ICT in SES

CSS rules

Lesson №3

Cascading styles

CSS

What is CSS

- Acronym for Cascading Style Sheets
- Separates document content and its appearance
- Language for describing web page formatting
- Could change the way a browser shows HTML elements
- Used to unify styles of sites

History of CSS

Prehistory

- Formatting with HTML elements
- Mixing content and style

History of versions

- 1994 – First attempt at CSS
- 1996 – CSS1
- 1997 – CSS 2
- 1999 – CSS 3
- 2014 – CSS4

What can CSS do

Capabilities

- Fonts, colours, backgrounds, dividers, shadows
- Alignment and justification of elements
- Group properties, selectors of elements
- Animations and transformations

What does it look like

Appearance of CSS code

- Sequence of formatting rules
  selector {property:value; property:value, … }

- The selector describes which HTML elements are affected by the rule

- The pair property:value changes the value of a given property for all selected elements

Example

Example CSS code

- Modification of the HTML <body>
- Dark red text on pink backgrouns
- Left and right margins

```
body {
        background-color: pink;
        color: darkred;
        margin-left: 6em;
        margin-right: 6em;
}
```

Usage

CSS location

- In external file, used by a web site
- In a script element, used by a web page
- In HTML element attribute

Usage

- Could be placed in all three locations
- Highest priority is as attribute, then as script element

External CSS

CSS in external files

- Achieves unified visual style of the whole site

- Uses element <link> inside <head>, and the attribute href points the path to the file with CSS rules

- Traditionally the file extension is .css

```
<head>
  <link rel="stylesheet" type="text/css"
                              href="pinky.css">
</head>
```

Sed porttitor augue magna

Proin id nibh lacus

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Integer non pharetra justo, vitae accumsan risus. Proin justo lectus, facilisis nec risus a, volutpat facilisis quam. Nunc in gravida tellus, vestibulum condimentum ligula. Sed feugiat sollicitudin semper. Cras ac pellentesque lectus. Suspendisse eget aliquet leo. Praesent purus mi, pulvinar a blandit vitae, aliquet sit amet mauris.

Vivamus viverra velit

Etiam ut varius purus. Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas. Nam imperdiet dui tellus, sed ultricies orci sodales mollis. Curabitur accumsan lobortis accumsan. Nullam euismod sem a orci ornare malesuada. Integer faucibus, lectus ac malesuada elementum, metus ipsum posuere quam, vel aliquet est mi id dui. Suspendisse potenti.

TRY IT

Internal CSS

CSS in element <style> inside <head>

- Cascading style are in the HTML file
- Convenient for a unified page layout

```
<style>
   body {
      background-color: pink;
      color: darkred;
      margin-left: 6em;
      margin-right: 6em;
   }
</style>
```

Sed porttitor augue magna

Proin id nibh lacus

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Integer non pharetra justo, vitae accumsan risus. Proin justo lectus, facilisis nec risus a, volutpat facilisis quam. Nunc in gravida tellus, vestibulum condimentum ligula. Sed feugiat sollicitudin semper. Cras ac pellentesque lectus. Suspendisse eget aliquet leo. Praesent purus mi, pulvinar a blandit vitae, aliquet sit amet mauris.

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TRY IT

Inline CSS

CSS in the style attribute of HTML element

- Cascading style are in in the HTML element
- Sufficient for local styling

```
<body style="background-color: pink;
              color: darkred;
              margin-left: 6em;
              margin-right: 6em;">
  :
</body>
```

Sed porttitor augue magna

Proin id nibh lacus

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Integer non pharetra justo, vitae accumsan risus. Proin justo lectus, facilisis nec risus a, volutpat facilisis quam. Nunc in gravida tellus, vestibulum condimentum ligula. Sed feugiat sollicitudin semper. Cras ac pellentesque lectus. Suspendisse eget aliquet leo. Praesent purus mi, pulvinar a blandit vitae, aliquet sit amet mauris.

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TRY IT

Comments

CSS comments

- Framed in /* … */ and are ignored by the browser

```
body {
    background-color: pink; /* background colour */
    color: darkred;
    /* margins from both sides of the page */
    margin-left: 6em;
    margin-right: 6em;
}
```

file:///D:/Pavel/Courses/Mate

Sed porttitor augue magna

Proin id nibh lacus

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Integer non pharetra justo, vitae accumsan risus. Proin justo lectus, facilisis nec risus a, volutpat facilisis quam. Nunc in gravida tellus, vestibulum condimentum ligula. Sed feugiat sollicitudin semper. Cras ac pellentesque lectus. Suspendisse eget aliquet leo. Praesent purus mi, pulvinar a blandit vitae, aliquet sit amet mauris.

