CSS styles

Lesson №4

Values in CSS

Property values

Values in CSS

- Defined in pairs property:value;
- Modify the given property for all selected elements
- Semantically they could be colours, sizes, texts
- Syntactically they could be constants, expressions, compounds

Colours in CSS

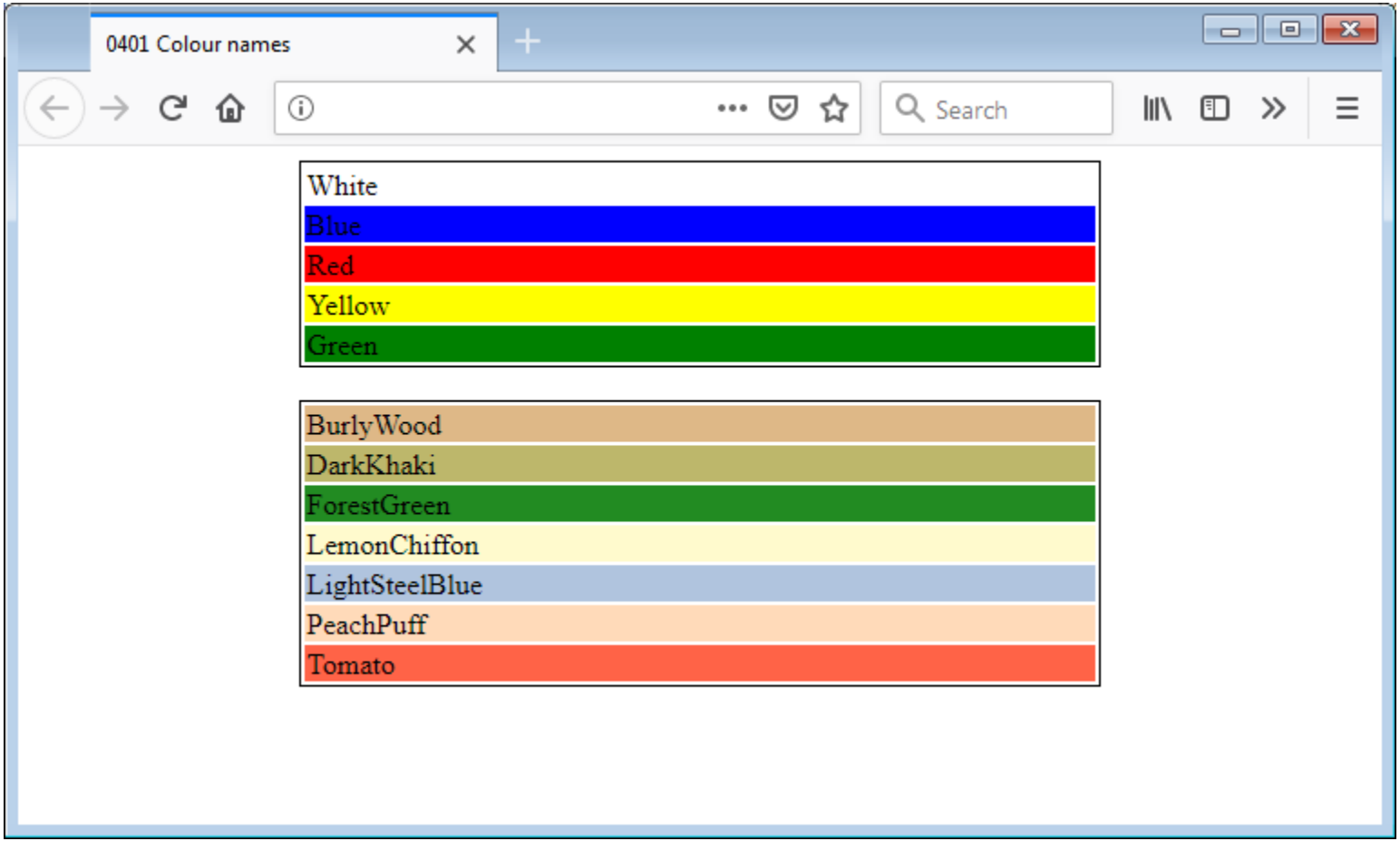
Defining colours

- Via descriptive name
- Via a hexadecimal number
- Via function RGB, RGBA, HSL or HSLA

Colour names

- 17 standard colours: White, Black, Blue, Red, Green, Yellow, …
- 123 additional colours: FireBrick, MintCream, Tomato,…
- The full list is here: http://www.w3schools.com/cssref/css_colornames.asp

```
<table>
   <tr>
      <td style="background-color:White;">White</td>
   </tr>
   <tr>
      <td style="background-color:Blue;">Blue</td>
   </tr>
</table>
```

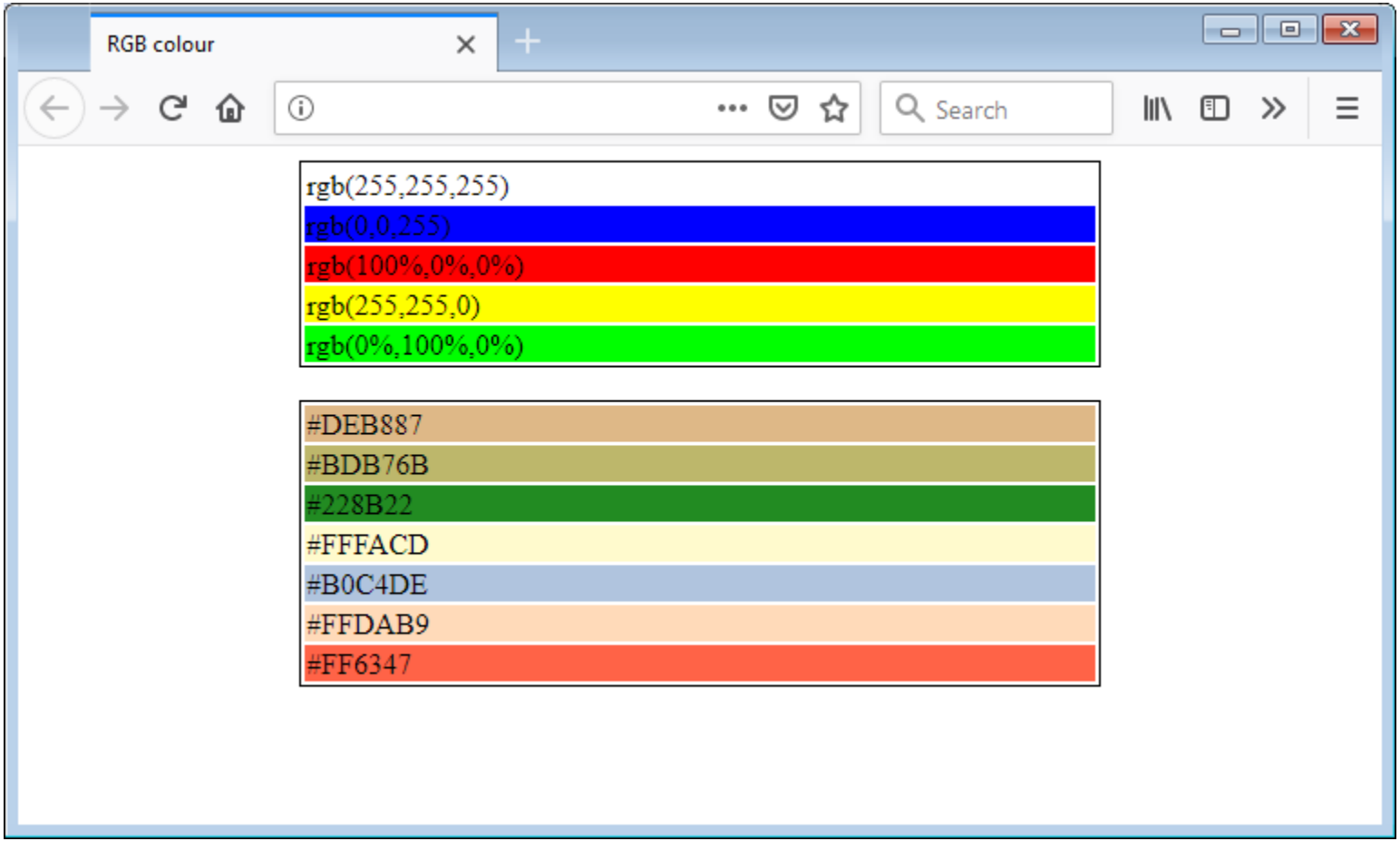

0401 Colour names
Search
White
Blue
Red
Yellow
Green
BurlyWood
DarkKhaki
ForestGreen
LemonChiffon
LightSteelBlue
PeachPuff
Tomato

TRY IT

RGB colours

- Intensity of red, green and blue components of light
- Function rgb(r,g,b) with integer parameters 0–255
- Function rgb(r%,g%,b%) with percentage parameters 0%–100%
- A hexadecimal number #rrggbb with components #00–#FF

```
<td style="background-color:rgb(0,0,255)">…</td>
<td style="background-color:rgb(0%,100%,0%)">…</td>
<td style="background-color:#FF0000;">…</td>
```

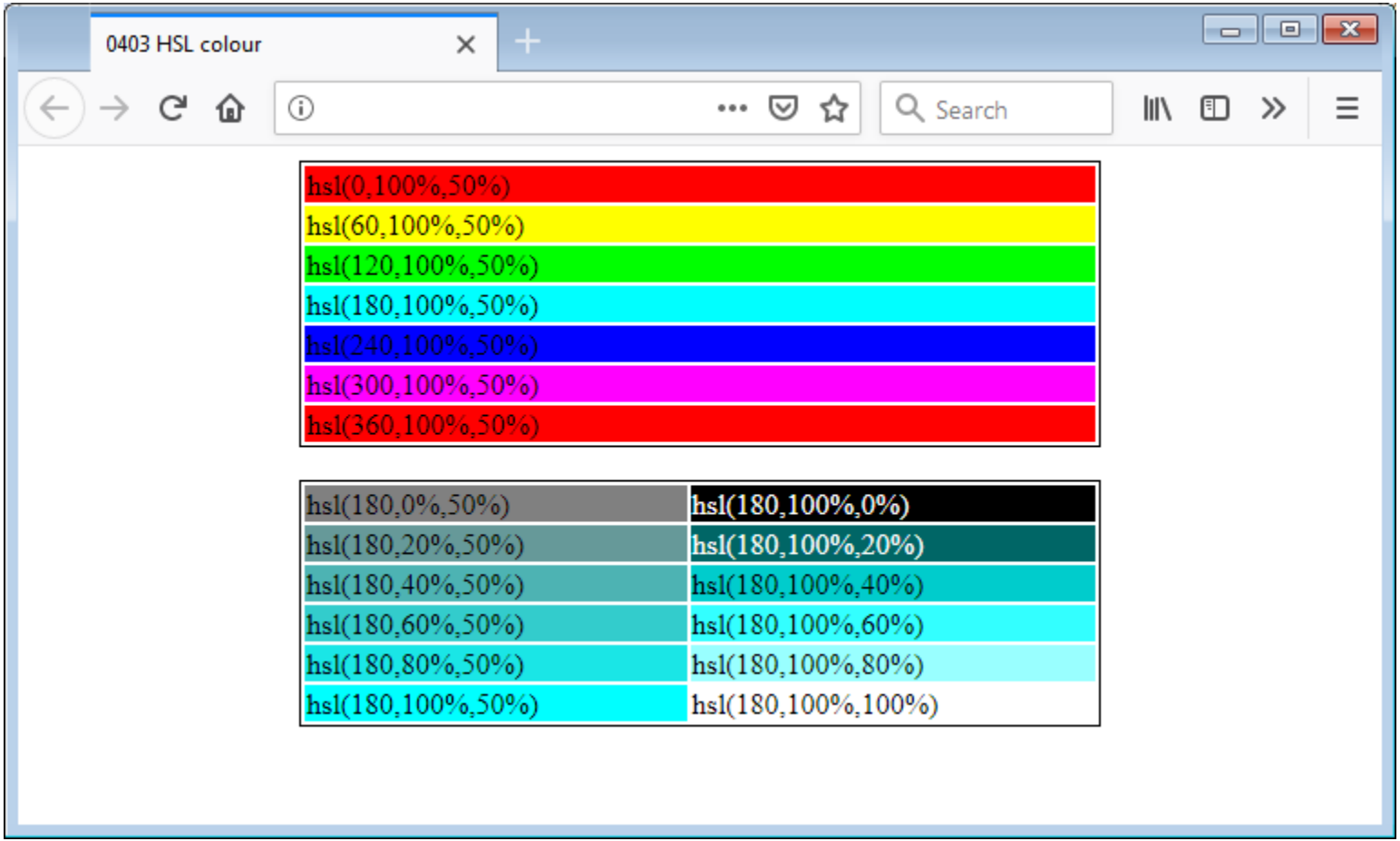

RGB colour
Search
rgb(255,255,255)
rgb(0,0,255)
rgb(100%,0%,0%)
rgb(255,255,0)
rgb(0%,100%,0%)
#DEB887
#BDB76B
#228B22
#FFFACD
#B0C4DE
#FFDAB9
#FF6347

