

# **IF231 Pengantar Teknologi Internet**

02 - Cascading Style Sheet (CSS)

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PROGRAM STUDI INFORMATIKA  
FAKULTAS TEKNIK DAN INFORMATIKA  
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# REVIEW



- Introduction
- Basic Web Architecture
- Request-Response Cycle
- Internet History
- Web Evolution
- HTML
- HTML Tags & Attributes
- HTML Table & Form

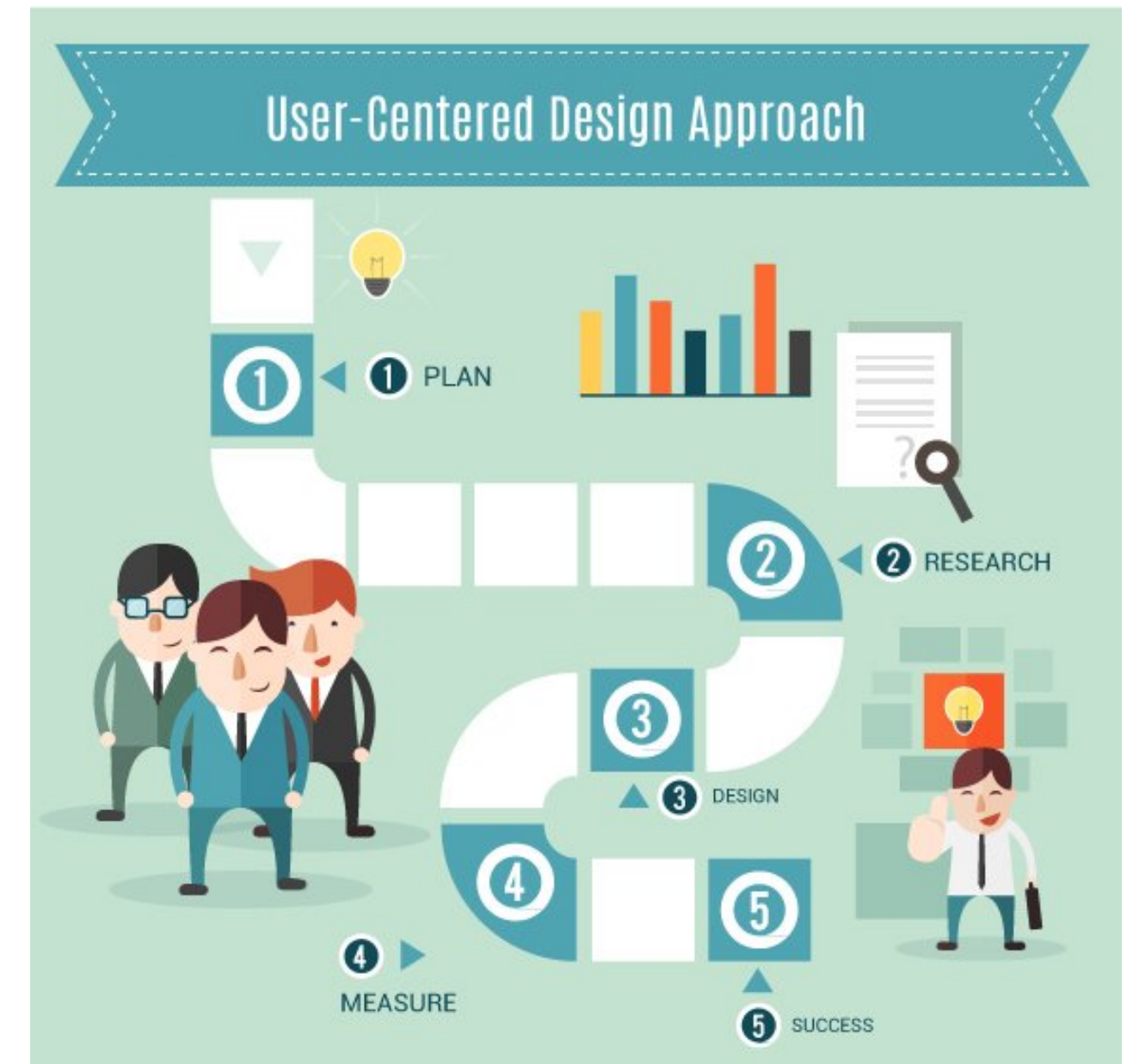
# TODAY's OUTLINE



- Web Design Philosophy
- Mechanisms of Navigation
- CSS
- Style Location
- CSS Syntax (Selectors & Declarations)
- CSS Units
- CSS: Text, Fonts, Colors, Backgrounds, Display, Float
- Exercise: Navigation Menu, Tabular Data

# Web Design Philosophy

- User-centered
- Designer-centered
- Enterprise-centered
- Content-centered
- Technology-centered