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TRY IT

CSS selectors

CSS selectors

Simple selectors

- Tag selector
- Class selector
- Attribute selector

Complex selectors

- Grouping selectors
- Nesting selectors
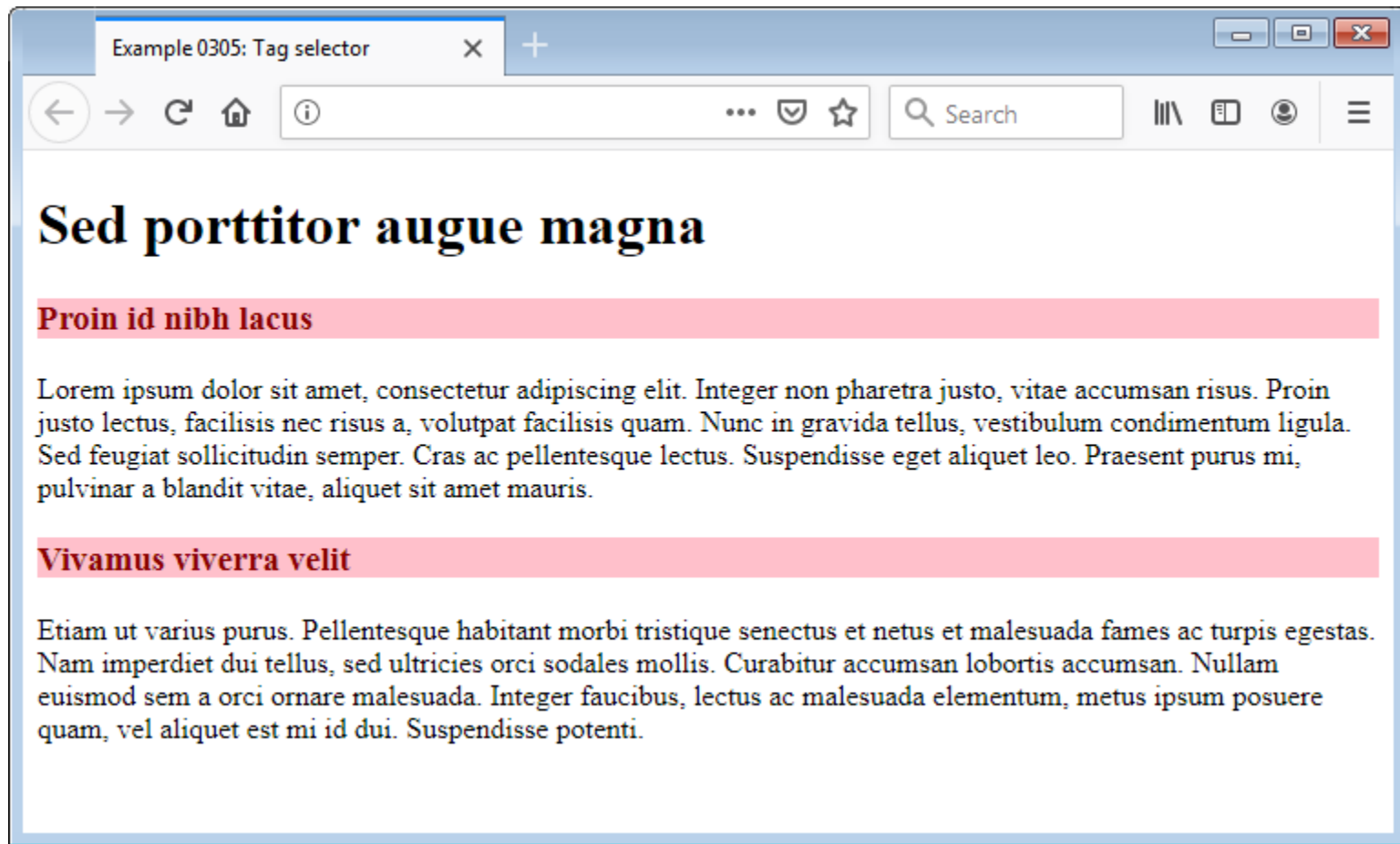- Filters in selectors

Tag selector

Details

- Rules applies to all elements of this tag

- Syntax tag {…}

- Example: all <h3> elements are red

```
h3 {
    background-color: pink;
    color: darkred;
}
```

```
<h3>Proin id nibh lacus</h3>
```

Sed porttitor augue magna

Proin id nibh lacus

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Integer non pharetra justo, vitae accumsan risus. Proin justo lectus, facilisis nec risus a, volutpat facilisis quam. Nunc in gravida tellus, vestibulum condimentum ligula. Sed feugiat sollicitudin semper. Cras ac pellentesque lectus. Suspendisse eget aliquet leo. Praesent purus mi, pulvinar a blandit vitae, aliquet sit amet mauris.

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Multiple rules

- Multiple rules listed one after another

- Syntax   tag {...}
                 tag {...}

- Example with multiple rules:

```
body { background-color: Beige; }
h1   { color: SaddleBrown; }
h3   { background-color: Wheat;
       color: SaddleBrown; }
p    { margin-left: 6em;
       margin-right: 6em; }
```

Sed porttitor augue magna

Proin id nibh lacus

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Integer non pharetra justo, vitae accumsan risus. Proin justo lectus, facilisis nec risus a, volutpat facilisis quam. Nunc in gravida tellus, vestibulum condimentum ligula. Sed feugiat sollicitudin semper. Cras ac pellentesque lectus. Suspendisse eget aliquet leo. Praesent purus mi, pulvinar a blandit vitae, aliquet sit amet mauris.