TRY IT

HSL colours

- Hue: 0–360 degrees, colours are in a circle
- Saturation: 0%(black-and-white)–100%(colourful)
- Lightness: 0%(black)–50%(colourful)–100%(white)
- Function hsl(h,s%,l%)

```
<td style="background-color:hsl(0,100%,50%)">…</td>
<td style="background-color:hsl(180,40%,50%)">…</td>
```


0403 HSL colour
Search
hsl(0,100%,50%)
hsl(60,100%,50%)
hsl(120,100%,50%)
hsl(180,100%,50%)
hsl(240,100%,50%)
hsl(300,100%,50%)
hsl(360,100%,50%)
hsl(180,0%,50%)
hsl(180,20%,50%)
hsl(180,40%,50%)
hsl(180,60%,50%)
hsl(180,80%,50%)
hsl(180,100%,50%)
hsl(180,100%,0%)
hsl(180,100%,20%)
hsl(180,100%,40%)
hsl(180,100%,60%)
hsl(180,100%,80%)
hsl(180,100%,100%)

TRY IT

Sizes

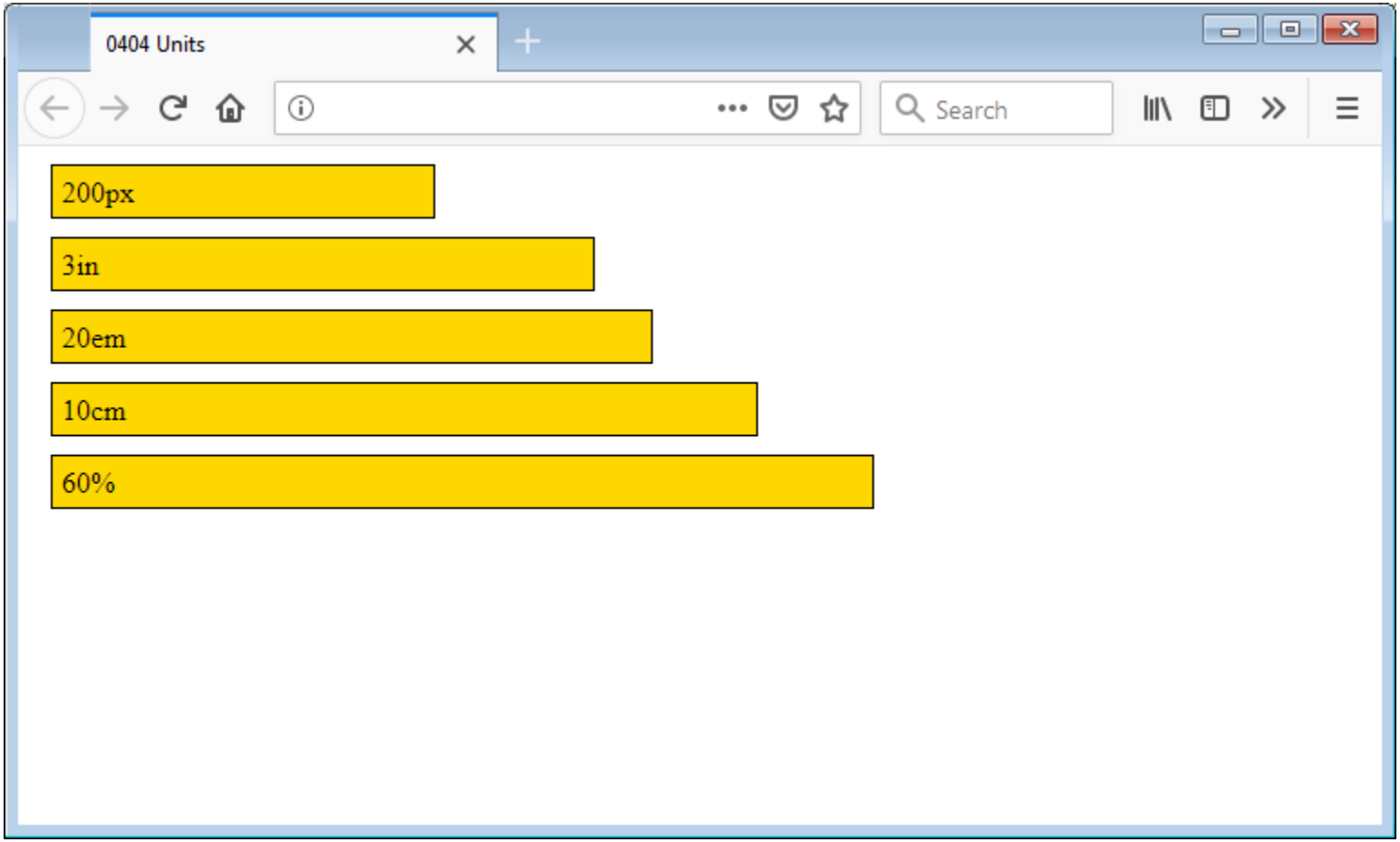
Sizes, distances and lengths

- Relative units
  em – the width of M
  % – percentage based on the current size
- Absolute units
  px – pixels
  cm – centimeters
  in – inches

Syntax

- Glued without spaces <number><unit>
- If 0, the unit may be skipped
- More info here: http://www.w3schools.com/cssref/css_units.asp

```
<div style="width:200px">200px</div>
<div style="width:3in">3in</div>
<div style="width:20em">20em</div>
<div style="width:10cm">10cm</div>
<div style="width:50%">50%</div>
```



TRY IT

Compound properties

Property and subproperty

- Some properties contain subproperties
- Individual notation
  property-subproperty$_1$: subvalue$_1$;
  property-subproperty$_2$: subvalue$_2$;
  property-subproperty$_3$: subvalue$_3$;
- Compound notation:
  property: subvalue$_1$ subvalue$_2$ subvalue$_3$;
- Example of compound properties border, margin, padding

Formatting

Formatting

Formatting with cascading styles

- Element background
- Texts and fonts
- Borders
- Blocks and positioning
- Sizes, margins, paddings

Background

Background colour

- Property background-color with colour value

```
body { background-color:LemonChiffon; }
h2   { background-color:DarkKhaki; }
p    { background-color:BurlyWood; }
```

0405 Background colour
Search
Cras volutpat laoreet tellus
Duis et finibus diam. Etiam et rutrum nulla, nec efficitur tortor. Aliquam a nibh cursus, efficitur nibh at, cursus nunc. Donec felis tellus, porttitor non tempus at, porttitor ac augue. Pellentesque sem ligula, viverra vitae dapibus sed, elementum nec lectus. Vivamus id quam quam. Nulla quis risus augue. Suspendisse egestas magna arcu, a vulputate est ultrices et. Integer cursus, tortor quis iaculis commodo, mauris dolor sodales libero, vitae pellentesque nunc sapien non metus. Donec sed felis lacus.

TRY IT

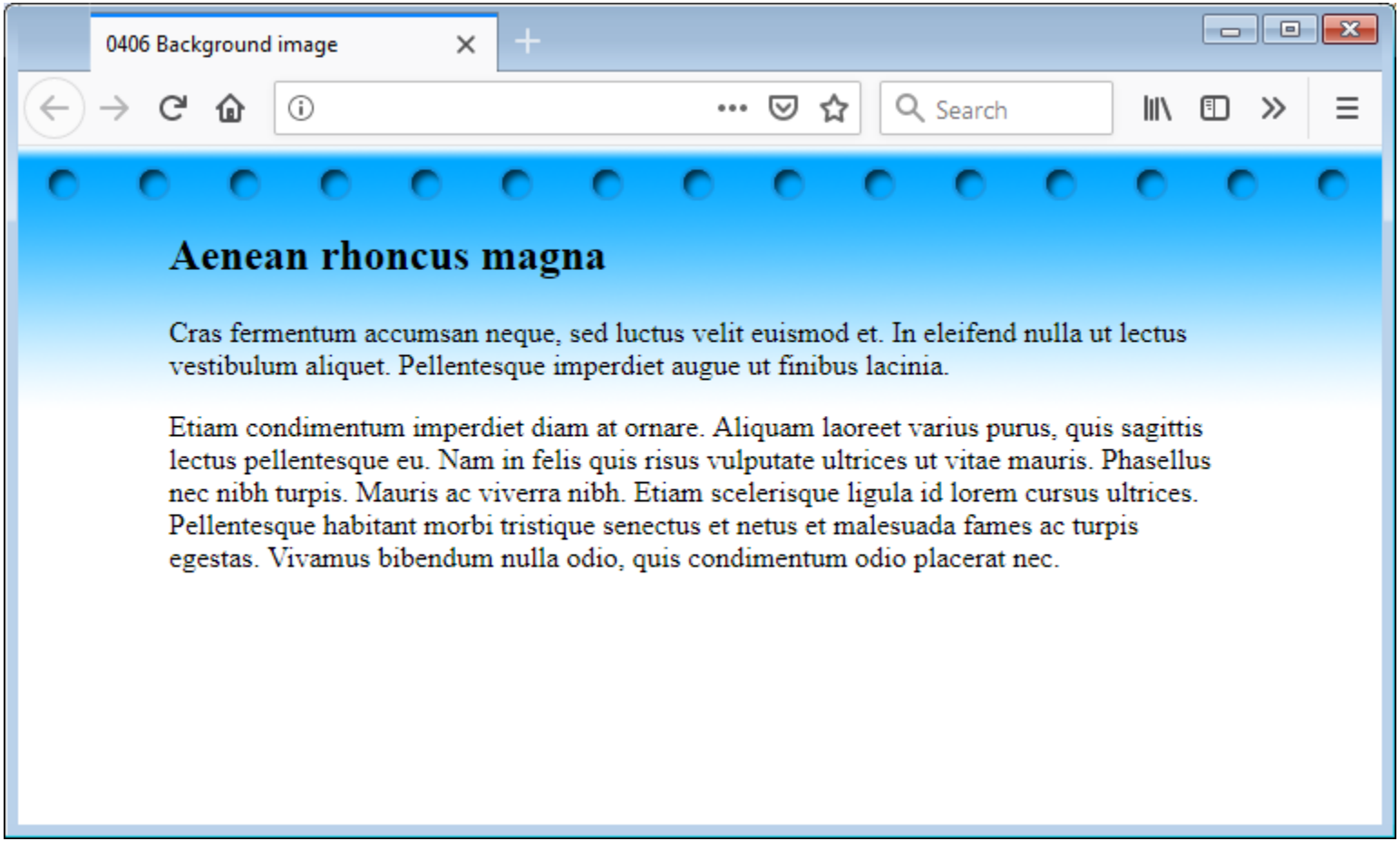
Background image

- Property background-image: url(…) with image address
- Image repeating with background-repeat and values repeat-x, repeat-y or no-repeat

```
body {
   background-image: url('image.png');
   background-repeat: repeat-x;
}
```

Compound property

- The compound name is used, the subvalues are listed
  background: #FF2A55 url('image.png') no-repeat;


0406 Background image
Search
Aenean rhoncus magna
Cras fermentum accumsan neque, sed luctus velit euismod et. In eleifend nulla ut lectus vestibulum aliquet. Pellentesque imperdiet augue ut finibus lacinia.
Etiam condimentum imperdiet diam at ornare. Aliquam laoreet varius purus, quis sagittis lectus pellentesque eu. Nam in felis quis risus vulputate ultrices ut vitae mauris. Phasellus nec nibh turpis. Mauris ac viverra nibh. Etiam scelerisque ligula id lorem cursus ultrices. Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas. Vivamus bibendum nulla odio, quis condimentum odio placerat nec.