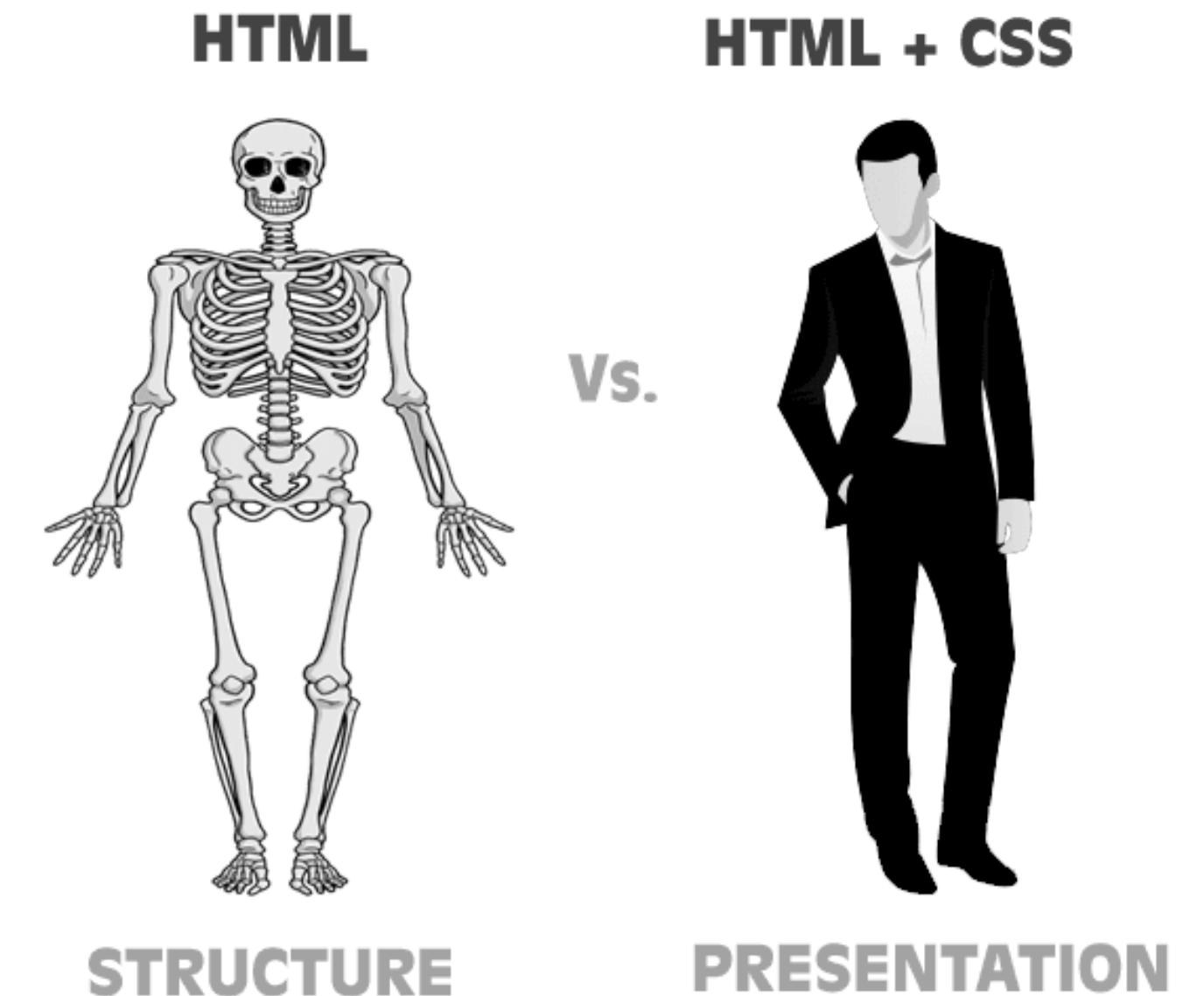
# Mechanism of Navigation

- Step and paging navigation
- Breadcrumb trails
- Tree navigation, site maps, directories, tag clouds, A-Z indexes
- Navigation bars, tabs, and vertical menus
- Dynamic menus and drop-downs
- Visualization mechanisms



# Cascading Style Sheet (CSS)

**CSS**, or **Cascading Style Sheets**, is a way to style and present HTML. Whereas the HTML is the **structure** of the content, the style sheet is the **presentation** of that document.



# Style Location

## Inline Style

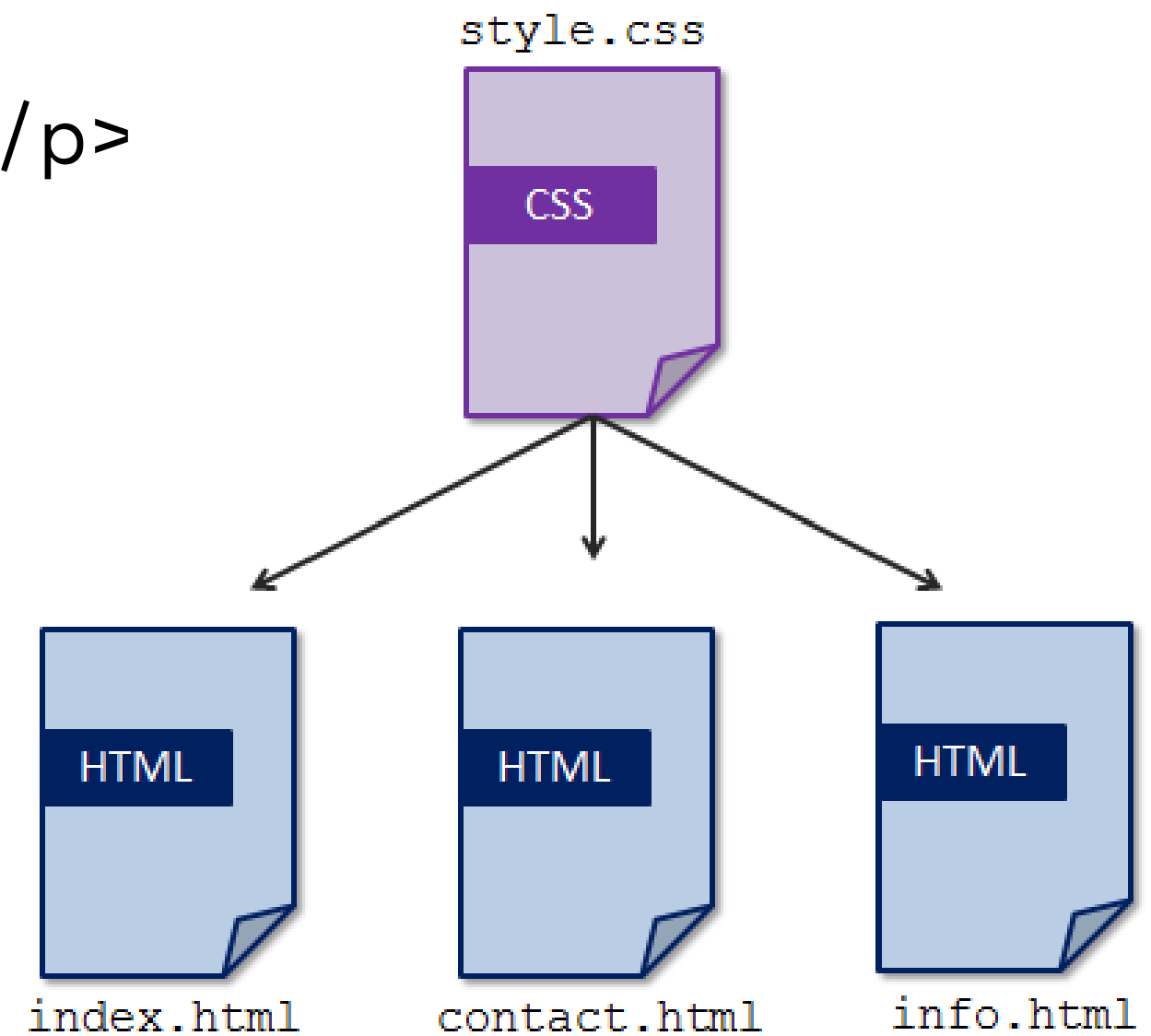
```
<p style="font-family: arial;">Lorem ipsum</p>
```

