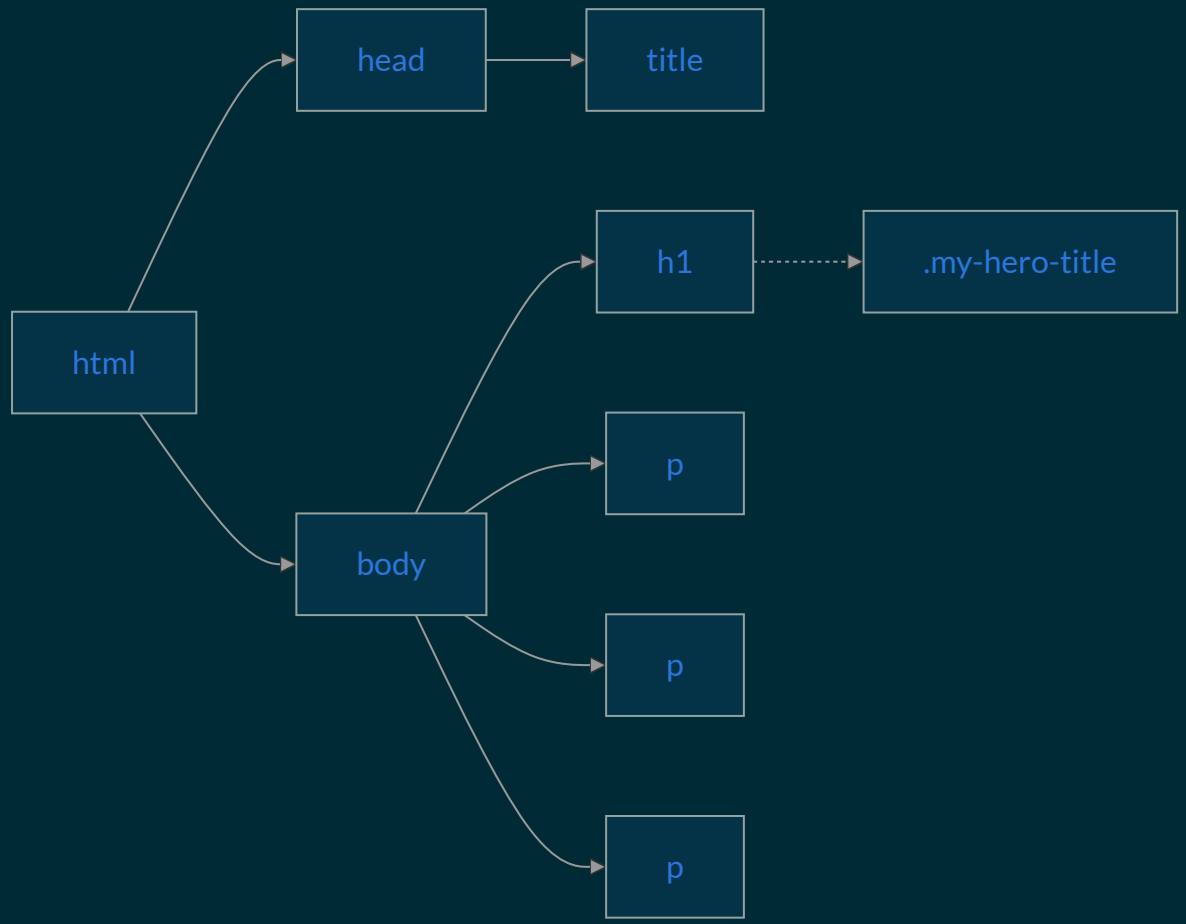
```
<html><body><h1 class="my_hero_title">My big, fat title</h1>
```

Where the CSS contains:

```
.my_hero_title {
  font-color: darksalmon;
  ...
}
```

Free choice of class names but they must be unique

HOW BROWERS ACTUALLY SEE OUR PAGE



THE DOM

DOCUMENT OBJECT MODEL

each HTML page has an associated *tree* representation with tags and class names

the tree representation guides the writing of JavaScript (JS) programs that can manipulate the structure of the page