TRY IT

Text formatting

Text colour

- Property color and a colour value

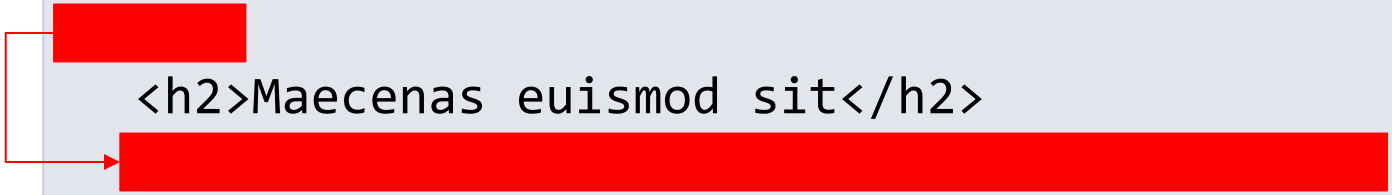
Text alignment

- Aligns text in the box where it is
- Alignment with text-align and values center, right, justify, …
- Indentation with text-indent and distance values

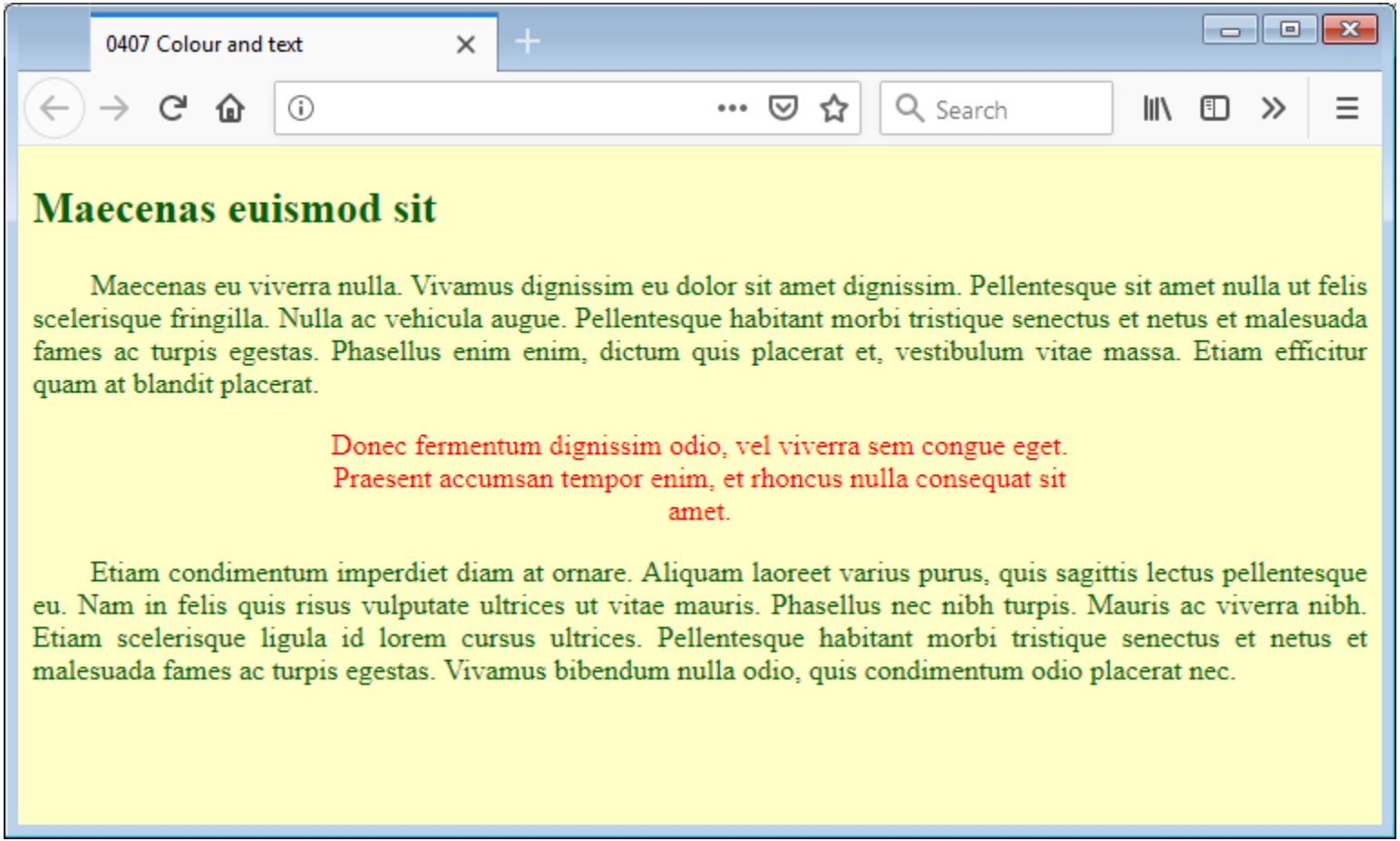
Cascading

- The colour of <body> cascades down to all nested elements, like paragraphs <p>

```
body   { color: #006000; }
p      { text-indent: 2em; text-align: justify;}
.quote { text-indent: 0em;
         text-align: center;
         color: red; }
```



```
   <h2>Maecenas euismod sit</h2>
   <p class="quote">Donec fermentum dignissim</p>
   <p>Etiam condimentum imperdiet diam ornare</p>
</body>
```

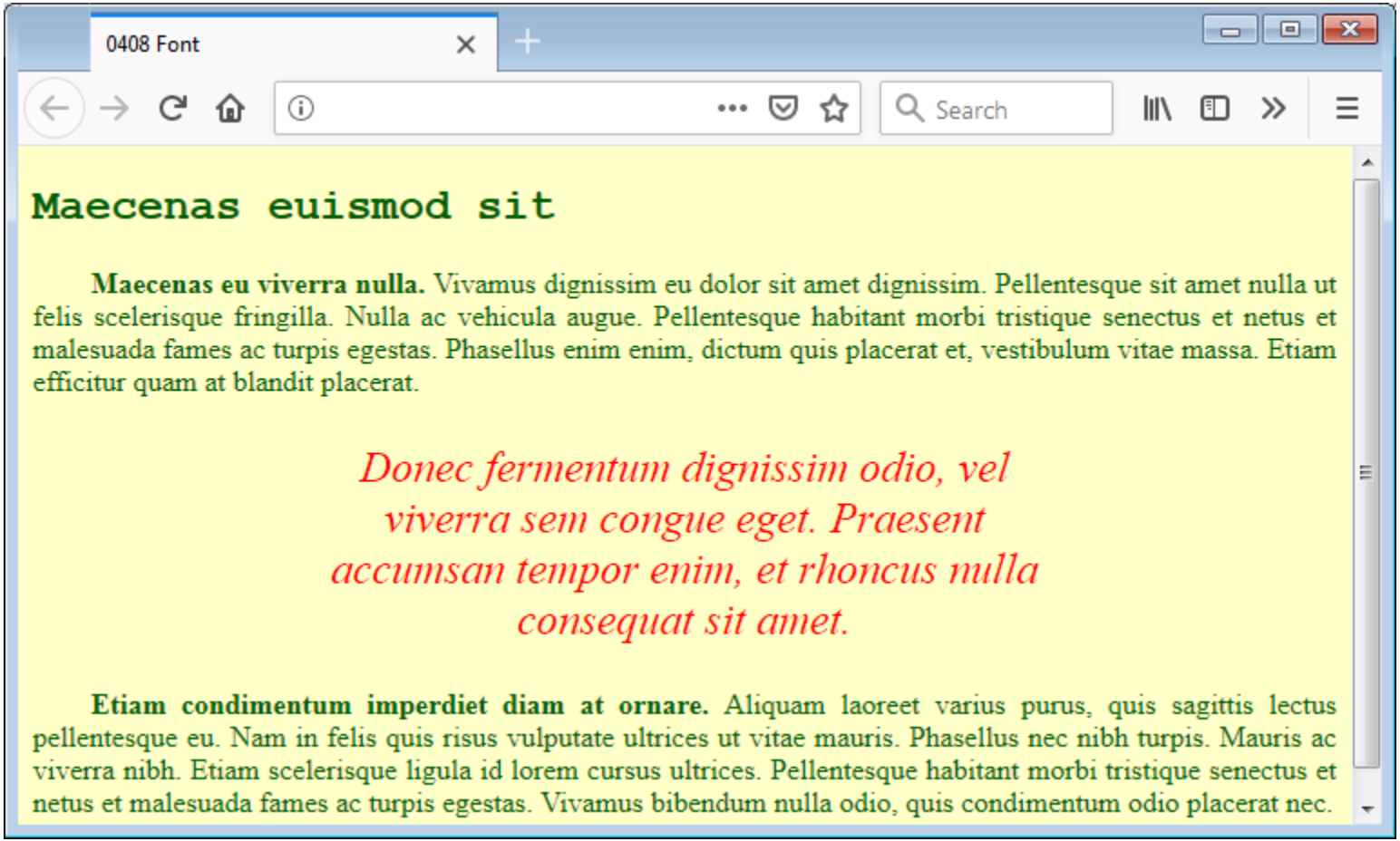

0407 Colour and text
Search
Maecenas euismod sit
Maecenas eu viverra nulla. Vivamus dignissim eu dolor sit amet dignissim. Pellentesque sit amet nulla ut felis scelerisque fringilla. Nulla ac vehicula augue. Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas. Phasellus enim enim, dictum quis placerat et, vestibulum vitae massa. Etiam efficitur quam at blandit placerat.
Donec fermentum dignissim odio, vel viverra sem congue eget. Praesent accumsan tempor enim, et rhoncus nulla consequat sit amet.
Etiam condimentum imperdiet diam at ornare. Aliquam laoreet varius purus, quis sagittis lectus pellentesque eu. Nam in felis quis risus vulputate ultrices ut vitae mauris. Phasellus nec nibh turpis. Mauris ac viverra nibh. Etiam scelerisque ligula id lorem cursus ultrices. Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas. Vivamus bibendum nulla odio, quis condimentum odio placerat nec.