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TRY IT

Grouping rules

- Selectors, separated by commas
- Syntax with tags tag, tag, tag {...}
- Example for a rule for all <h1> and <h3> elements:

```
h1,h3  { color: SaddleBrown; }
```

```
<h1>Sed porttitor</h1>
In at porta nulla. Donec quis dui vel.

<h3>Proin id nibh lacus</h3>
<p>Lorem ipsum dolor sit amet.</p>
```
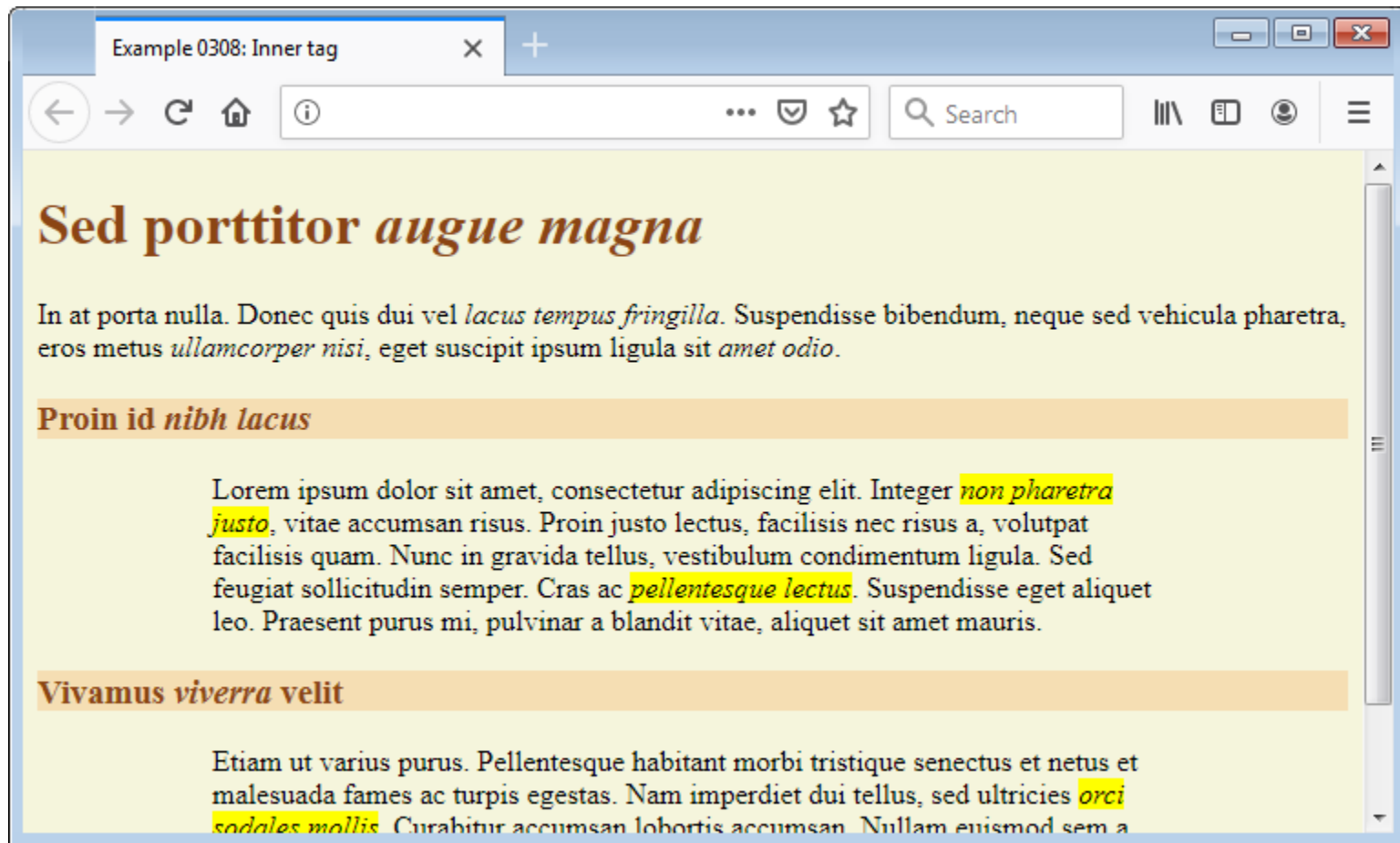
Sed porttitor augue magna

Proin id nibh lacus

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Integer non pharetra justo, vitae accumsan risus. Proin justo lectus, facilisis nec risus a, volutpat facilisis quam. Nunc in gravida tellus, vestibulum condimentum ligula. Sed feugiat sollicitudin semper. Cras ac pellentesque lectus. Suspendisse eget aliquet leo. Praesent purus mi, pulvinar a blandit vitae, aliquet sit amet mauris.