## Internal Style

```
<head>
  <style>
    p { font-family: arial; }
  </style>
</head>
```

## External Style

```
<link rel="stylesheet" href="style.css" />
```



# CSS Syntax

SELECTOR

PROPERTY

VALUE

p { font-family: Arial; }

DECLARATION



# CSS Syntax

SELECTOR

PROPERTY

VALUE

p { font-family: Arial; }

DECLARATION

# CSS Selectors (0)

## ATTRIBUTE

```
input[type="text"] {}
```

## CLASS

```
.note p.note {}
```

## TYPE

```
h1, h2, h3 {}
```

## PSEUDO-CLASS

```
a:hover {}
```

## UNIVERSAL

```
* {}
```

## CHILD

```
li>a {}
```

??? { }

## ID

```
#intro {}
```

## NOT

```
p:not(.box) {}
```

## GENERAL SIBLING

```
h1~p {}
```

## PSEUDO-ELEMENT

```
.wrap::after {}
```

## DESCENDANT

```
p a {}
```

## ADJACENT SIBLING

```
h1+p {}
```

# CSS Selectors (1)

## Type Selector

### HTML:

```
<h1>Lorem ipsum</h1>
```

### CSS:

```
h1 { font-family: arial; }
```

## Class Selector

### HTML:

```
<p class="biru">Lorem ipsum</p>
```

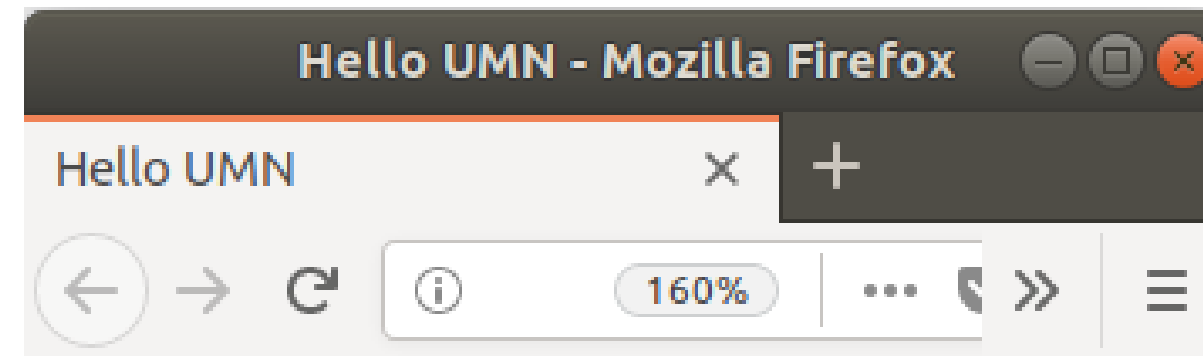
```
<p>Lorem Ipsum</p>
```

```
<span class="biru">Lorem ipsum</span>
```

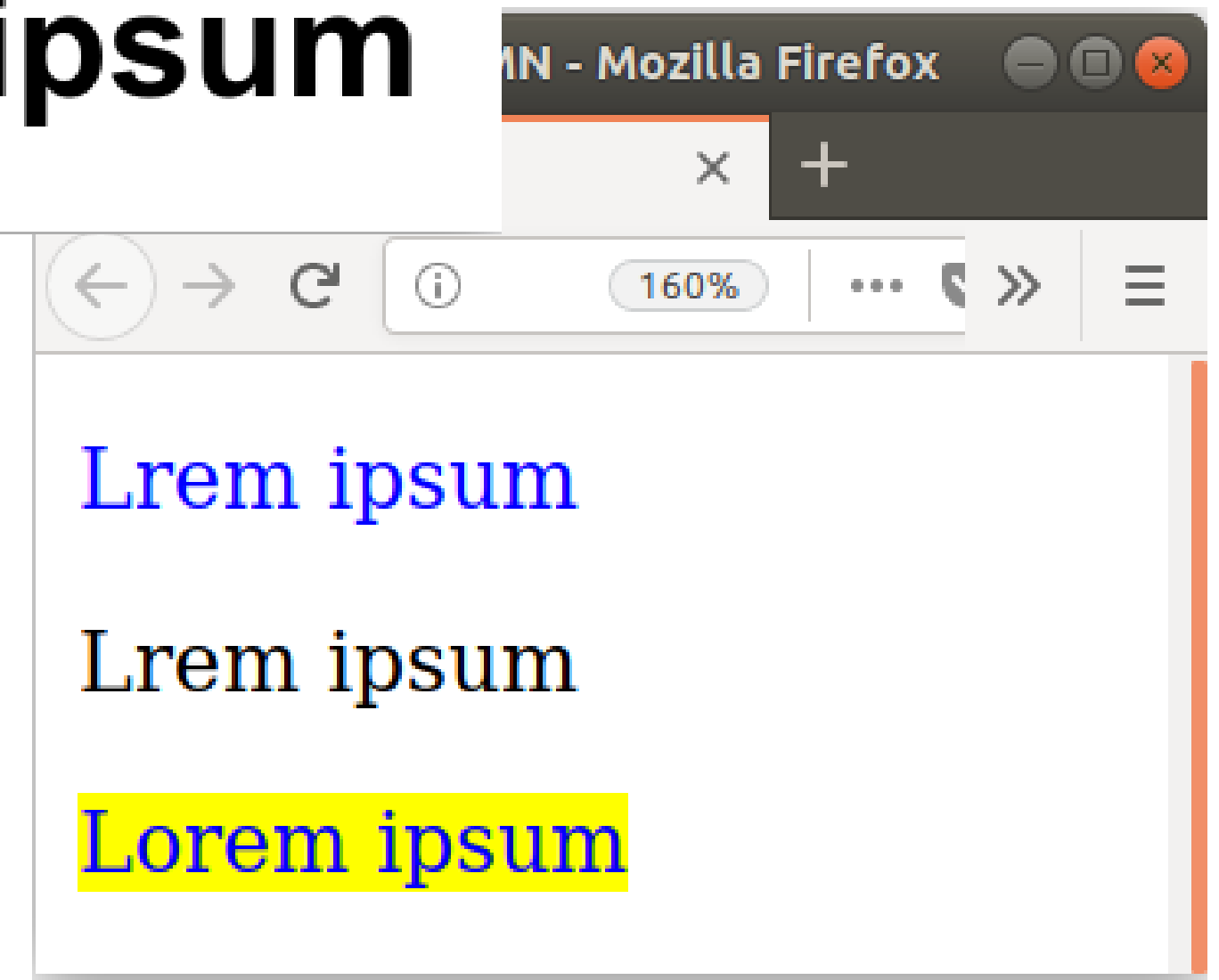
### CSS:

```
.biru { color: blue; }
```

```
span.biru {background: yellow; }
```