TRY IT

Font

- Size with font-size and length value (or % value)
- Italics text with font-style: italic, bold with font-weight: bold
- Font with font-family and values the names like Times, Serif, Monospace
- Several names could be used, the browser selects the first available name

```
h2     { font-family: 'Courier New', monospace; }
.bold  { font-weight: bold; }
.quote { font-style: italic;
         font-size: 150%; }
```


0408 Font
Search
Maecenas euismod sit
Maecenas eu viverra nulla. Vivamus dignissim eu dolor sit amet dignissim. Pellentesque sit amet nulla ut felis scelerisque fringilla. Nulla ac vehicula augue. Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas. Phasellus enim enim, dictum quis placerat et, vestibulum vitae massa. Etiam efficitur quam at blandit placerat.
Donec fermentum dignissim odio, vel viverra sem congue eget. Praesent accumsan tempor enim, et rhoncus nulla consequat sit amet.
Etiam condimentum imperdiet diam at ornare. Aliquam laoreet varius purus, quis sagittis lectus pellentesque eu. Nam in felis quis risus vulputate ultrices ut vitae mauris. Phasellus nec nibh turpis. Mauris ac viverra nibh. Etiam scelerisque ligula id lorem cursus ultrices. Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas. Vivamus bibendum nulla odio, quis condimentum odio placerat nec.

TRY IT

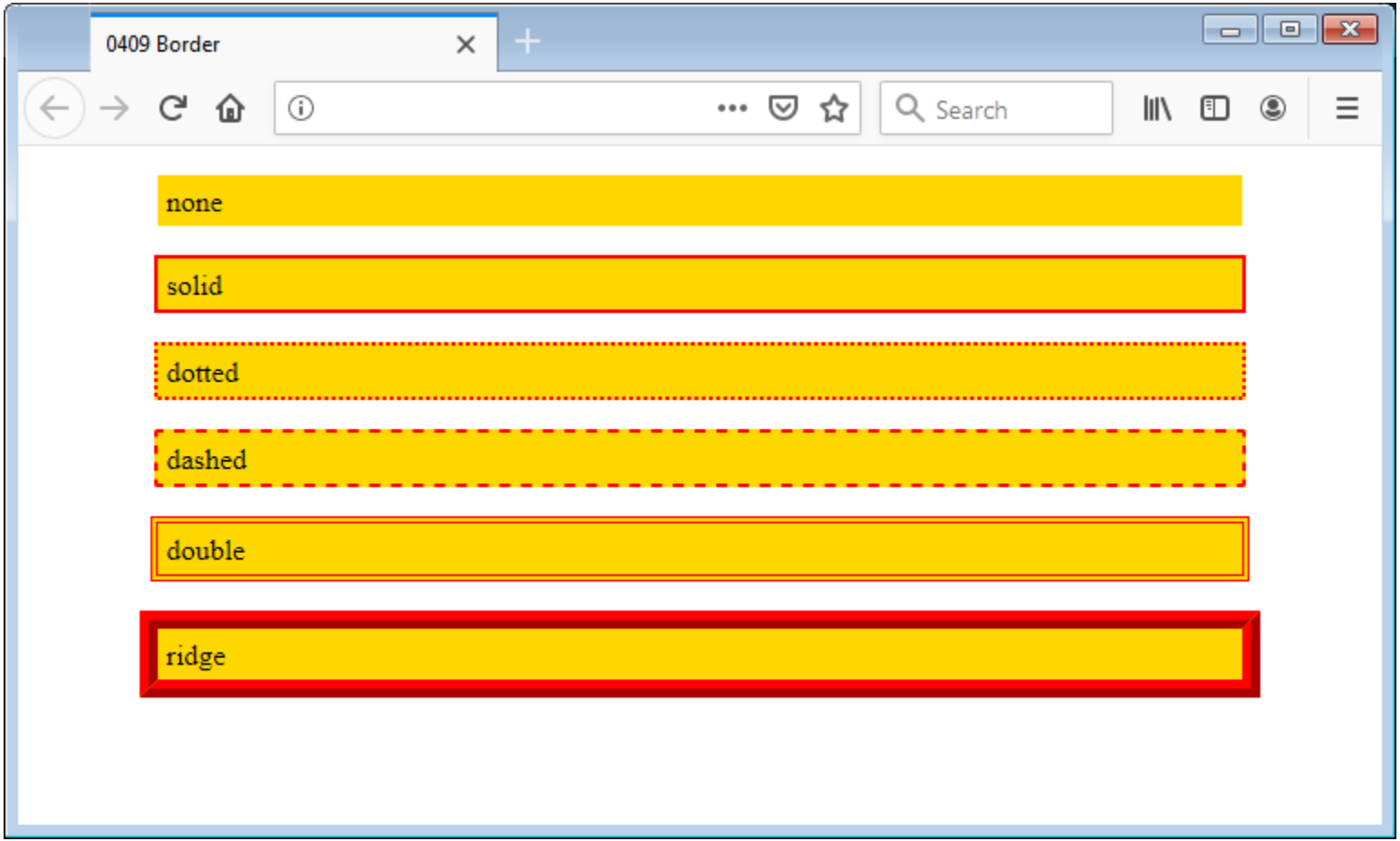
Borders

Drawing a border around an element

- Border colour with border-color
- Width (in pixels) with border-width
- Style with border-style and values solid, dashed, ridge

```
div { border: 2px red; }
```

```
<div style="border-style:none">none</div>
<div style="border-style:dashed">dashed</div>
<div style="border-style:ridge; border-width:10px">
   ridge
</div>
```



TRY IT

Compound border

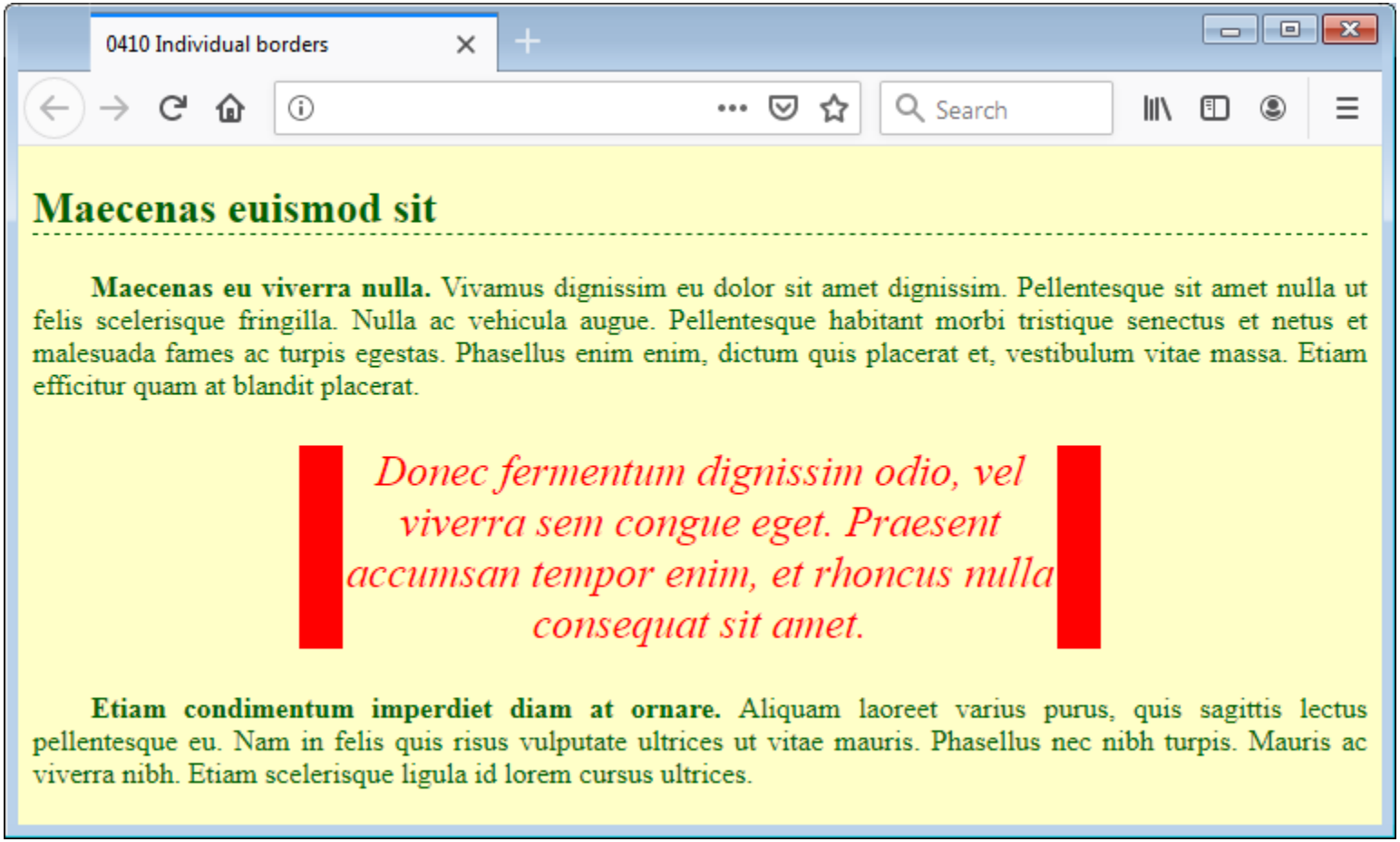
- Three subproperties border: size style colour

Individual borders

- The style of each border can be controlled individually
- Property border-style: top right bottom left

```
h2      {  border: 1px none #006000;
           border-bottom-style: dashed;
        }

.quote {  border-style: none solid none solid;
           border-width: 1em;
        }
```


0410 Individual borders
Search
Maecenas euismod sit
Maecenas eu viverra nulla. Vivamus dignissim eu dolor sit amet dignissim. Pellentesque sit amet nulla ut felis scelerisque fringilla. Nulla ac vehicula augue. Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas. Phasellus enim enim, dictum quis placerat et, vestibulum vitae massa. Etiam efficitur quam at blandit placerat.
Donec fermentum dignissim odio, vel viverra sem congue eget. Praesent accumsan tempor enim, et rhoncus nulla consequat sit amet.
Etiam condimentum imperdiet diam at ornare. Aliquam laoreet varius purus, quis sagittis lectus pellentesque eu. Nam in felis quis risus vulputate ultrices ut vitae mauris. Phasellus nec nibh turpis. Mauris ac viverra nibh. Etiam scelerisque ligula id lorem cursus ultrices.