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TRY IT

Inner (nested) tag selector

- Selector for an element inside another element
- Syntax external-tag internal-tag {…}
- Example with yellow background for all <i> elements inside <p> elements:

```
p i { background-color: Yellow; }
```

```
<h1>Sed porttitor <i>augue magna</i></h1>
In at porta nulla. Donec <i>lacus fringilla</i>.

<h3>Proin id <i>nibh lacus</i></h3>
<p>Lorem ipsum <i>non pharetra</i>, risus.</p>
```
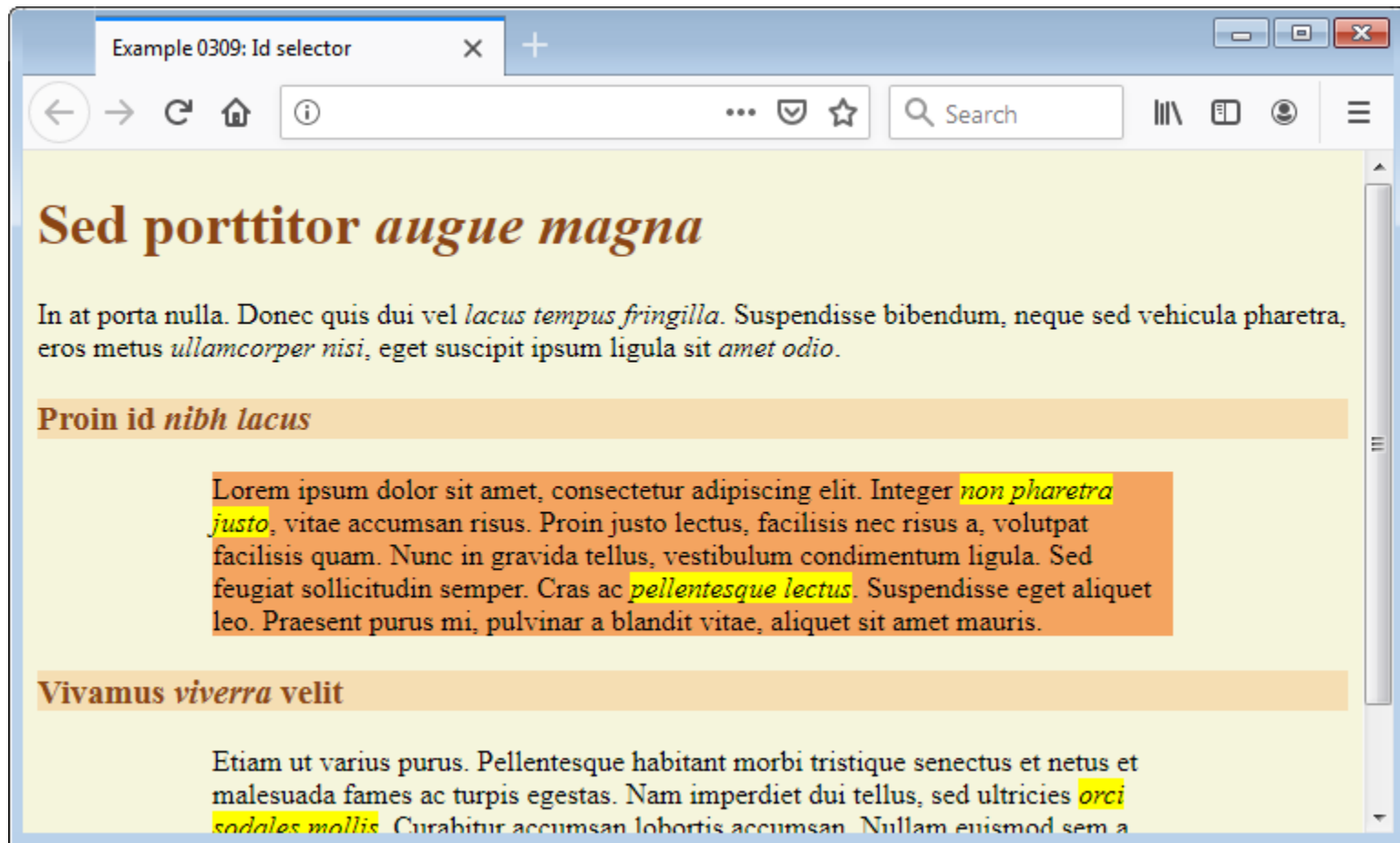
Sed porttitor *augue magna*

In at porta nulla. Donec quis dui vel *lacus tempus fringilla*. Suspendisse bibendum, neque sed vehicula pharetra, eros metus *ullamcorper nisi*, eget suscipit ipsum ligula sit *amet odio*.

Proin id *nibh lacus*

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Integer ==*non pharetra justo*==, vitae accumsan risus. Proin justo lectus, facilisis nec risus a, volutpat facilisis quam. Nunc in gravida tellus, vestibulum condimentum ligula. Sed feugiat sollicitudin semper. Cras ac ==*pellentesque lectus*==. Suspendisse eget aliquet leo. Praesent purus mi, pulvinar a blandit vitae, aliquet sit amet mauris.