# Lorem ipsum



# CSS Selectors (2)

## ID Selector

### HTML:

```
<p id="unik">Lorem ipsum</p>
```

### CSS:

```
#unik { color: green; }
```

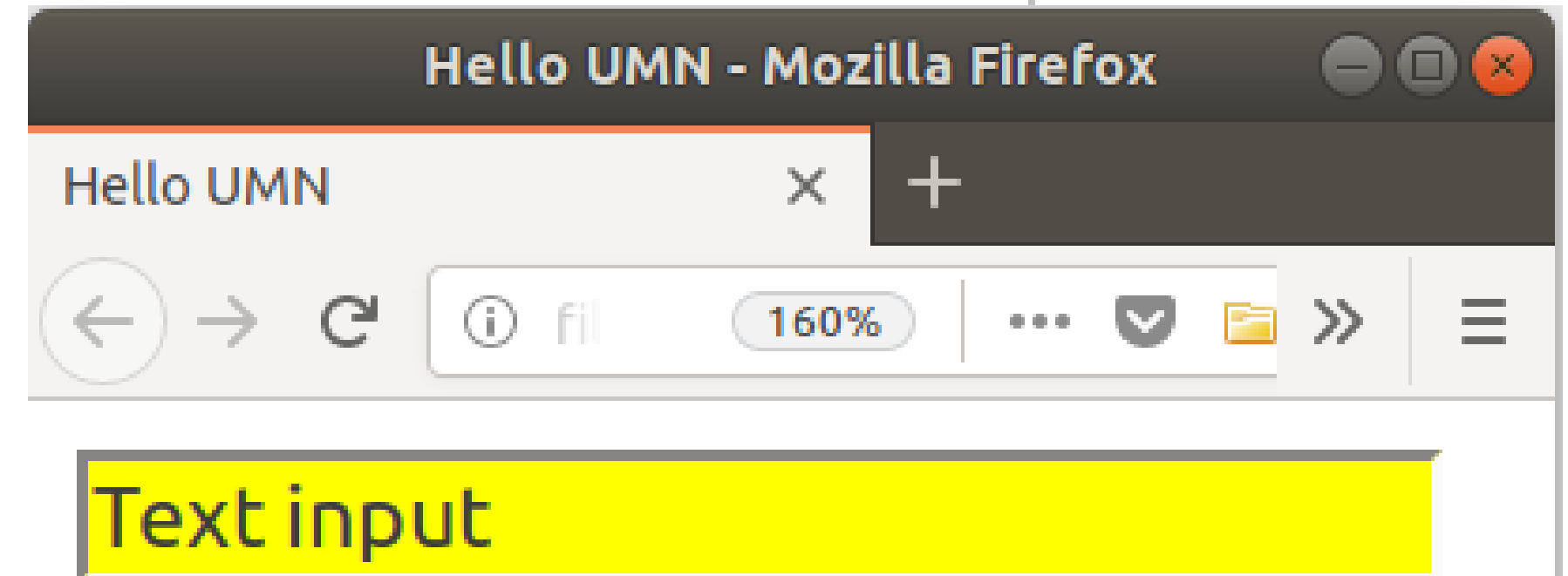
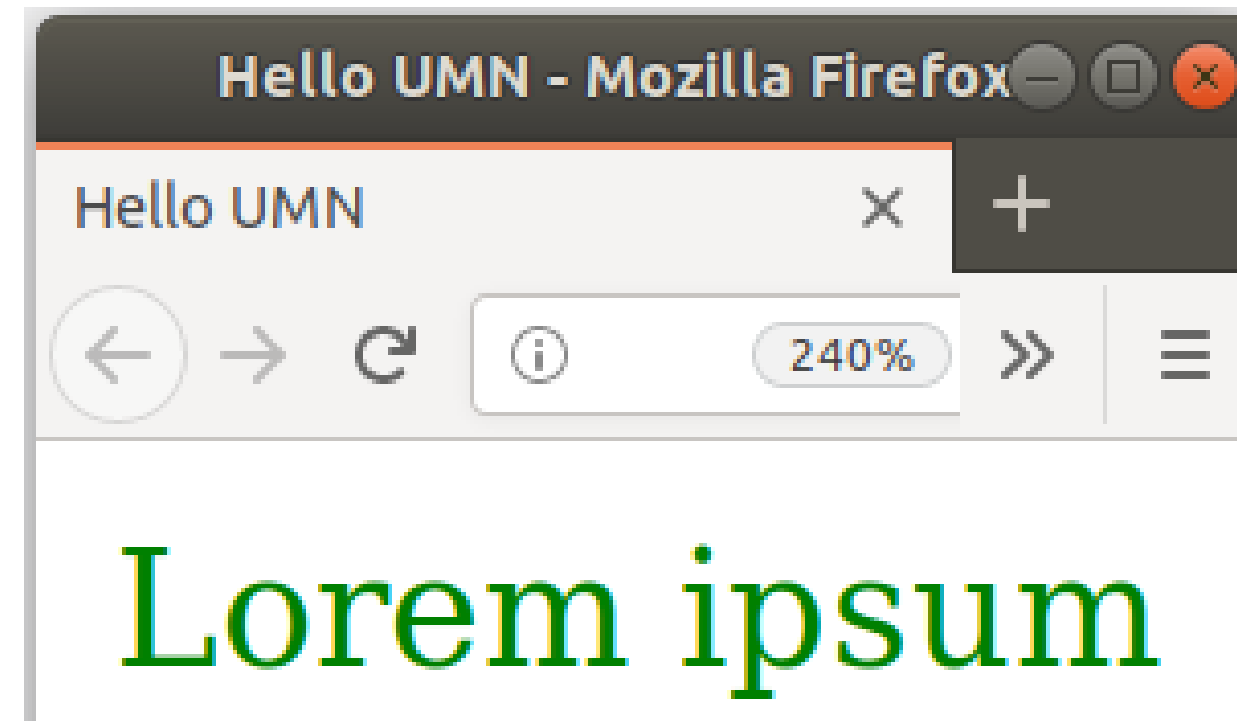
## Attribute Selector