TRY IT

Blocks

Two types of elements

- Depending on their placing in the web page
- Text (inline) elements – part of the text in a line
- Paragraph (block) elements – on individual lines

By default

- Each HTML element is (usually) one of these two types
- Examples of text elements , <img> and <a>
- Examples of block elements <p>, and <h1>

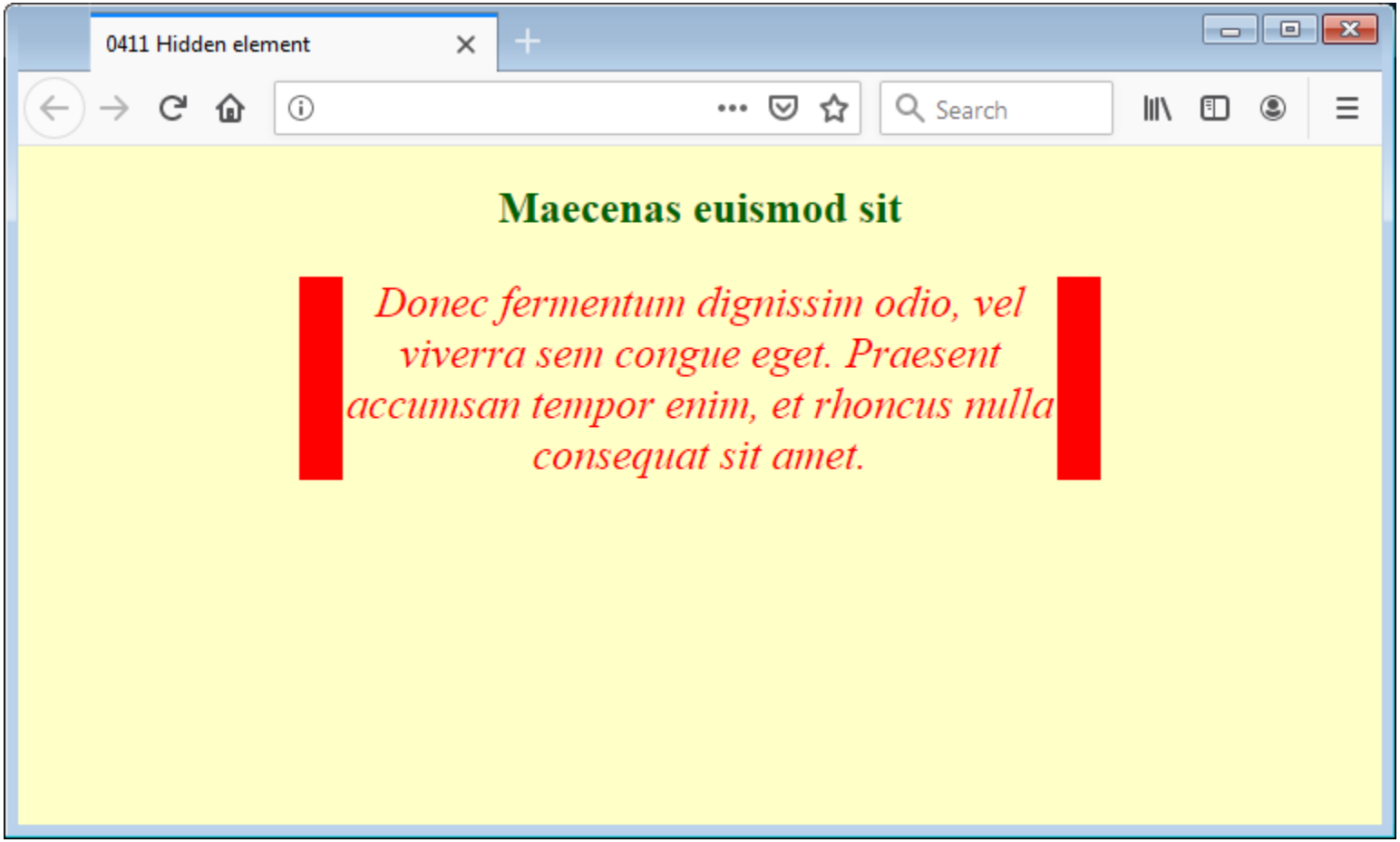
Property display

- Defines the type of the element
- Hidden elements with none
- Element is shown as text element with inline
- Element is shown as block element with block

Usage

- Hiding or showing an element
- Changing the type of the element

```
p       { display: none; }
.quote  { display: block; }
```


0411 Hidden element
Search
Maecenas euismod sit
Donec fermentum dignissim odio, vel viverra sem congue eget. Praesent accumsan tempor enim, et rhoncus nulla consequat sit amet.

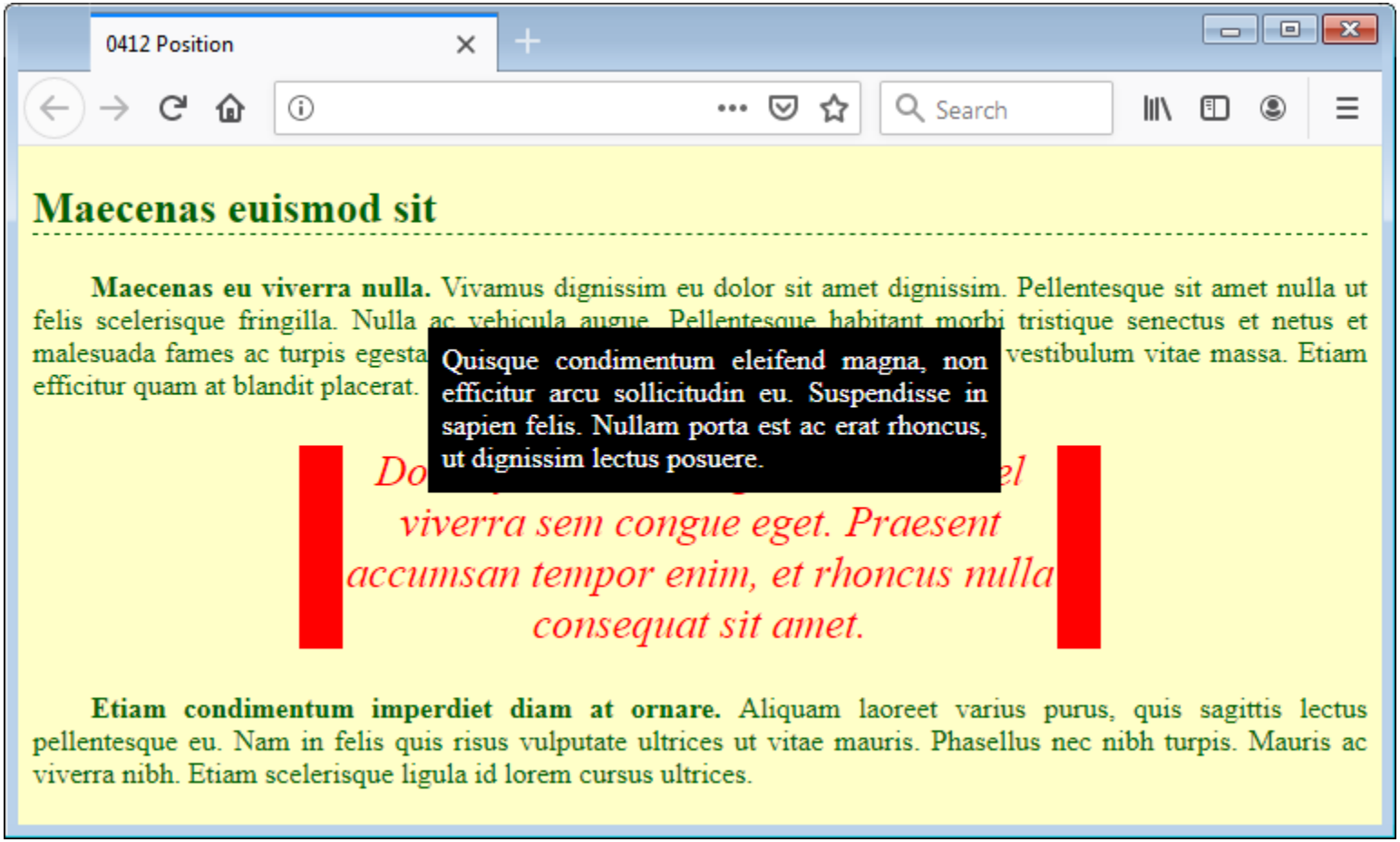
TRY IT

Positioning

Positioning of block elements

- Fixed in respect to the window position: fixed
- Relative in respect to the current position position: relative
- Absolute in respect to the parent element position: absolute
- Specific location defined by properties top and left

```
div { position: fixed;
      left: 30%;
      top: 100px;
   }
```


0412 Position
Search
Maecenas euismod sit
Maecenas eu viverra nulla. Vivamus dignissim eu dolor sit amet dignissim. Pellentesque sit amet nulla ut felis scelerisque fringilla. Nulla ac vehicula augue. Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egesta
vestibulum vitae massa. Etiam efficitur quam at blandit placerat.
Quisque condimentum eleifend magna, non efficitur arcu sollicitudin eu. Suspendisse in sapien felis. Nullam porta est ac erat rhoncus, ut dignissim lectus posuere.
Do
el
viverra sem congue eget. Praesent accumsan tempor enim, et rhoncus nulla consequat sit amet.
Etiam condimentum imperdiet diam at ornare. Aliquam laoreet varius purus, quis sagittis lectus pellentesque eu. Nam in felis quis risus vulputate ultrices ut vitae mauris. Phasellus nec nibh turpis. Mauris ac viverra nibh. Etiam scelerisque ligula id lorem cursus ultrices.

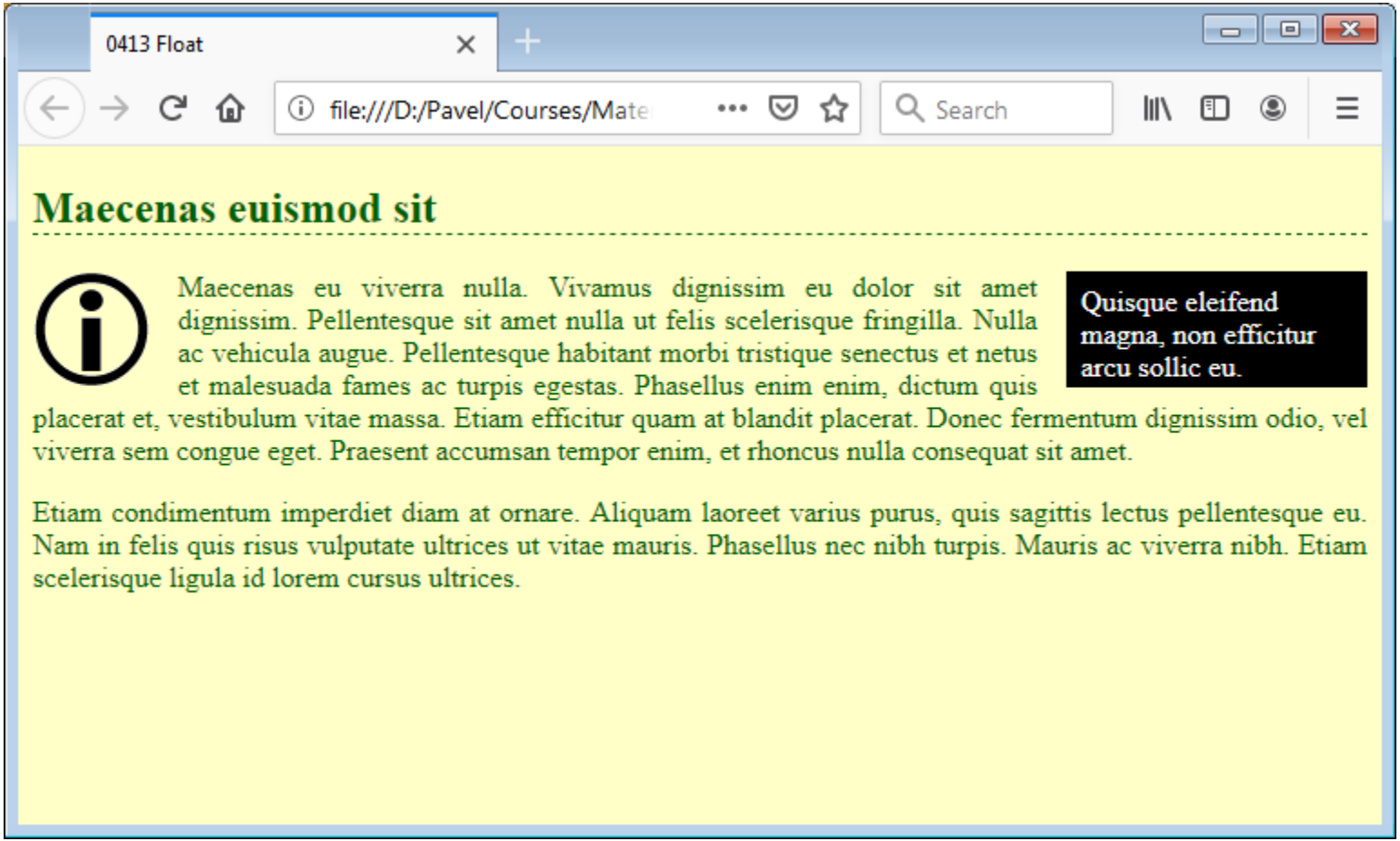
TRY IT

Positioning text elements

- Very limited
- Could be move to the left or to the right side with float: left and float: right

```
.left  { float: left; margin-right: 1em; }
.right { float: right; margin-left: 1em; }
```

```
<p>
   <img class="left" src="info.png">
   <span class="right">Quisque eleifend magna, non
      efficitur arcu sollic eu.</span>
   Maecenas eu viverra nulla. Vivamus dignissim
   eu dolor sit amet dignissim.
</p>
```