Vivamus *viverra* velit

Etiam ut varius purus. Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas. Nam imperdiet dui tellus, sed ultricies ==*orci sodales mollis*==. Curabitur accumsan lobortis accumsan. Nullam euismod sem a

TRY IT

Attribute selector

Id selector

- Selects one specific element with given value of attribute **id**
- Syntax #id {...}
- Example with brown background for element with id="yell"

```
#yell { background-color: SandyBrown; }
```

```
<h3 id="gell">Proin id <i>nibh lacus</i></h3>
<p id="yell">Lorem ipsum dolor sit, consectetur
adipiscing elit.</p>
```
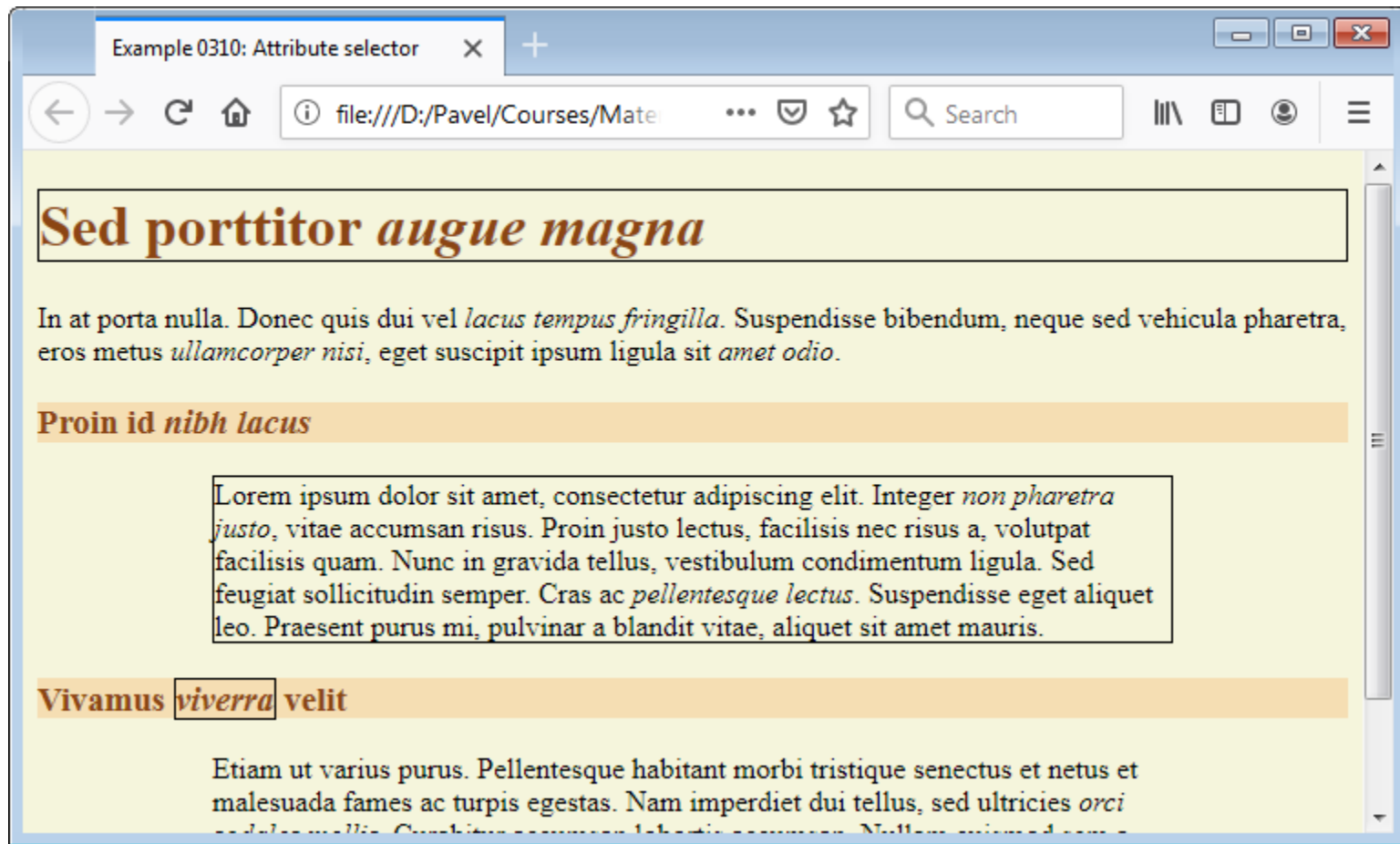
Sed porttitor *augue magna*

In at porta nulla. Donec quis dui vel *lacus tempus fringilla*. Suspendisse bibendum, neque sed vehicula pharetra, eros metus *ullamcorper nisi*, eget suscipit ipsum ligula sit *amet odio*.

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Vivamus *viverra* velit

Etiam ut varius purus. Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas. Nam imperdiet dui tellus, sed ultricies *orci sodales mollis*. Curabitur accumsan lobortis accumsan. Nullam euismod sem a