### HTML:

```
<input type="text" name="nama" />
```

### CSS:

```
input[type="text"] {  
    background: yellow;  
}
```



# CSS Selectors (3)

## HTML:

```
<article>
  <h1>Judul Artikel</h1>
  <p>Paragraf pertama <a>CLICK ME</a></p>
  <p>Paragraf kedua</p>
  <p>Paragraf ketiga</p>
</article>
```

## CSS:

### Descendant Selector

```
p a {background: yellow;}
```

### Child Selector

```
article>p {background: aqua;}
```

### Adjacent-Sibling Selector

```
h1+p {background: green'}
```

### General-Sibling Selector

```
h1~p {color: blue;}
```



# CSS Selectors (4): Pseudo-Class

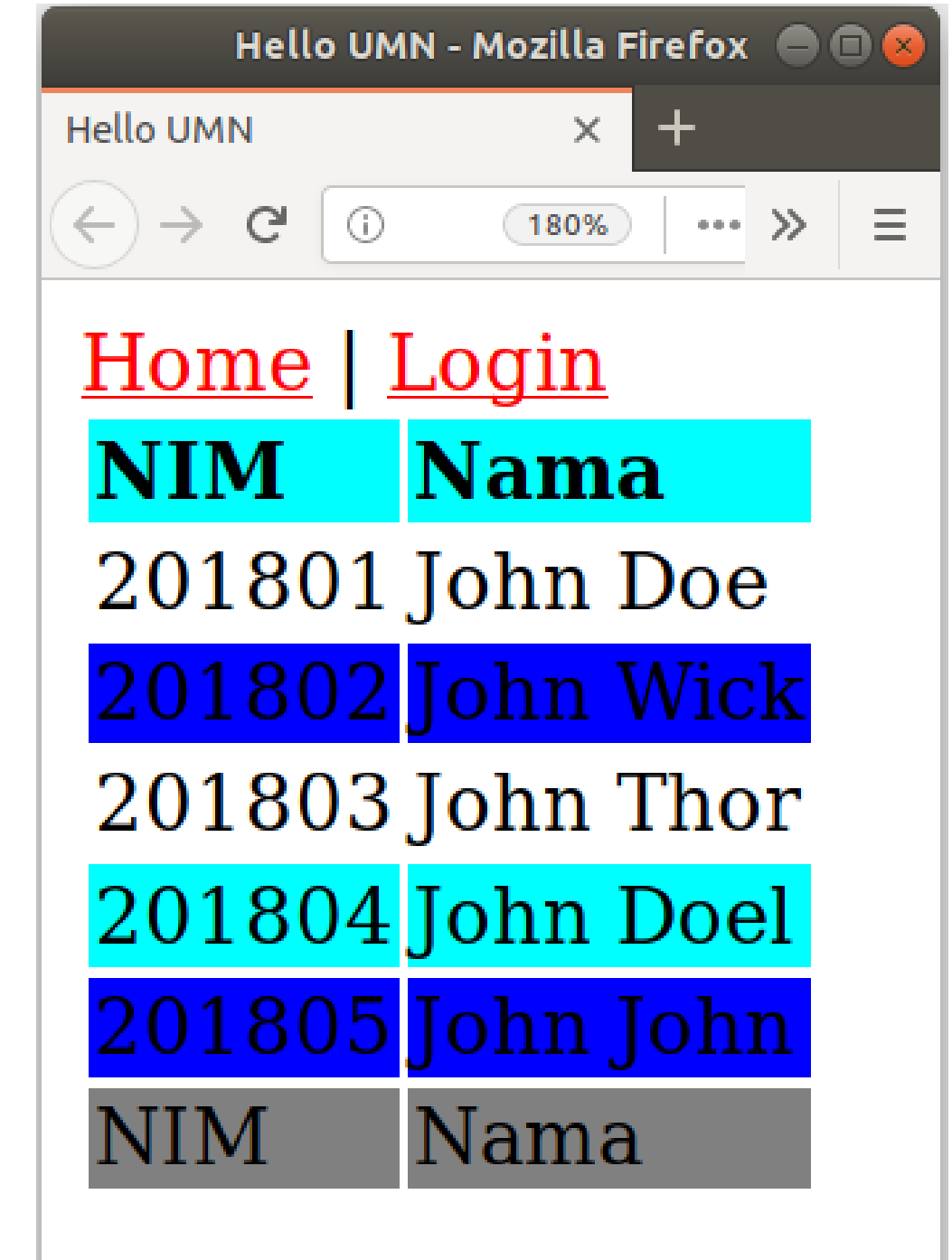
## HTML:

```
<a href="#">Home</a> | <a href="#">Login</a>
<br />
<table>
  <tr>
    <td>NIM</td>
    <td>Nama</td>
  </tr>
  <tr>
    <td>201801</td>
    <td>John Doe</td>
  </tr>
  ...
  <tr>
    <td>NIM</td>
    <td>Nama</td>
  </tr>
</table>
```

## CSS:

```
a:link{color: red;}
a:visited{color: red;}
a:hover{background: yellow;}
a:active{color: black;}

tr:first-child{font-weight: bold;}
tr:nth-child(odd){background: aqua;}
tr:nth-child(3n){background: blue;}
tr:last-child{background: grey;}
```



# CSS Selectors (5): Pseudo-Element

## HTML:

```
<div class="bungkus">  
  Lorem Ipsum<br />  
  Dolor sit amet.  
</div>
```

## CSS:

```
.bungkus::first-letter {  
  font-size: 200%;  
  font-weight: bold;  
}  
.bungkus::first-line {  
  font-style: italic;  
}  
.bungkus::before {  
  content: "Start Here";  
}  
.bungkus::after {  
  content: "End Here";  
}
```



# Units

## Absolute

- **px**: pixel, defined as equal to 1/96 of an inch in CSS3
- **in**: inches
- **mm**: millimeters
- **cm**: centimeters
- **q**: 1/4 millimeter
- **pt**: points (1/72 inch). Points are unit commonly used in print design
- **pc**: picas (1 pica = 12 points or 1/6 inch).

## Relative

- **em**: a unit of measurement equal to the current font size
- **ex**: x-height, approximately the height of a lowercase "x" in the font
- **rem**: root em, equal to the em size of the root element (html)
- **ch**: zero width, equal to the width of a zero (0) in the current font-and size
- **vw**: viewport width unit, equal to 1/100 of the current viewport (browser window) width
- **vmin**: viewport minimal unit, equal to the value of vw or vh, whichever is smaller
- **vmax**: viewport maximum unit



# CSS: Text

Property	Description
color	Sets the color of text
direction	Specifies the text direction/writing direction
letter-spacing	Increases or decreases the space between characters in a text
line-height	Sets the line height
text-align	Specifies the horizontal alignment of text
text-decoration	Specifies the decoration added to text
text-indent	Specifies the indentation of the first line in a text-block
text-shadow	Specifies the shadow effect added to text
text-transform	Controls the capitalization of text
vertical-align	Specifies how overflowed content that is not displayed should be signaled to the user
more...	more...