0413 Float
file:///D:/Pavel/Courses/Mate
Search
Maecenas euismod sit
Maecenas eu viverra nulla. Vivamus dignissim eu dolor sit amet dignissim. Pellentesque sit amet nulla ut felis scelerisque fringilla. Nulla ac vehicula augue. Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas. Phasellus enim enim, dictum quis placerat et, vestibulum vitae massa. Etiam efficitur quam at blandit placerat. Donec fermentum dignissim odio, vel viverra sem congue eget. Praesent accumsan tempor enim, et rhoncus nulla consequat sit amet.
Quisque eleifend magna, non efficitur arcu sollic eu.
Etiam condimentum imperdiet diam at ornare. Aliquam laoreet varius purus, quis sagittis lectus pellentesque eu. Nam in felis quis risus vulputate ultrices ut vitae mauris. Phasellus nec nibh turpis. Mauris ac viverra nibh. Etiam scelerisque ligula id lorem cursus ultrices.

TRY IT

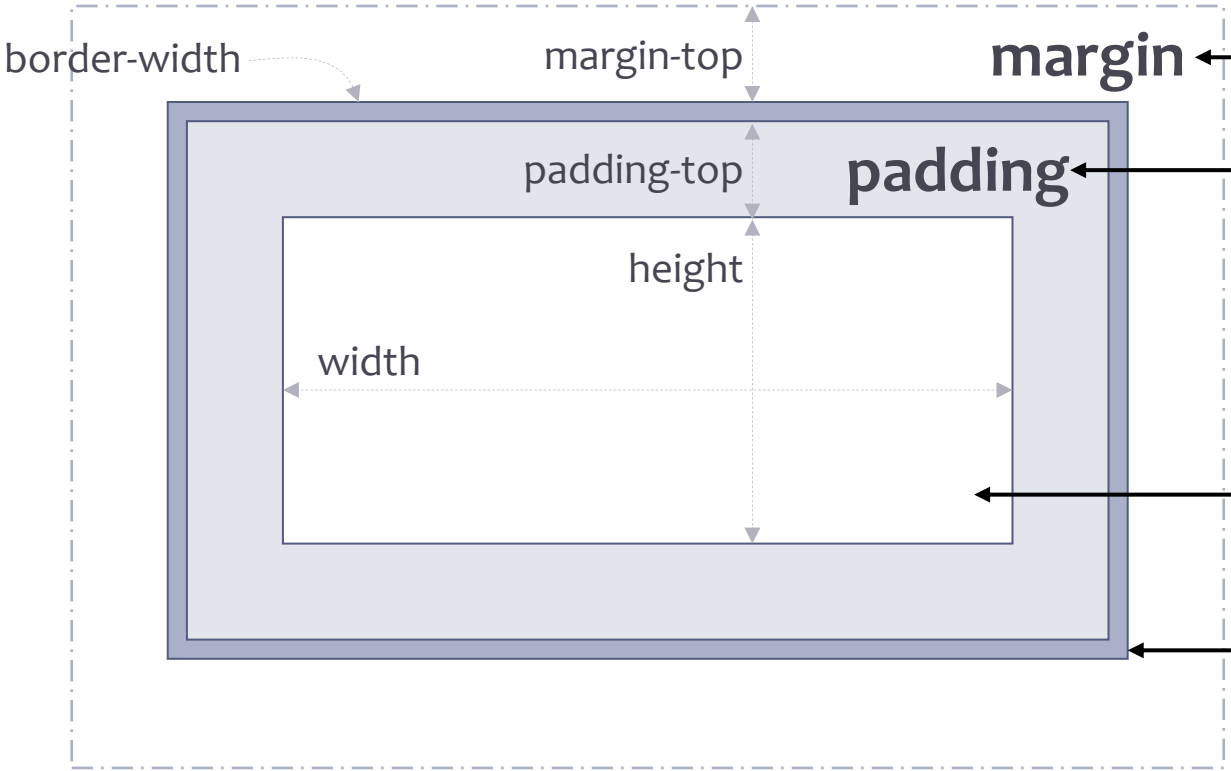
Sizes

Size of block elements

- Define element’s size
- Define distance to surrounding elements
- Define distance to content

Container model

- Every element is in a rectangular container
- Sizes apply to this container



Empty space around every object

Empty space around the content, uses the background colour

Content of the object, uses the object's background colour

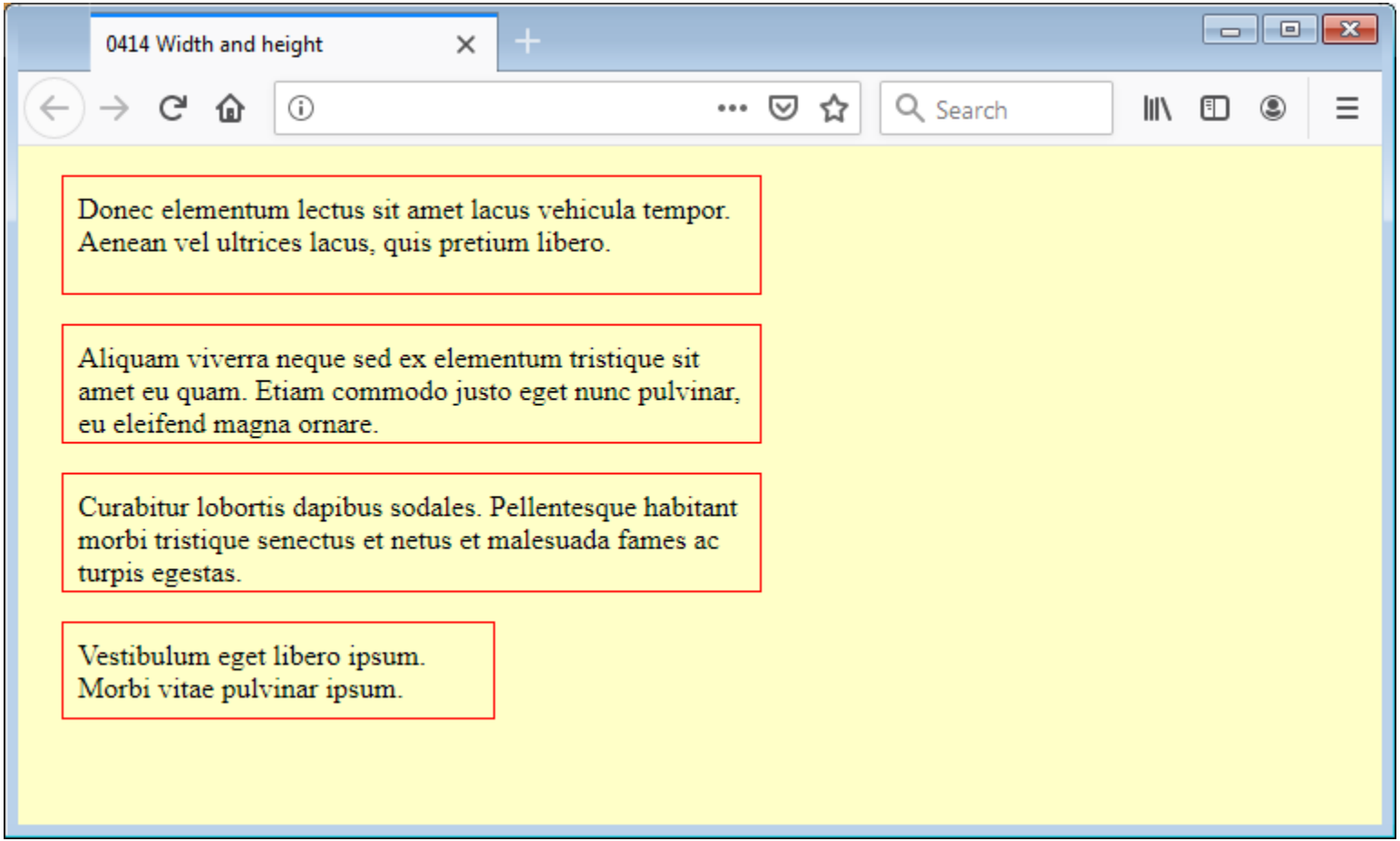
Border with own width and colour, considered the external border of the object

Sizes

- Properties width and height define the size of the content
- A size in percentage is relative to the parent element
- To invalidate cascading size and revert to the default size, use value auto

```
div       { width: 50%;
            height: 3em;
          }

div.small { width: 30%;
            height: auto;
          }
```


0414 Width and height
Search
Donec elementum lectus sit amet lacus vehicula tempor. Aenean vel ultrices lacus, quis pretium libero.
Aliquam viverra neque sed ex elementum tristique sit amet eu quam. Etiam commodo justo eget nunc pulvinar, eu eleifend magna ornare.
Curabitur lobortis dapibus sodales. Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas.
Vestibulum eget libero ipsum. Morbi vitae pulvinar ipsum.