and how it looks to, e.g., classes of users

We study the DOM to make pages come alive

Try the *red background* example on Sec. 1.1 of dom.spec.whatwg.org/

EXERCISE: VIEW THE DOM OF YOUR OWN PAGES

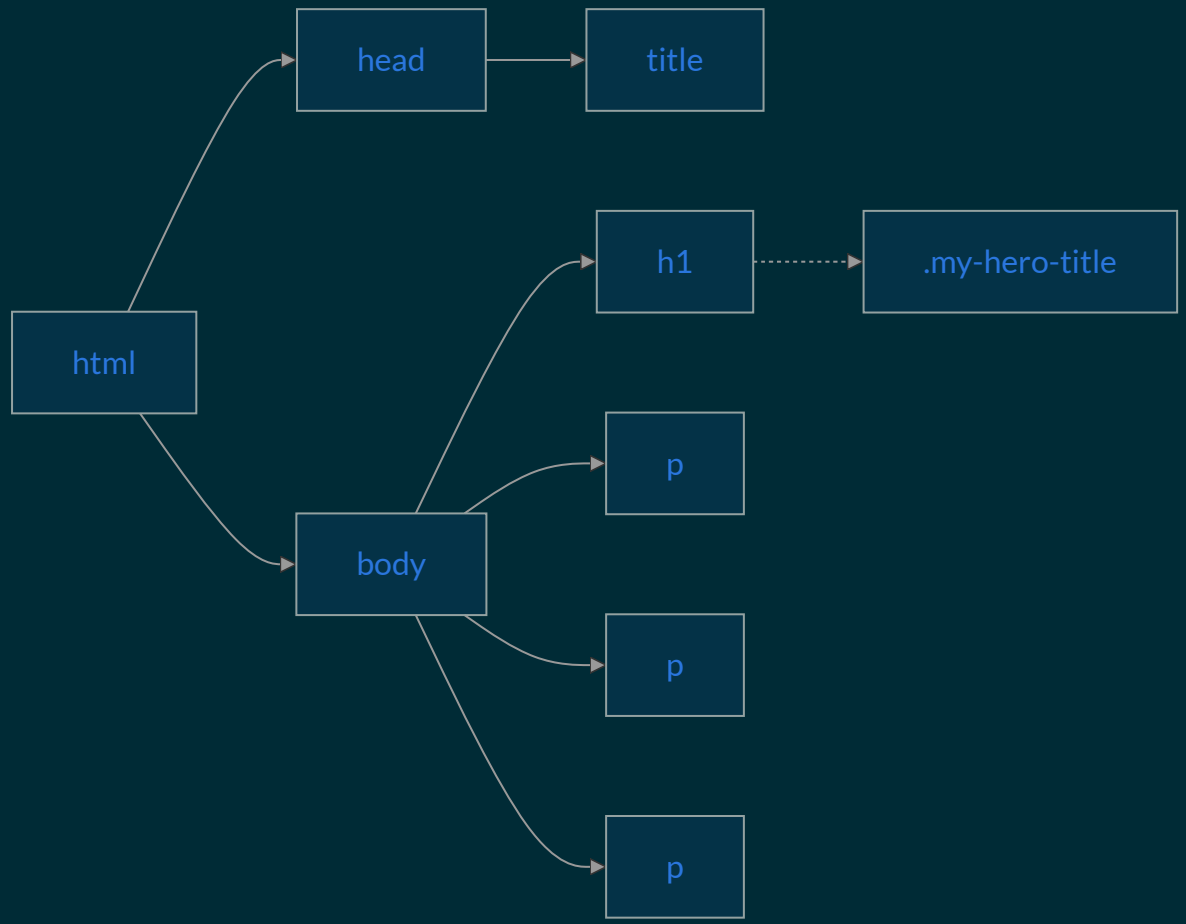
Take your own Lorem project and feed it to DOM visualisers on GH:

codu-code.github.io/dom-visualizer/

bioub.github.io/dom-visualizer/

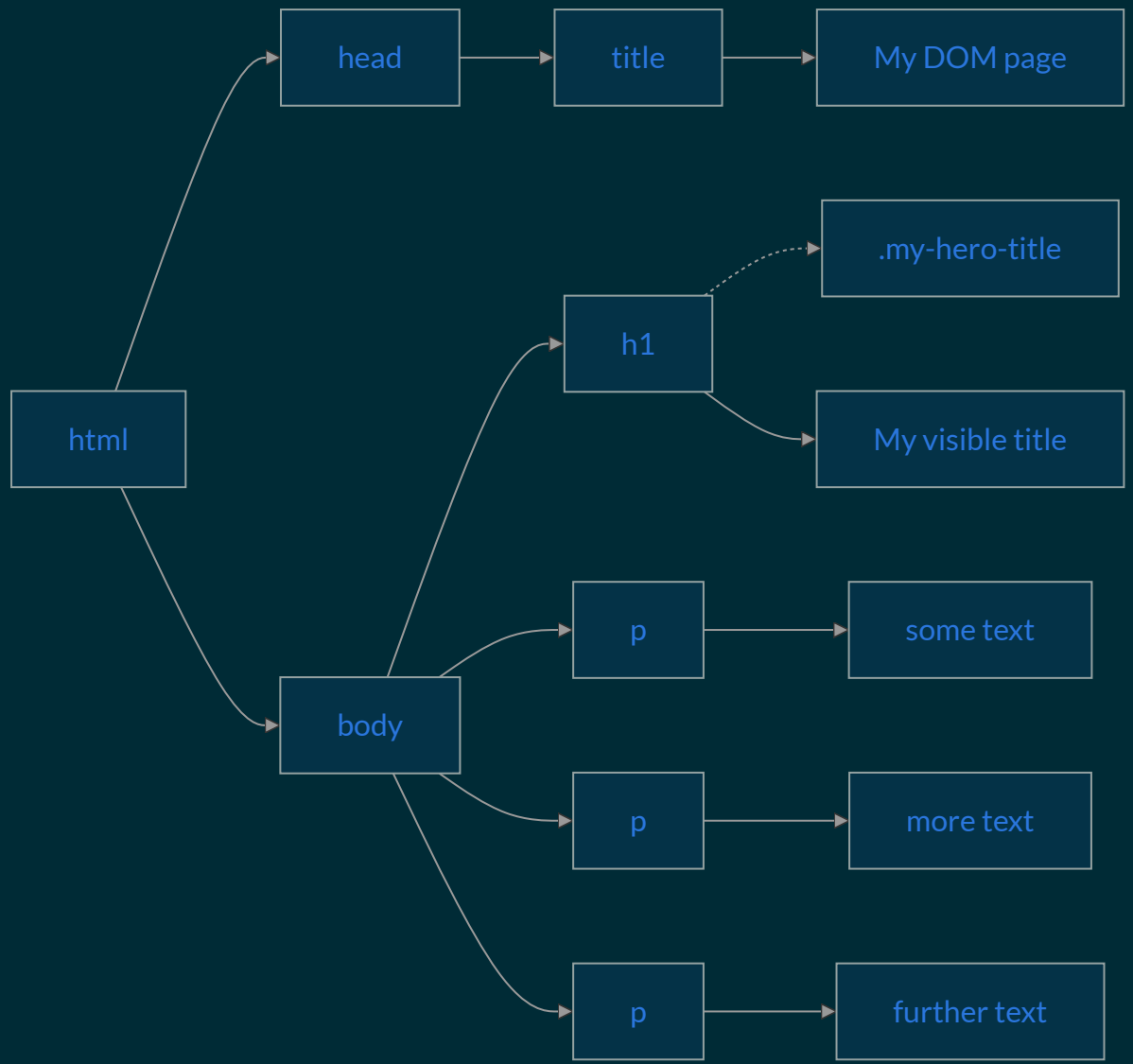
Try again with your favourite CSSengarden project

REPRESENT CONTENT



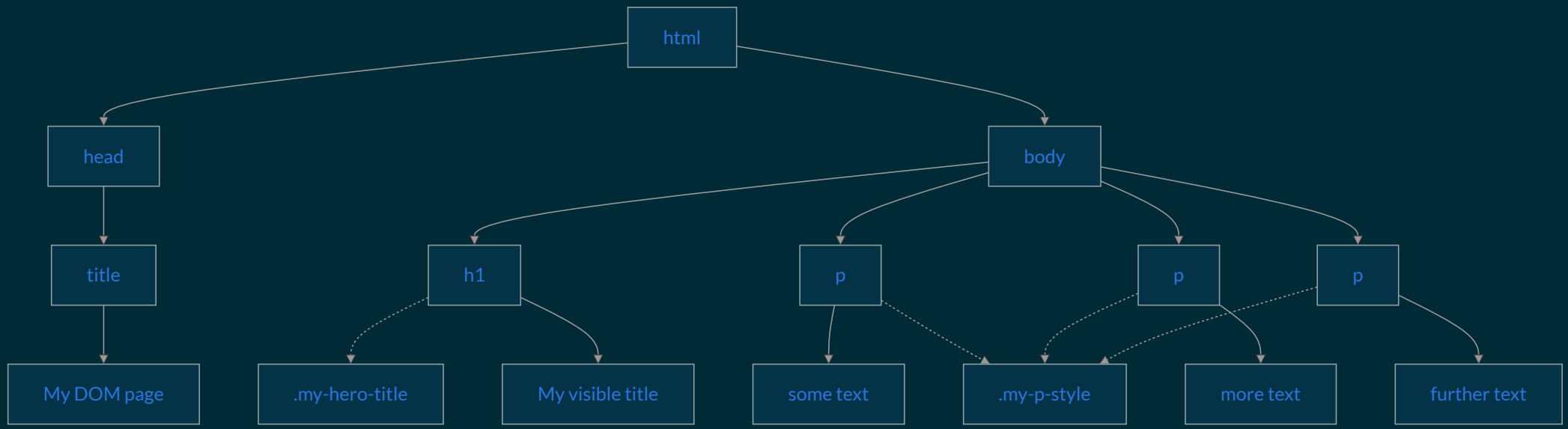
inside most tags there is content to be displayed.

Such content is represented as an explicit DOM leaf



for each leaf, a special `innerHTML` variable will contain the relative text and mark-up

A complete DOM



Javascript code takes this representation and change it as the bruwser *runs* the page