# CSS: Fonts

Property	Description
font	Sets all the font properties in one declaration
font-family	Specifies the font family for text
font-size	Specifies the font size of text
font-style	Specifies the font style for text
font-variant	Specifies whether or not a text should be displayed in a small-caps font
font-weight	Specifies the weight of a font

# CSS: Colors

- Color Names
- RGB Values
- HEX Values
- HSL Values
- RGBA Values
- HSLA Values

## TOMATO

```
rgb(255, 99, 71)
```

```
#ff6347
```

```
hsl(9, 100%, 64%)
```

## TOMATO 50% TRANSPARENT

```
rgba(255, 99, 71, 0.5)
```

```
hsla(9, 100%, 64%, 0.5)
```

Tomato

Orange

DodgerBlue

MediumSeaGreen

# CSS: Backgrounds

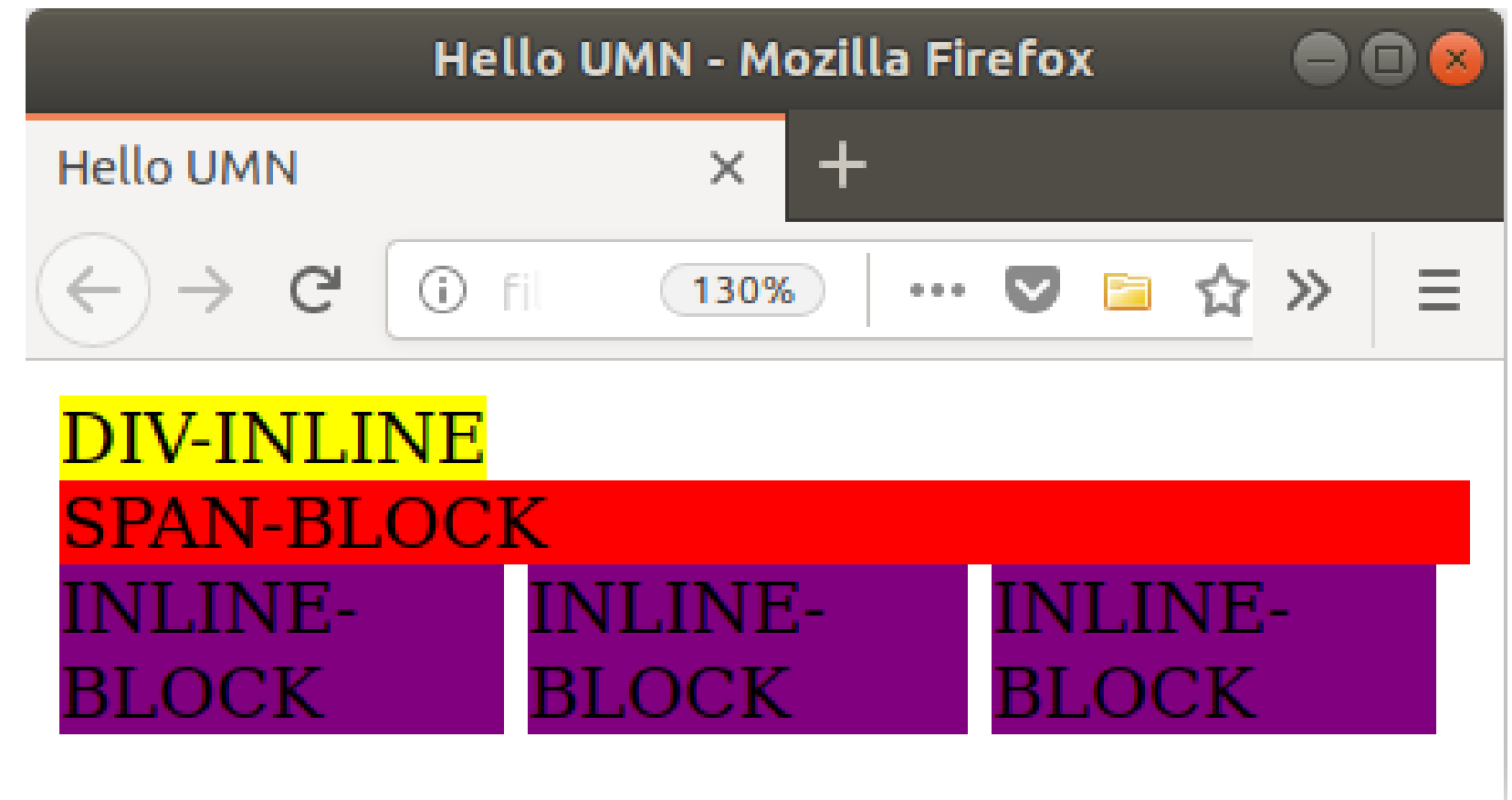
Property	Description
background	Sets all the background properties in one declaration
background-attachment	Sets whether a background image is fixed or scrolls with the rest of the page
background-clip	Specifies the painting area of the background
background-color	Sets the background color of an element
background-image	Sets the background image for an element
background-origin	Specifies where the background image(s) is/are positioned
background-position	Sets the starting position of a background image
background-repeat	Sets how a background image will be repeated
background-size	Specifies the size of the background image(s)

# CSS: Display

## HTML:

```
<div class="inline">DIV-INLINE</div>
<span class="block">SPAN-BLOCK</span>
<div class="none">DIV-NONE(Hidden)</div>

<div class="inline-block">INLINE-BLOCK
</div>
<div class="inline-block">INLINE-BLOCK
</div>
<div class="inline-block">INLINE-BLOCK
</div>
```



## CSS:

```
.inline { display: inline; background: yellow; }
.block { display: block; background: red; }
.none { display: none; }
.inline-block { display: inline-block; width: 100px; background: purple; }
```