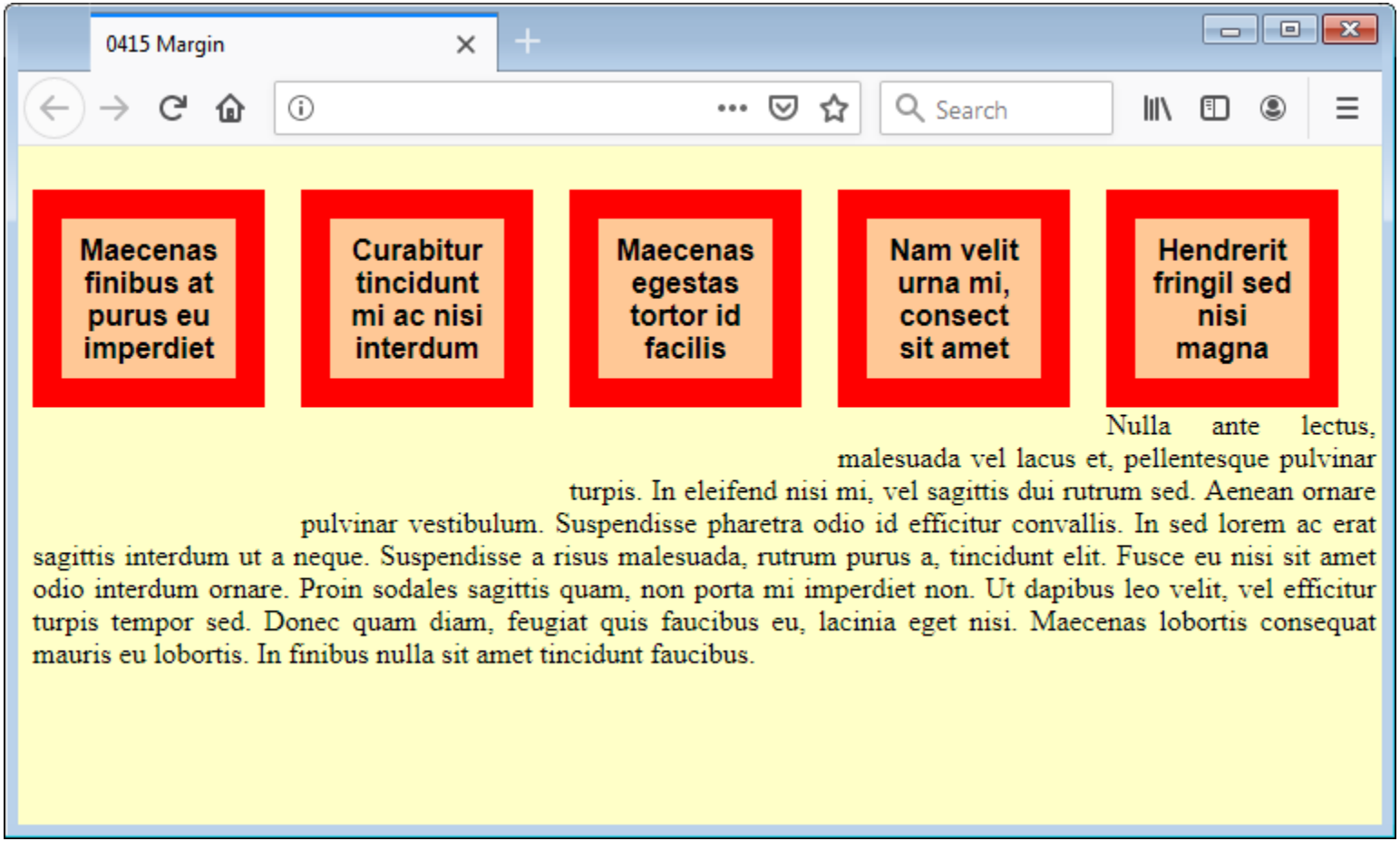
TRY IT

Margin

- Each side is individually controlled with margin-top, margin-right, margin-bottom, margin-left
- Compound property margin: top right bottom left, when margins are the same margin: value

```
span   { margin: 8px 20px 0.5em 0em; }

.info4 { margin-bottom: 4em; }
.info3 { margin-bottom: 3em; }
.info2 { margin-bottom: 2em; }
.info1 { margin-bottom: 1em; }
.info0 { margin-bottom: 0em; }
```

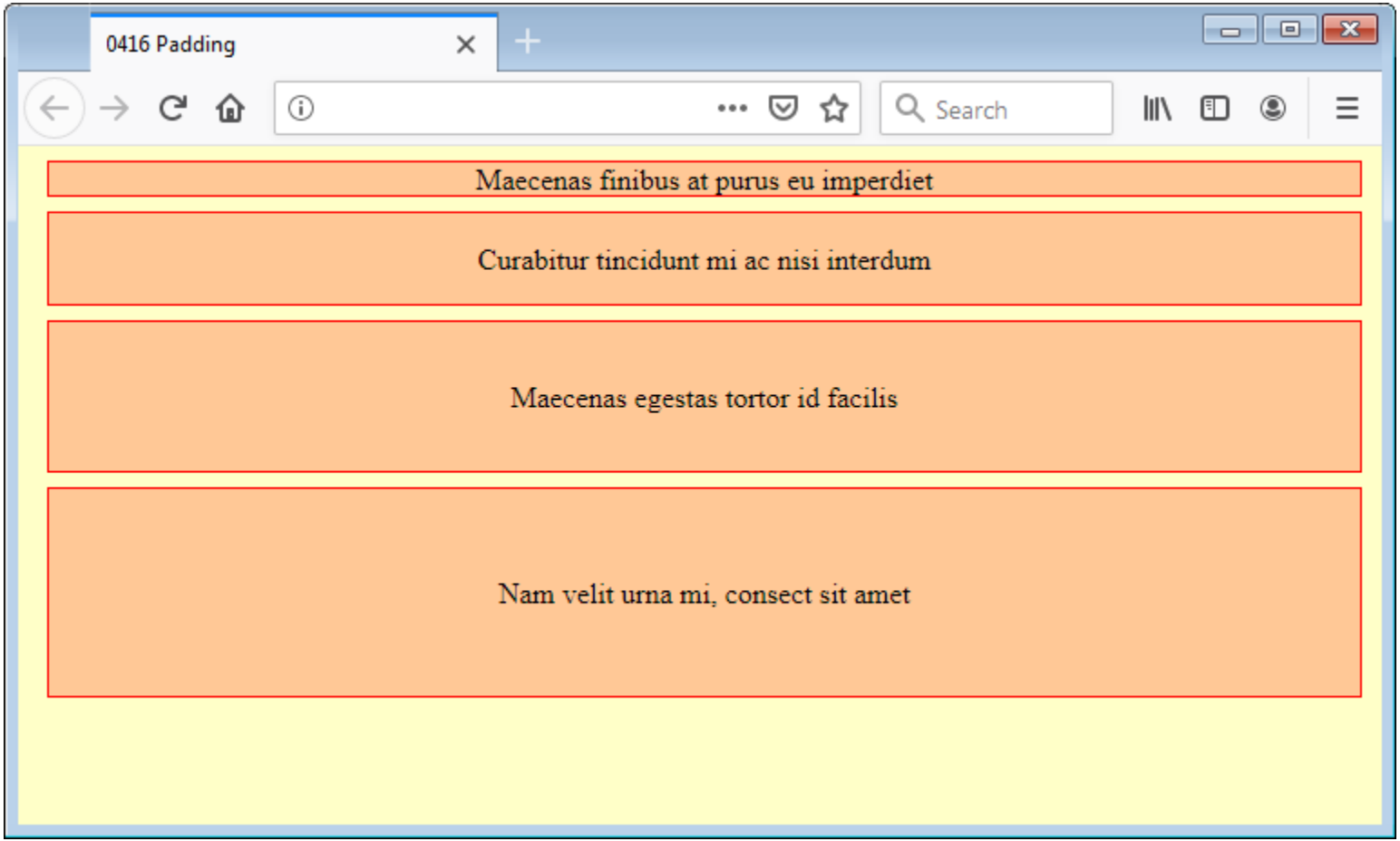

0415 Margin
Search
Maecenas finibus at purus eu imperdiet
Curabitur tincidunt mi ac nisi interdum
Maecenas egestas tortor id facilis
Nam velit urna mi, consect sit amet
Hendrerit fringil sed nisi magna
Nulla ante lectus, malesuada vel lacus et, pellentesque pulvinar turpis. In eleifend nisi mi, vel sagittis dui rutrum sed. Aenean ornare pulvinar vestibulum. Suspendisse pharetra odio id efficitur convallis. In sed lorem ac erat sagittis interdum ut a neque. Suspendisse a risus malesuada, rutrum purus a, tincidunt elit. Fusce eu nisi sit amet odio interdum ornare. Proin sodales sagittis quam, non porta mi imperdiet non. Ut dapibus leo velit, vel efficitur turpis tempor sed. Donec quam diam, feugiat quis faucibus eu, lacinia eget nisi. Maecenas lobortis consequat mauris eu lobortis. In finibus nulla sit amet tincidunt faucibus.

TRY IT

Padding

- Each side is individually controlled with padding-top, padding-right, padding-bottom, pading-left
- Compound property padding: top right bottom left, when paddings are the same padding: value

```
.info3 { padding: 3em;}
.info2 { padding: 2em;}
.info1 { padding: 1em;}
.info0 { padding: 0em;}
```


0416 Padding
Search
Maecenas finibus at purus eu imperdiet
Curabitur tincidunt mi ac nisi interdum
Maecenas egestas tortor id facilis
Nam velit urna mi, consect sit amet

TRY IT

Example

Example page

Requirements

- Page content is as a centered sheet
- There is a menu at the top and a logo bottom-right
- There is a column with additional information at the left
- There is a title, several paragraphs and an image at the left

Cascading styles

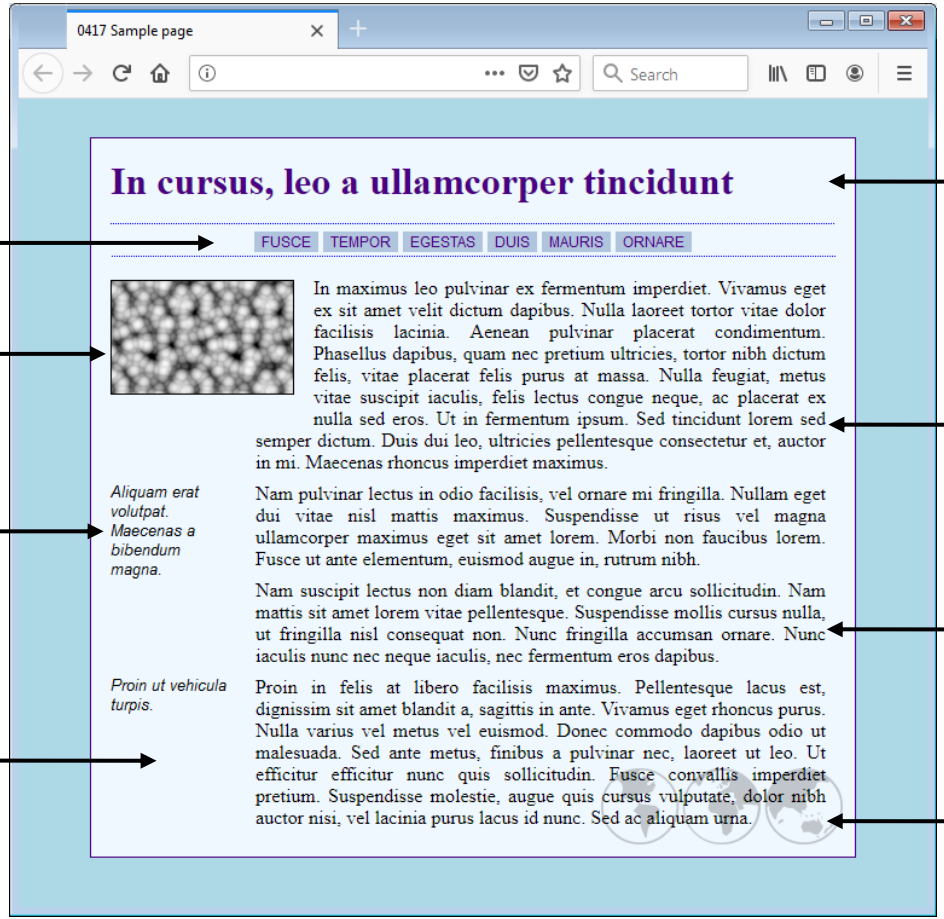
- Only in external CSS file
- Contain the complete formatting style

A menu reacting when the mouse hovers over its items

An image pushing away the text from the main column

Comments represented as additional left column

All the styling is done with cascading styles in external file



The content is as a paper sheet centered within the page

The main text is in a column occupying vertically most of the page

There is sufficient space around all elements – title, menu, text, …

The logo is at the background, behind the main text

Implementation

- The HTML file contains only the content

The title is <h1>

The menu is <ul> list with menu items as <a> inside

The image is <img>

The page has a linear structure and default styling

The paragraphs are <p>

The comments are

No logo

Styling with cascading styles

- Some remarks about the solution
- The page has fixed width (600px) and is horizontally centered, because has top and bottom margins 2em and the same auto left and right margins

```
width: 600px;
margin: 2em auto;
```