TRY IT

Attribute selector

- Elements with a given attribute are selected
- Syntax [attribute]{...}
- Example with a frame to all elements having attribute called "frame"

```
[frame] { border: solid black 1px; }
```

```
<h1 frame>Sed porttitor augue magna</h1>
In at porta nulla. Donec quis dui.

<h3>Proin id <i>nibh lacus</i></h3>
<p frame>Lorem ipsum dolor sit amet, consectetur
adipiscing elit.</p>
```
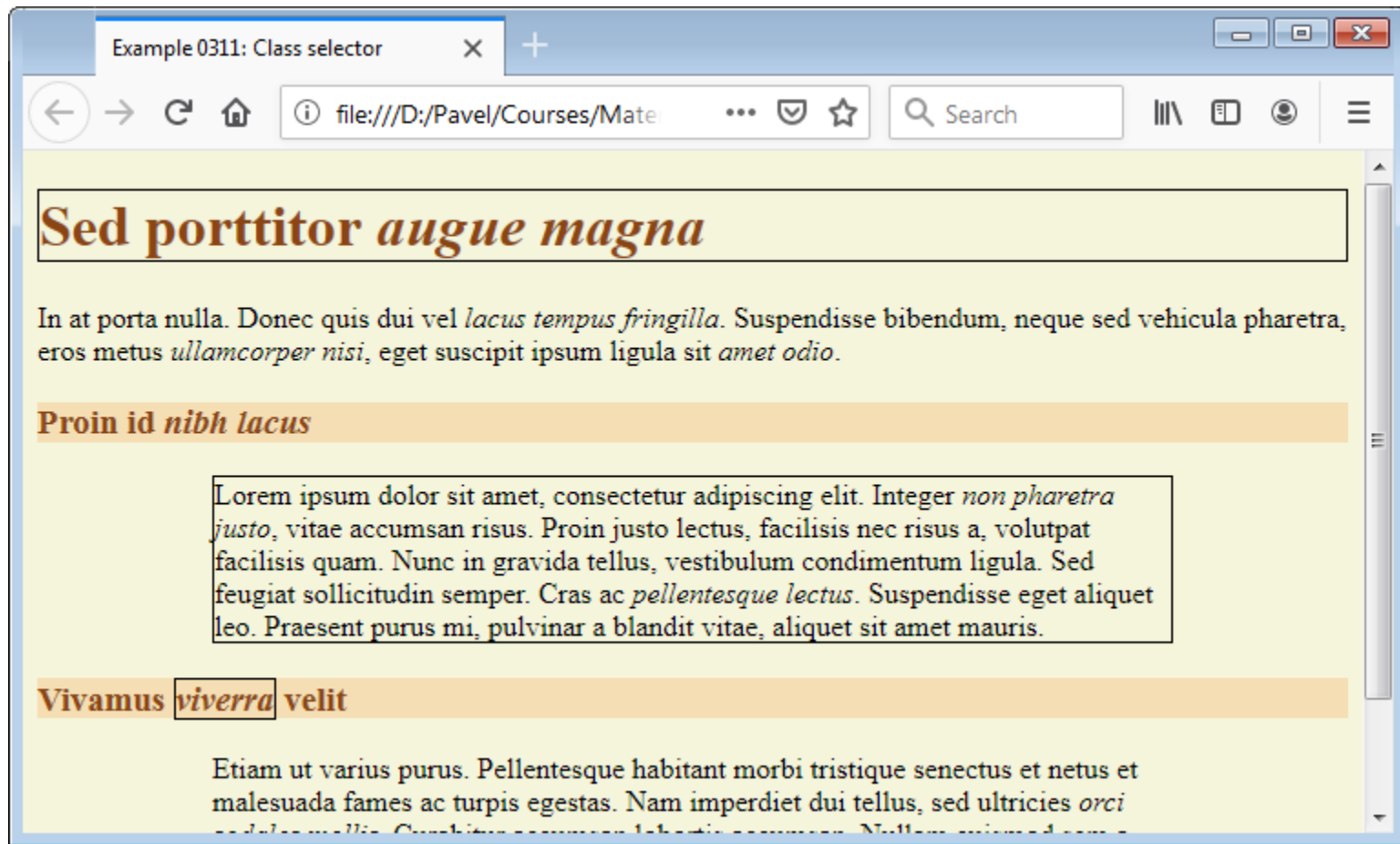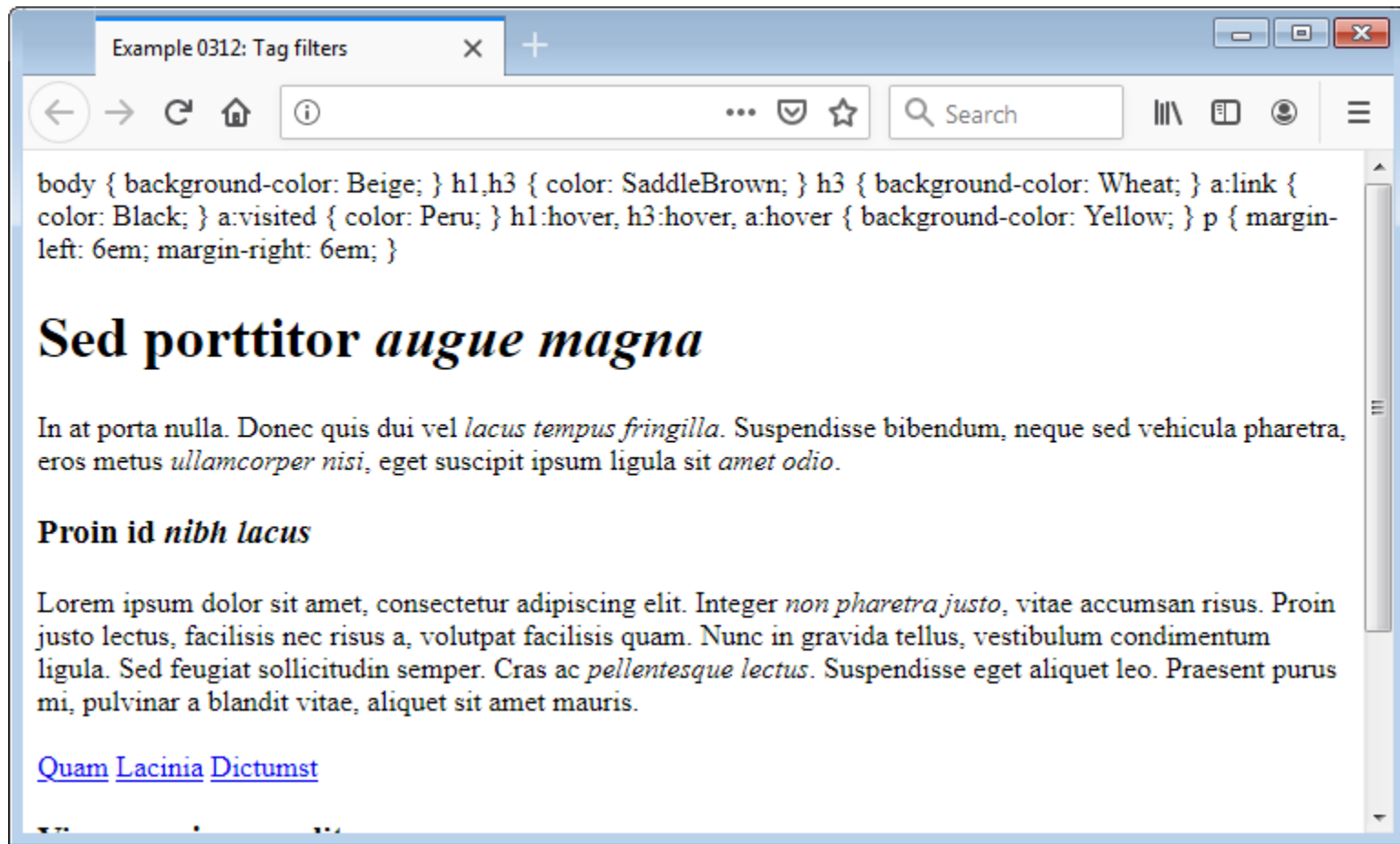
file:///D:/Pavel/Courses/Mate

