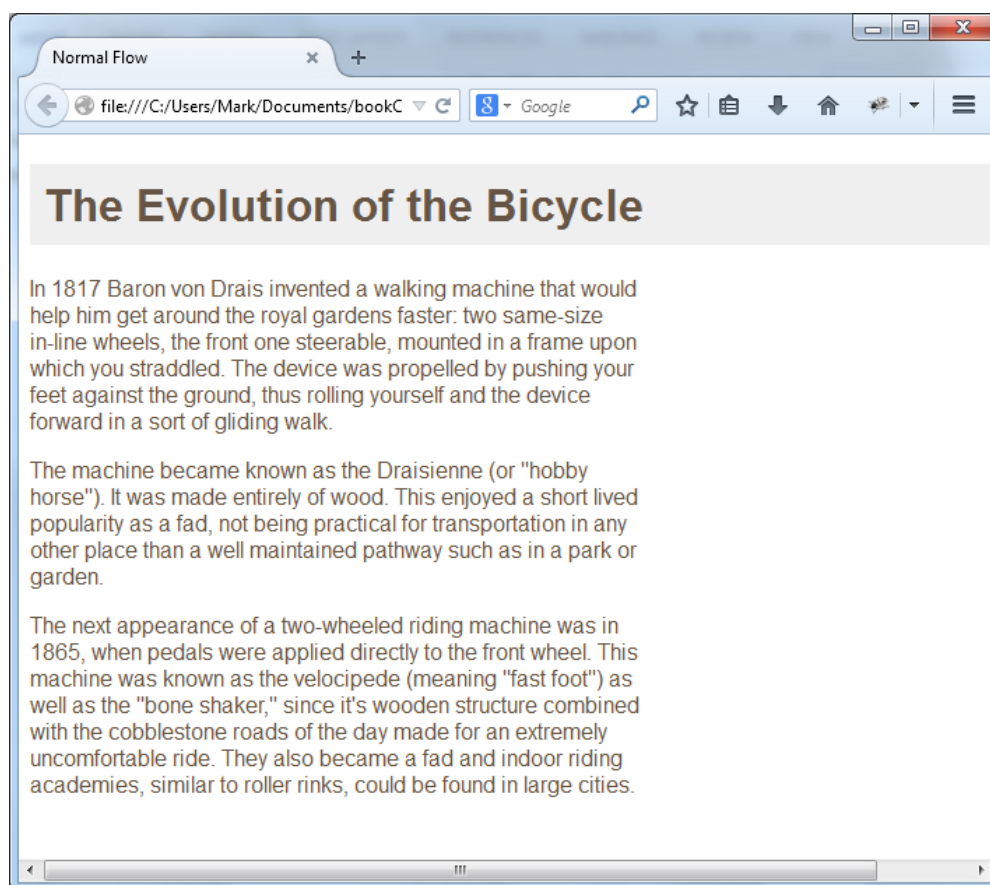


## HTML & CSS – Layout

CSS is used not only for styling a page, but to also position elements on a page. Modern web pages use CSS to create attractive page layouts. As with styling there are many properties in CSS for controlling the layout of a web page, we will look at a couple of methods.

### Normal Flow

In normal flow, block level elements (div, p, h1, etc.) sit on top of each other. In the example below the page is made up of one `<h1>` and three `<p>` elements, where one sits on top of the next. The `<h1>` has no width applied, but the `<p>` elements have a width of 450px:



The code for this page looks like this:

```
<body>
  <h1>The Evolution of the Bicycle</h1>
  <p>In 1817 Baron von Drais invented a walking machine...</p>
  <p>The machine became known as...</p>
  <p>The next appearance of a two-wheeled...</p>
</body>
```