- The paragraphs have a big left margin – this place will host the comments

```
margin: 0 0.5em 0.5em 120px;
```

- The image is floating and is shifted further to the left to be outside the text column

```
float: left;
left: -100px;
```

- The comments had fixed widths and absolute positions

```
position: absolute;
width: 100px;
```

- The menu links are without the default underlining – this is done with the property text-decoration

```
text-decoration: none;
```

- The menu is represented as a list with dotted borders from top and bottom
- ```
  border-top: dotted blue 1px;
  border-bottom: dotted blue 1px;
  ```
- List elements are menu items
- Their default block type is changed, so that they are position in a single line
- All letters in the menu are uppercase with text-transform

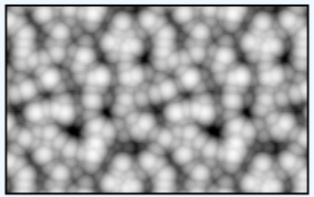
```
display: inline;
text-transform: uppercase;
```
```

0417 Sample page

Search

In cursus, leo a ullamcorper tincidunt

FUSCE | TEMPOR | EGESTAS | DUIS | MAURIS | ORNARE



In maximus leo pulvinar ex fermentum imperdiet. Vivamus eget ex sit amet velit dictum dapibus. Nulla laoreet tortor vitae dolor facilisis lacinia. Aenean pulvinar placerat condimentum. Phasellus dapibus, quam nec pretium ultricies, tortor nibh dictum felis, vitae placerat felis purus at massa. Nulla feugiat, metus vitae suscipit iaculis, felis lectus congue neque, ac placerat ex nulla sed eros. Ut in fermentum ipsum. Sed tincidunt lorem sed semper dictum. Duis dui leo, ultricies pellentesque consectetur et, auctor in mi. Maecenas rhoncus imperdiet maximus.

Aliquam erat volutpat. Maecenas a bibendum

Nam pulvinar lectus in odio facilisis, vel ornare mi fringilla. Nullam eget dui vitae nisl mattis maximus. Suspendisse ut risus vel magna ullamcorper maximus eget sit amet lorem. Morbi non faucibus lorem.

TRY IT

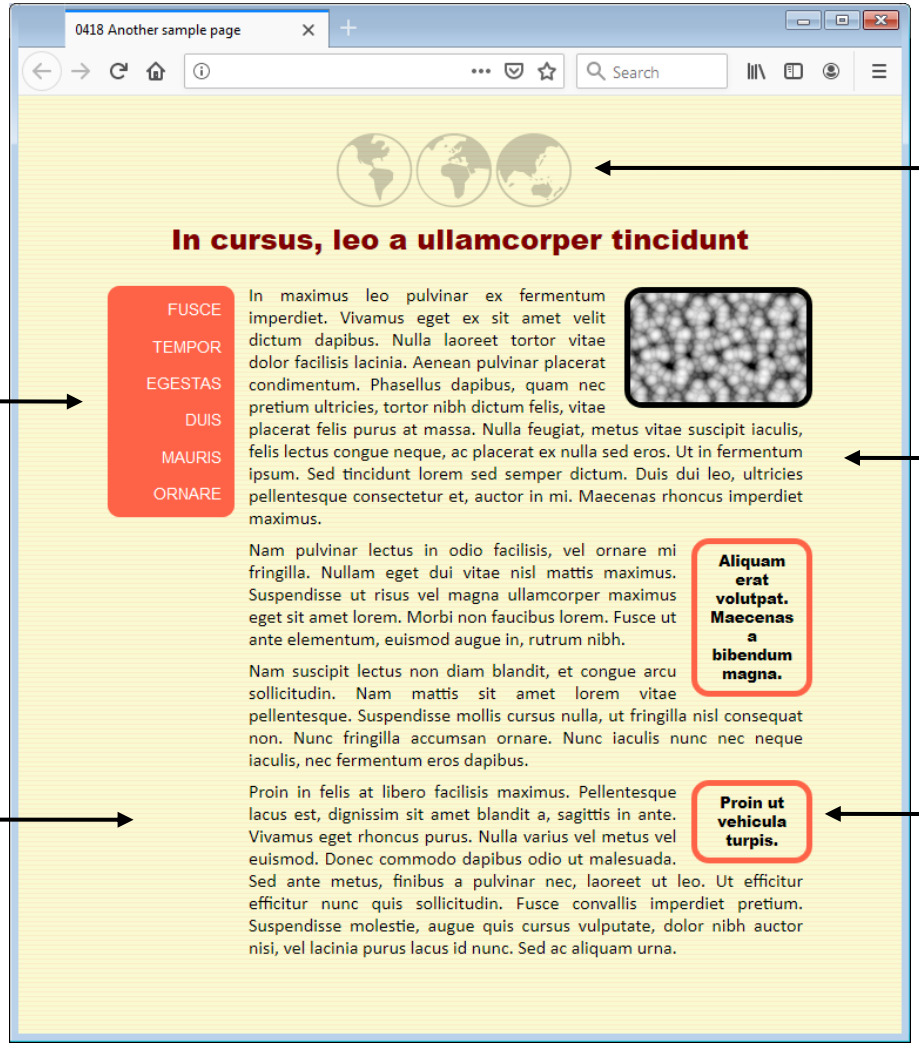
Another example

Demonstration of CSS

- The same HTML page is used
- The appearance will be changed with a new CSS file

Changes

- Another colour scheme and fonts
- Vertical menu
- Different locations of elements



The logo is centered at the top

Vertical menu

Different set of fonts, colour scheme and rounded shapes of some elements

The complete styling is done with an external CSS file

The comments are to the right of corresponding paragraphs

Styling with cascading styles

- Rounded corners is with border-radius, which some browsers trear as an extension proeprty

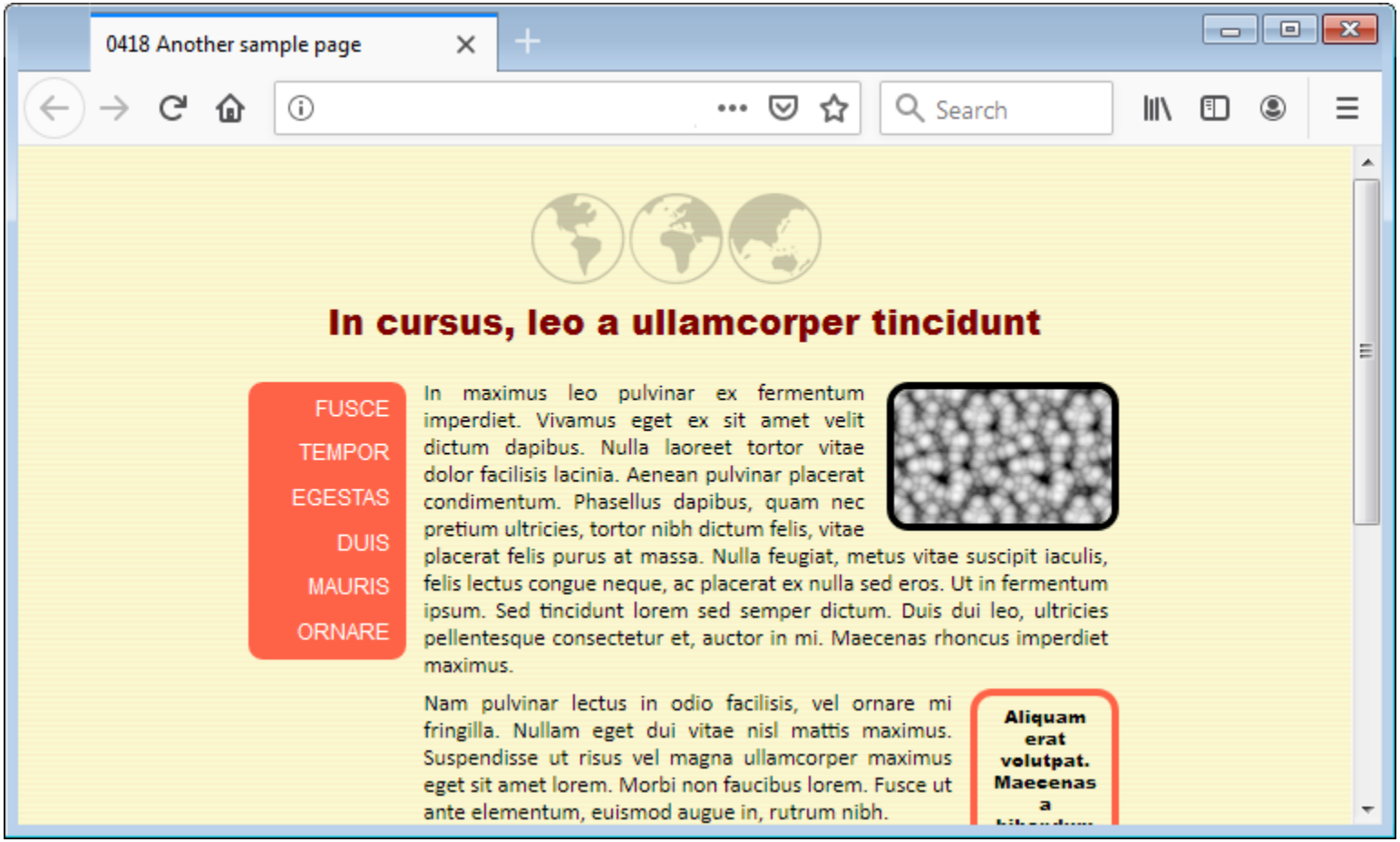
```
-moz-border-radius: 15px;
border-radius: 15px;
```

- Links type is change to blocks, so the link effects apply to the whole area of the link

```
display: block;
```

- No bullets in front of list elements with list-style-type

```
list-style-type: none;
```


0418 Another sample page
Search
In cursus, leo a ullamcorper tincidunt
FUSCE
TEMPOR
EGESTAS
DUIS
MAURIS
ORNARE
In maximus leo pulvinar ex fermentum imperdiet. Vivamus eget ex sit amet velit dictum dapibus. Nulla laoreet tortor vitae dolor facilisis lacinia. Aenean pulvinar placerat condimentum. Phasellus dapibus, quam nec pretium ultricies, tortor nibh dictum felis, vitae placerat felis purus at massa. Nulla feugiat, metus vitae suscipit iaculis, felis lectus congue neque, ac placerat ex nulla sed eros. Ut in fermentum ipsum. Sed tincidunt lorem sed semper dictum. Duis dui leo, ultricies pellentesque consectetur et, auctor in mi. Maecenas rhoncus imperdiet maximus.
Nam pulvinar lectus in odio facilisis, vel ornare mi fringilla. Nullam eget dui vitae nisl mattis maximus. Suspendisse ut risus vel magna ullamcorper maximus eget sit amet lorem. Morbi non faucibus lorem. Fusce ut ante elementum, euismod augue in, rutrum nibh.
Aliquam erat volutpat. Maecenas a

TRY IT

Summary

Basic properties

Values

- Colours are defined via names, numbers or function rgb
- Sizes and distances are measured in some unit

Styling

- Texts use properties text and font
- Borders are defined with border
- Position and type are set by display, position and float
- White spaces are controlled by margin and padding

More

Additional information

- Here: http://www.w3schools.com/css
- And there: http://www.w3schools.com/cssref

Advice

- Have a look at all properties, no only the ones shown here
- It is good to know what styling is possible with CSS

ICT in SES

The end

Comments, questions