Sed porttitor *augue magna*

In at porta nulla. Donec quis dui vel *lacus tempus fringilla*. Suspendisse bibendum, neque sed vehicula pharetra, eros metus *ullamcorper nisi*, eget suscipit ipsum ligula sit *amet odio*.

Proin id *nibh lacus*

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Integer *non pharetra justo*, vitae accumsan risus. Proin justo lectus, facilisis nec risus a, volutpat facilisis quam. Nunc in gravida tellus, vestibulum condimentum ligula. Sed feugiat sollicitudin semper. Cras ac *pellentesque lectus*. Suspendisse eget aliquet leo. Praesent purus mi, pulvinar a blandit vitae, aliquet sit amet mauris.

Vivamus *viverra* velit

Etiam ut varius purus. Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas. Nam imperdiet dui tellus, sed ultricies *orci*

TRY IT

Class selector

- All elements with a give value of their **class** attribute are selected
- Syntax .class{…}
- Example with frame of all elements with class "framed"

```
.framed { border: solid black 1px; }
```

```
<h1 class="framed">Sed porttitor augue magna</h1>
In at porta nulla. Donec quis dui.

<h3>Proin id <i>nibh lacus</i></h3>
<p class="framed">Lorem ipsum dolor sit amet,
Consectetur adipiscing elit.</p>
```

file:///D:/Pavel/Courses/Mate

Search

Sed porttitor *augue magna*

In at porta nulla. Donec quis dui vel *lacus tempus fringilla*. Suspendisse bibendum, neque sed vehicula pharetra, eros metus *ullamcorper nisi*, eget suscipit ipsum ligula sit *amet odio*.

Proin id *nibh lacus*

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Integer *non pharetra justo*, vitae accumsan risus. Proin justo lectus, facilisis nec risus a, volutpat facilisis quam. Nunc in gravida tellus, vestibulum condimentum ligula. Sed feugiat sollicitudin semper. Cras ac *pellentesque lectus*. Suspendisse eget aliquet leo. Praesent purus mi, pulvinar a blandit vitae, aliquet sit amet mauris.

Vivamus *viverra* velit

Etiam ut varius purus. Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas. Nam imperdiet dui tellus, sed ultricies *orci*

TRY IT

Tag filters

Additional filter in tag selectors

- Attached to tags, used as additional selector
- tag:hover – selects the element under the cursor
- tag:link – selects all unvisited links
- tag:visited – selects all visited links
- Example with colour change of <h1> and <h3> titles and <a> links under the mouse cursor

```
a:link { color: Black; }
a:visited { color: Peru; }
h1:hover,h3:hover,a:hover { background-color: Yellow; }
```

body { background-color: Beige; } h1,h3 { color: SaddleBrown; } h3 { background-color: Wheat; } a:link { color: Black; } a:visited { color: Peru; } h1:hover, h3:hover, a:hover { background-color: Yellow; } p { margin-left: 6em; margin-right: 6em; }

Sed porttitor *augue magna*

In at porta nulla. Donec quis dui vel *lacus tempus fringilla*. Suspendisse bibendum, neque sed vehicula pharetra, eros metus *ullamcorper nisi*, eget suscipit ipsum ligula sit *amet odio*.