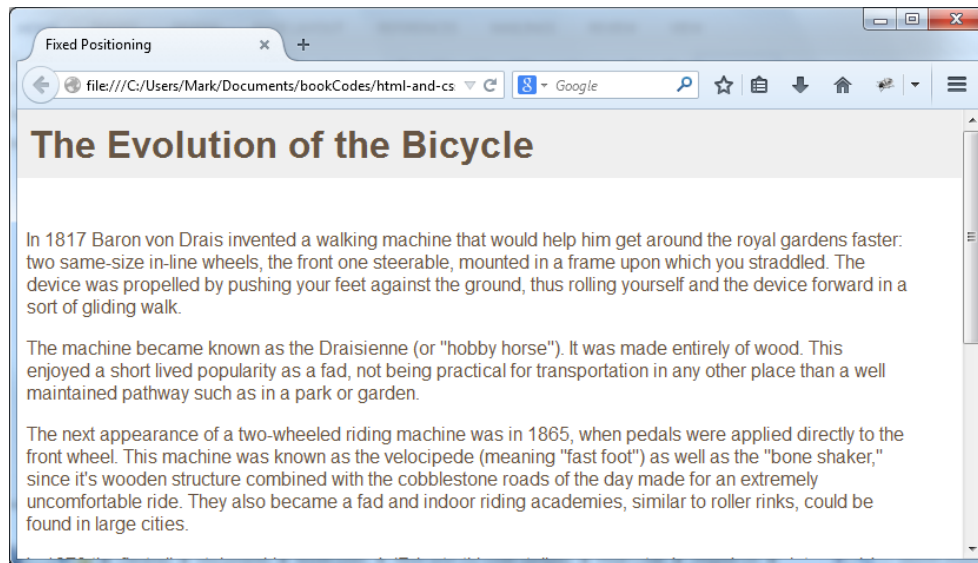
Each element is rendered on the webpage in the same order it was written in HTML.

## Fixed Positioning

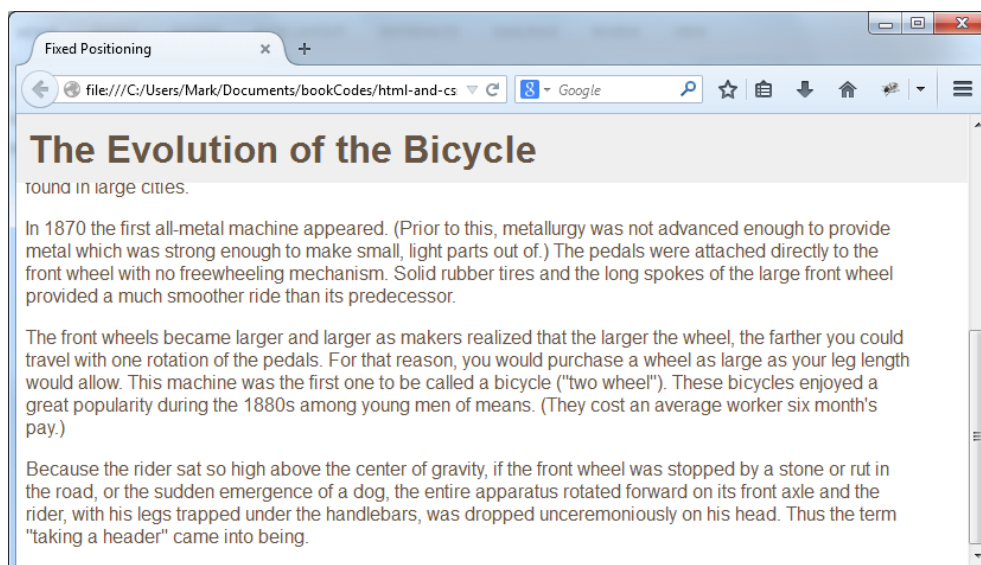
By using the **position** property in CSS, it is possible to give instructions to the browser as to where an element should sit on a page. There are many values available for the **position** CSS property, which you should explore in your own time, but we will focus on the **fixed position** value.

By using the fixed position value on an element, the browser will render the element in a fixed position and never move when scrolled:

Top of web page:



Page scrolled down to the bottom, but heading stays in place:



The CSS for fixing the heading in place is:

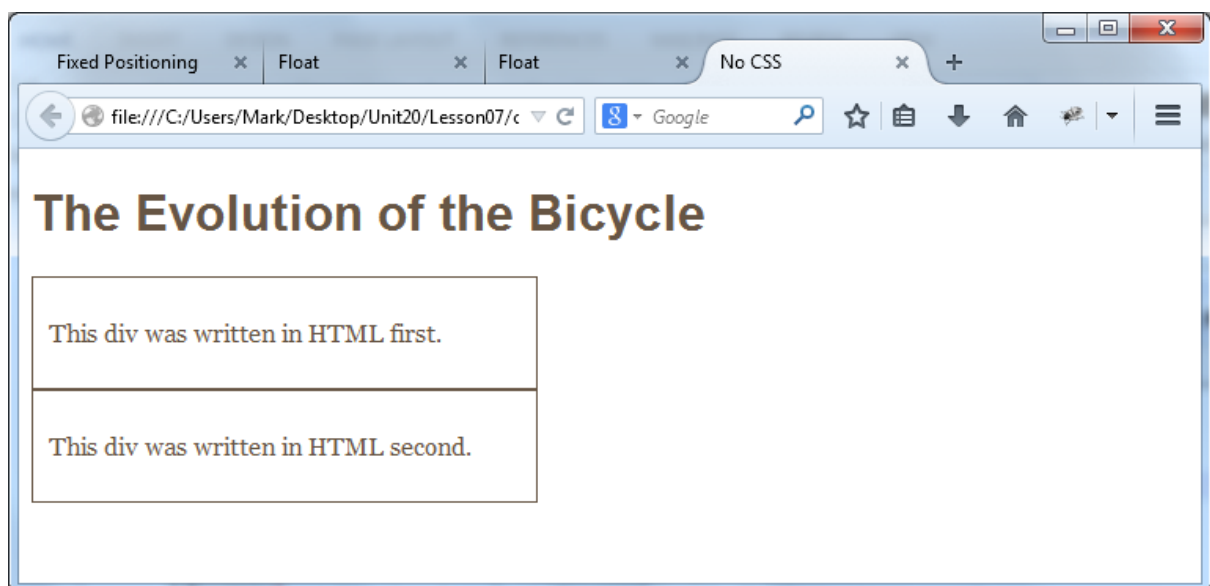
```
h1 {  
    position: fixed;  
    top: 0px;  
    left: 0px;  
    padding: 10px;  
    margin: 0px;  
    width: 100%;  
    background-color: #efefef;}  
  
p.example {  
    margin-top: 100px;}
```

The CSS tells the web browser to fix the position of <h1> in the top left-hand corner (0,0) of the browser. This means that regardless of any scrolling the <h1> will remain in the top-left corner of the web page. Notice that the paragraph with a class of example has a margin of 10 pixels – why do you think this is necessary?

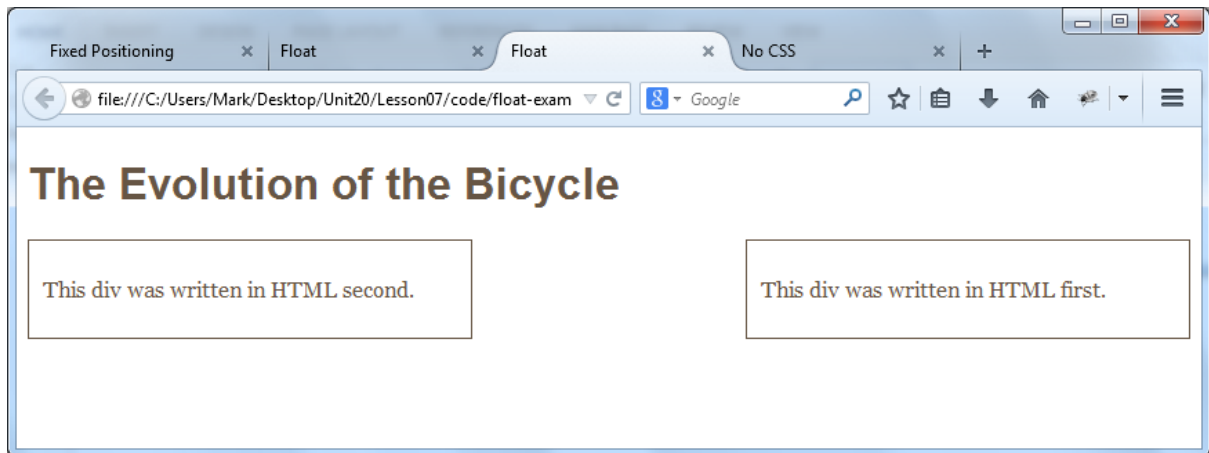
## Floating elements

The float property allows you to take an element in normal flow and place it as far to the left or right of the containing element as possible.

No float:



Now the same page with a **float** value of **right** applied to the first <div> :