# CSS: Float

## HTML:

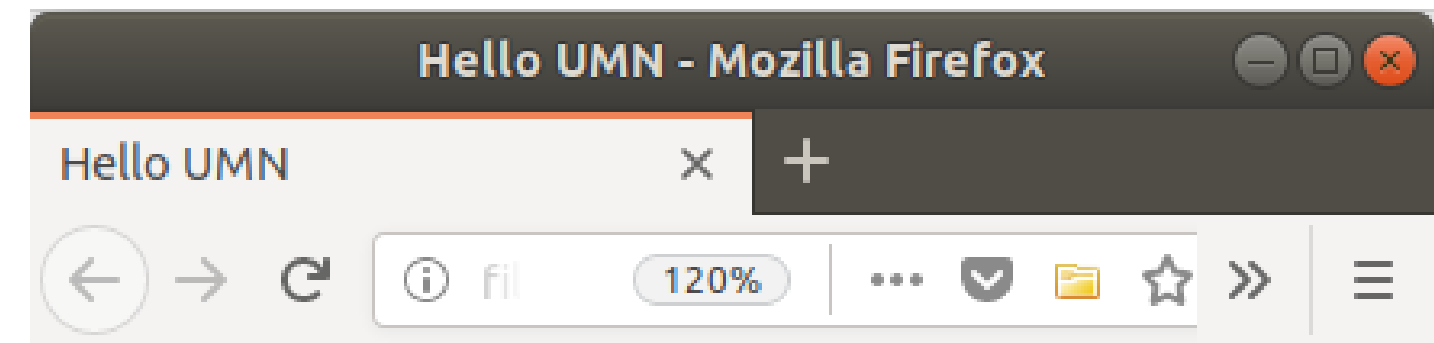
```
<p>In this example, the image  
will float to the left in the  
paragraph, and the text in the  
paragraph will wrap around the  
image.</p>
```

```
<p>
```

```
Lorem ipsum dolor sit amet,  
consectetur adipiscing elit.  
Phasellus imperdiet, nulla et  
dictum interdum, nisi lorem  
egestas odio, vitae scelerisque  
enim ligula venenatis dolor.  
Maecenas nisl est, ultrices nec
```

## CSS:

```
img {float: left; height:100px;}
```



In this example, the image will float to the left in the paragraph, and the text in the paragraph will wrap around the image.



Lorem ipsum dolor sit amet, consectetur adipiscing elit. Phasellus imperdiet, nulla et dictum interdum, nisi lorem egestas odio, vitae scelerisque enim ligula venenatis dolor. Maecenas nisl est, ultrices nec congue eget, auctor vitae massa. Fusce luctus vestibulum augue ut aliquet.

# Exercise: Navigation Menu 1

```
<!-- HTML -->
<ul class="nav">
  <li><a href="#">Home</a></li>
  <li><a href="#">About</a></li>
  <li><a href="#">Portfolio</a></li>
  <li><a href="#">Blog</a></li>
  <li><a href="#">Contact</a></li>
</ul>
```

Home
About
Portfolio
Blog
Contact

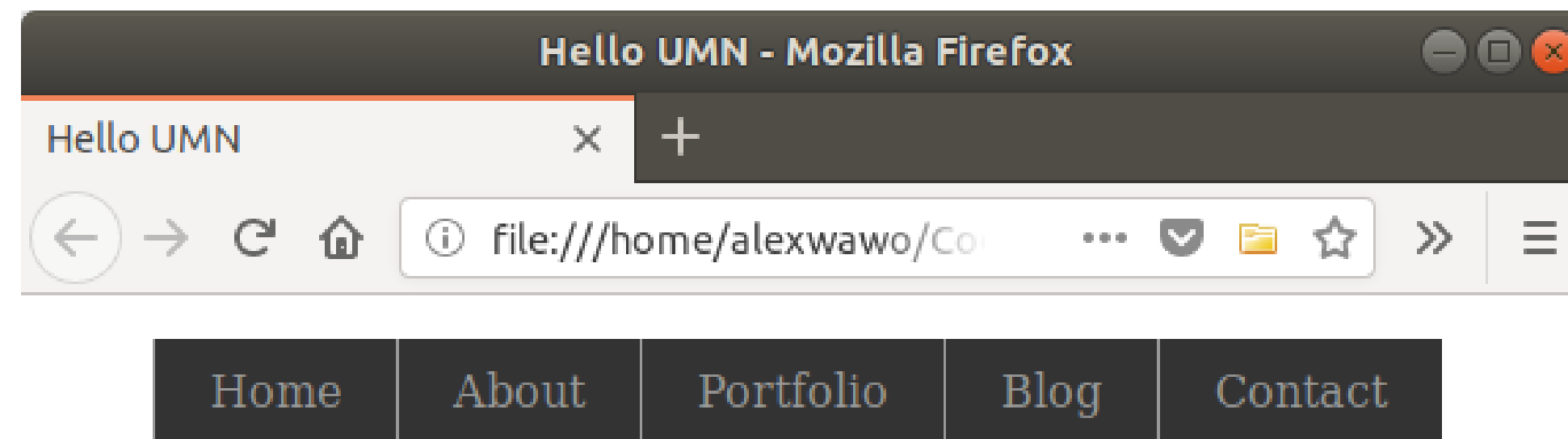
```
/*CSS*/
.nav {
  list-style: none;
  margin: 0;
  padding: 0;
  width: 200px;
}

.nav li{
  border-left: 10px solid rgb(144, 154, 181);
  border-bottom: 1px solid rgb(144, 154, 181);
}

.nav li a:link,
.nav li a:visited{
  background-color: rgb(192, 202, 229);
  color: rgb(49, 52, 61);
  padding: 0.5em;
  display: block;
  text-decoration: none;
  border-left: 5px solid rgb(239, 213, 252);
}
```

# Exercise: Navigation Menu 2

```
<!-- HTML -->
<ul class="nav">
  <li><a href="#">Home</a></li>
  <li><a href="#">About</a></li>
  <li><a href="#">Portfolio</a></li>
  <li><a href="#">Blog</a></li>
  <li><a href="#">Contact</a></li>
</ul>
```