Proin id *nibh lacus*

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Integer *non pharetra justo*, vitae accumsan risus. Proin justo lectus, facilisis nec risus a, volutpat facilisis quam. Nunc in gravida tellus, vestibulum condimentum ligula. Sed feugiat sollicitudin semper. Cras ac *pellentesque lectus*. Suspendisse eget aliquet leo. Praesent purus mi, pulvinar a blandit vitae, aliquet sit amet mauris.

Quam Lacinia Dictumst

TRY IT

Other selectors

Defining complex selectors

- Details: http://www.w3schools.com/cssref/css_selectors.asp

Examples

- Selecting HTML element right after another element
- Selecting HTML element with attribute's value starting with a given substring
- Selecting the first letter of each paragraph

Summary

Using CSS

External file, internal tag or element's attribute
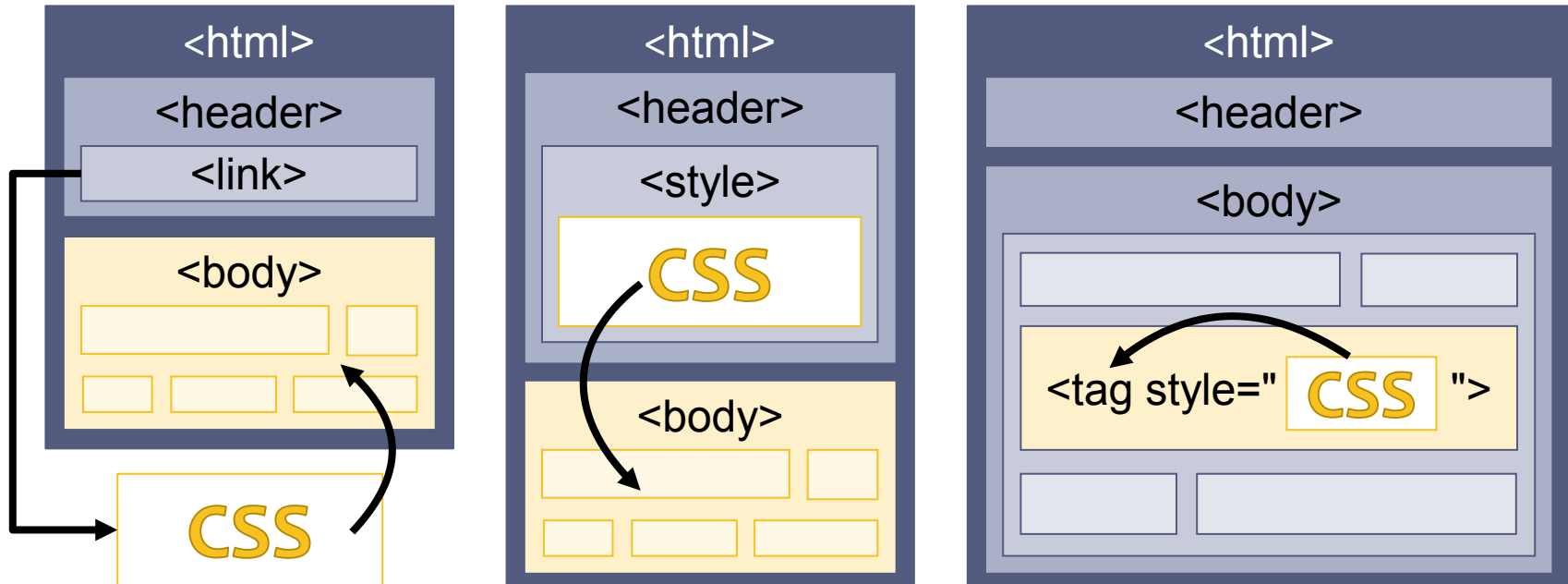
CSS rules

Rukes

- Rich variety of selectors
- Only a small fraction of it is included in this presentation

Styling

- Many properties, that can be modified
- Only the most basic one are presented so far

Most used selectors

Selector	Action
h1 {…}	Selects all <h1> elements
h1, p {…}	Selects all <h1> and <p> elements
h1 p {…}	Selects all <p> elements inside <h1> elements
#yell	Selects all elements with attribute id="yell"
[frame]	Selects all elements having attribute frame
.framed	Selects all elements with class="framed"
p:hover	Selects element <p> if the mouse is over it
a:link	Selects all unvisited <a> links
a:visited	Selects all visited <a> links

More

Additional information

- Here: http://www.w3schools.com/css

- Selectors in CSS: http://www.w3schools.com/cssref/css_selectors.asp

- Attention! Some CSS properties are experimental and are not supported in all browsers

ICT in SES

End

Comments, questions