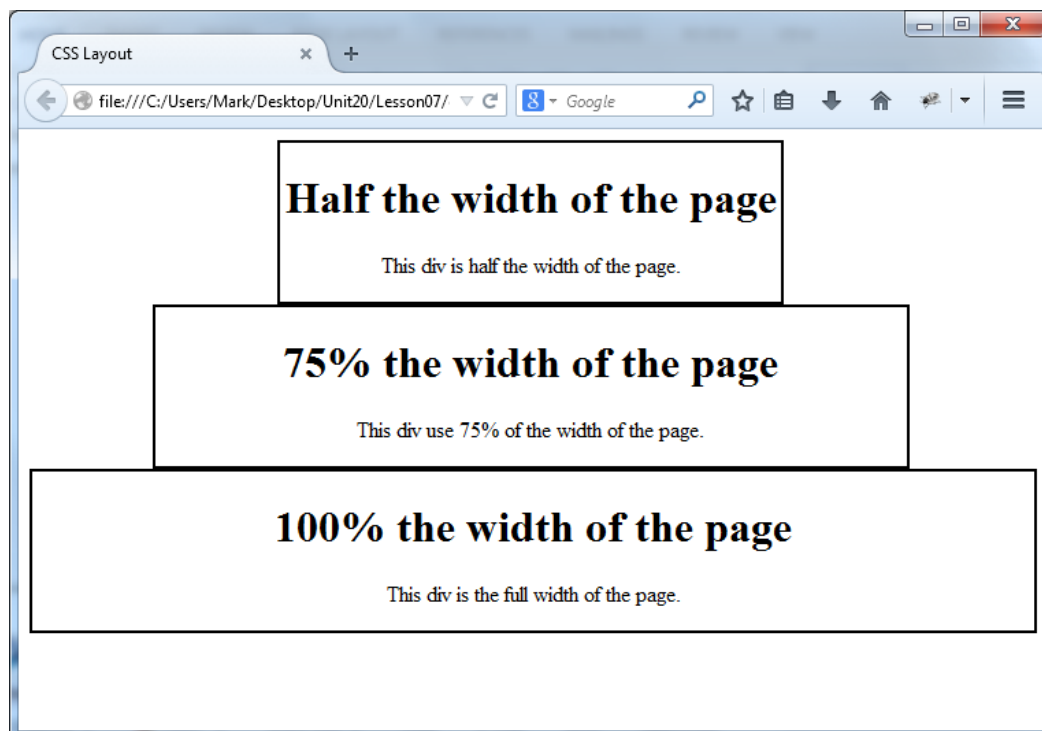


The first **div** has been moved to the right of the page, this made room for the second **div** to fill it's place. When using the float property, you should apply a width to the elements you are floating as you may end up with strange results. Elements can be floated to the left or right of a page.

## Aligning Elements

To align an element to the right or left of a web page, you can use either the **float** property or the **fixed position** property. If you want to align an element in the centre of a web page you must use the **margin** property – **margin** can also be used for left and right alignment.

Look at the following web page:



The CSS for this page is:

```
.half-size {  
    border: solid 2px black;  
    width: 50%;  
    margin: auto;  
    text-align: center;  
}  
  
.three-quarter {  
    border: solid 2px black;  
    width: 75%;  
    margin: auto;  
    text-align: center;  
}  
  
.full-width {  
    border: solid 2px black;  
    width: 100%;  
    margin: auto;  
    text-align: center;  
}
```

Notice that the **margin** property has a value of auto; this has the effect of putting an even margin around the element it is applied to and therefore placing it in the centre of the page.

## Activity

In previous lessons you were introduced to the online tutorials at:

<http://www.w3schools.com/css/default.asp> .

- A. You need to now make sure that you build-up your experience of working with the positioning, floating and alignment CSS properties. Use the tutorials to start with to see how the properties affect the position of an element in a web page.
- B. Once you have worked through the tutorials you must make your own web pages that demonstrate your understanding of the different methods of how to align elements on a web page. Each page must have a title and a heading, you should make the following pages as a minimum:
  - i) A page that demonstrates the effect of fixed positioning (in a variety of locations on a web page);
  - ii) A page that demonstrates the effect of floating elements to the left and right;
  - iii) A page that demonstrates the effect using the margin property to align elements.
  - iv) The pages **must** demonstrate a range of different properties being applied, and how they affect not only the position of the elements the rules have been applied to, but also how they affect other elements on the page.
  - v) The pages should be presented in such a way that the reader will understand what they are looking at.

## **Assignment Alert!**

You should be treating all of the activities as preparation for the upcoming first assignment. This means the web pages you create should be presented with titles, headings and text explaining to the reader what the page represents. All pages must be linked together as well as a home page made acting as a starting point for the reader. Each page should contain links to the home page.

You will be expected to insert comments into your HTML & CSS code for your assignment, therefore you should be including comments in the activities to get you into the habit of commenting code.

## **Points to remember**

- CSS treats all HTML elements as boxes.
- There are many CSS properties which control the positioning and alignment of elements on a web page.
- Understanding the box model (margins, padding, borders & width) is vital to creating an attractive page layout.