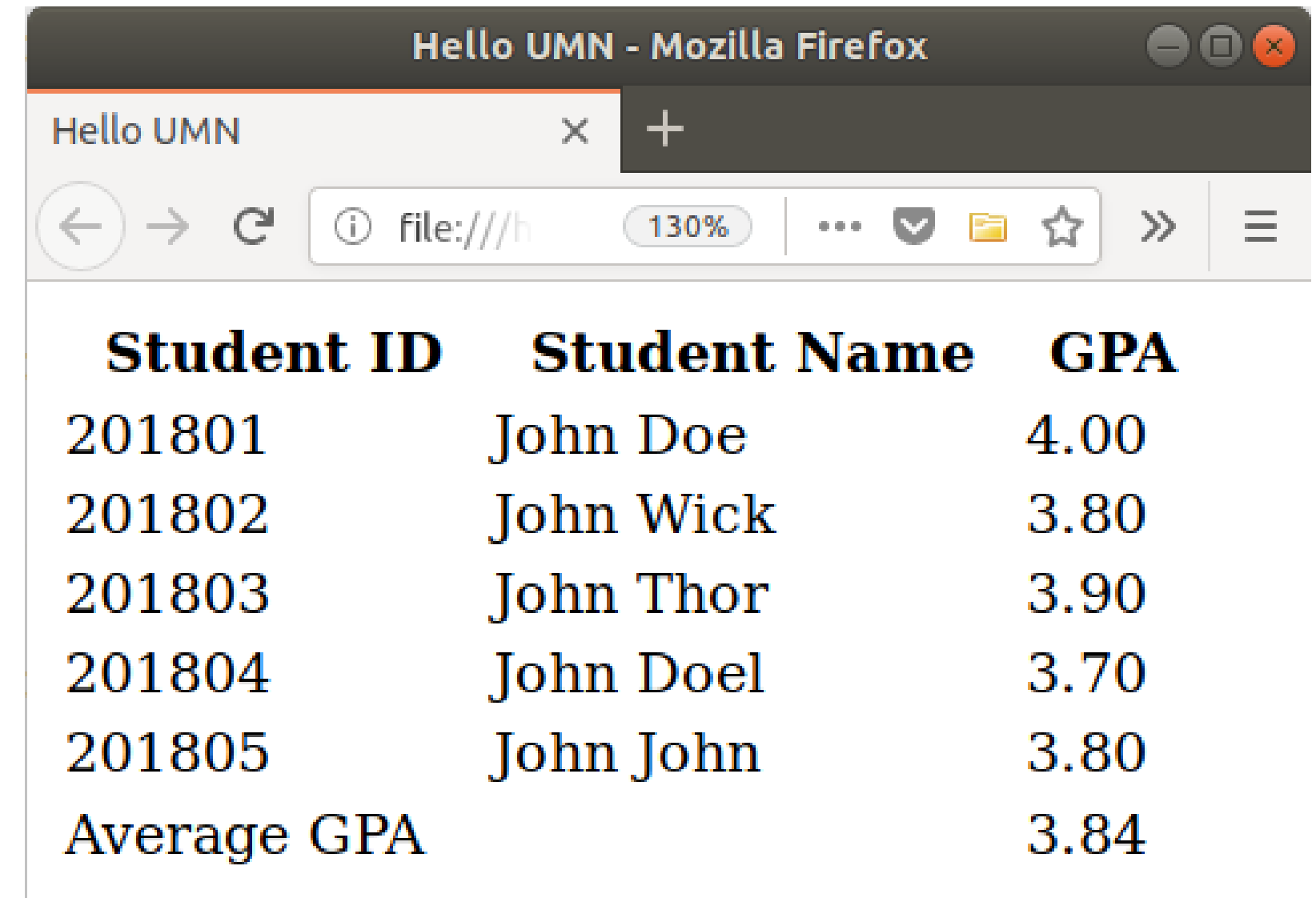
```
/*CSS*/
.nav li{
  list-style: none;
  float: left;
  margin: 0;
  padding: 0;
  border-left: 1px solid #999;
  line-height: 38px;
}

.nav li a:link,
.nav li a:visited{
  text-decoration: none;
  color: #999;
  background: #333;
  padding: 10px 20px;
}
```



# Exercise: Tabular Data

```
<!--HTML-->
<table class="myTable">
  <tr>
    <th width="120">Student ID</th>
    <th width="150">Student Name</th>
    <th width="50">GPA</th>
  </tr>
  <tr>
    <td class="center">201801</td>
    <td>John Doe</td>
    <td class="center">4.00</td>
  </tr>
  ...
  <tr>
    <td colspan="2" id="average">
      Average GPA</td>
    <td class="center">3.84</td>
  </tr>
</table>
```



Student ID	Student Name	GPA
201801	John Doe	4.00
201802	John Wick	3.80
201803	John Thor	3.90
201804	John Doel	3.70
201805	John John	3.80
Average GPA		3.84

# Exercise: Tabular Data

```

/*CSS*/
.myTable { border:1px solid #d6dde6; border-collapse: collapse; }

.myTable td { border:1px solid #d6dde6; padding: 0.3em; }

.myTable th {
  border: 1px solid #828282;
  background-color: #bcbcbc;
  font-weight: bold;
  padding-left: 0.3em;
}

.myTable tr:nth-child(odd) {
  background-color: #dfe7f2;
  color: #000000;
}

.myTable tr:last-child td {
  background-color: #ececec;
}

.myTable .center { text-align: center; }

#average{ text-align: right; }

```

Hello UMN - Mozilla Firefox

Hello UMN

file:///h 130%

Student ID	Student Name	GPA
201801	John Doe	4.00
201802	John Wick	3.80
201803	John Thor	3.90
201804	John Doel	3.70
201805	John John	3.80
Average GPA		3.84

# SUMMARY

After finishing this module, you should be able:

- to understand web design philosophy
- to understand mechanisms of navigation
- to understand CSS
- to understand style location
- to understand CSS syntax, selectors and declarations
- to understand CSS Units
- to understand CSS for text, fonts, color, backgrounds, display and float

# NEXT WEEK'S OUTLINE

- CSS Box Model
- CSS Positioning
- CSS Layouting



next week

# REFERENCES



- <https://www.w3schools.com/tags/default.asp>
- Jon Duckett. 2011. HTML & CSS: Design and Build Websites. John Wiley & Sons.
- <https://www.interaction-design.org/literature/topics/user-centered-design>
- James Kalbach (2007). Designing Web Navigation: Optimizing the User Experience. O'Reilly.
- Mark J. Collins (2017). Pro HTML5 with CSS, JavaScript, and Multimedia: Complete Website Development and Best Practices. Apress.



# Visi

Menjadi Program Studi Strata Satu Informatika **unggulan** yang menghasilkan lulusan **berwawasan internasional** yang **kompeten** di bidang Ilmu Komputer (*Computer Science*), **berjiwa wirausaha** dan **berbudi pekerti luhur**.



# Misi

1. Menyelenggarakan pembelajaran dengan teknologi dan kurikulum terbaik serta didukung tenaga pengajar profesional.
2. Melaksanakan kegiatan penelitian di bidang Informatika untuk memajukan ilmu dan teknologi Informatika.
3. Melaksanakan kegiatan pengabdian kepada masyarakat berbasis ilmu dan teknologi Informatika dalam rangka mengamalkan ilmu dan teknologi Informatika.