

Lecture 11

Introduction to Cascading Style Sheet (CSS)

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Outline

- **Understand the basic concept of CSS**
- **Understand the differences among inline, internal and external style sheets**
- **Understand how to declare a style**

1. Cascading Style Sheet

- All web pages can be **broken** down into **bucketed** content areas
- These areas can be updated by changing the code on **every page**
- or -
- By using cascading style sheets!

1.1 Cascading style sheets

- Created by **Hakon Lie** of MIT in **1994**
- Has become the **W3C** standard for **controlling visual presentation** of web pages
- Cascading style-sheets are **powerful mechanism** to **add style** to web document
- Enforce **standards** and **uniformity**
- Create **dynamic** effects
- Works by allowing you to **specify rules**

1.2 Advantages of Style Sheets

- **Saves time**
- **Easy to change**
- **Keep consistency**
- **Give you more control over layout**
- **Use styles with JavaScript**
- **Make it easy to create a common format for all the Web pages**

2. Writing Style Sheets

- **In-line styles**
- **Embedded/internal styles**
- **External style sheet**

2.1 In-line Styles

- **Inline styles**
 - Add styles to **each tag** within the HTML file
 - Use it when you need to format just a **single section** in a web page
 - **Style** attribute is used to add style
- **Example**
 - **<h1 style="color:red; font-family:sans-serif" > IU </h1>**

2.1 In-line Styles...

```
<html>
<head>
<title>Inline style</title>
</head>
<body>
<h1>This heading is not styled </h1>
<h1 style="color:red;font-size:36px">
This heading is styled with CSS
</h1>
</body>
</html>
```

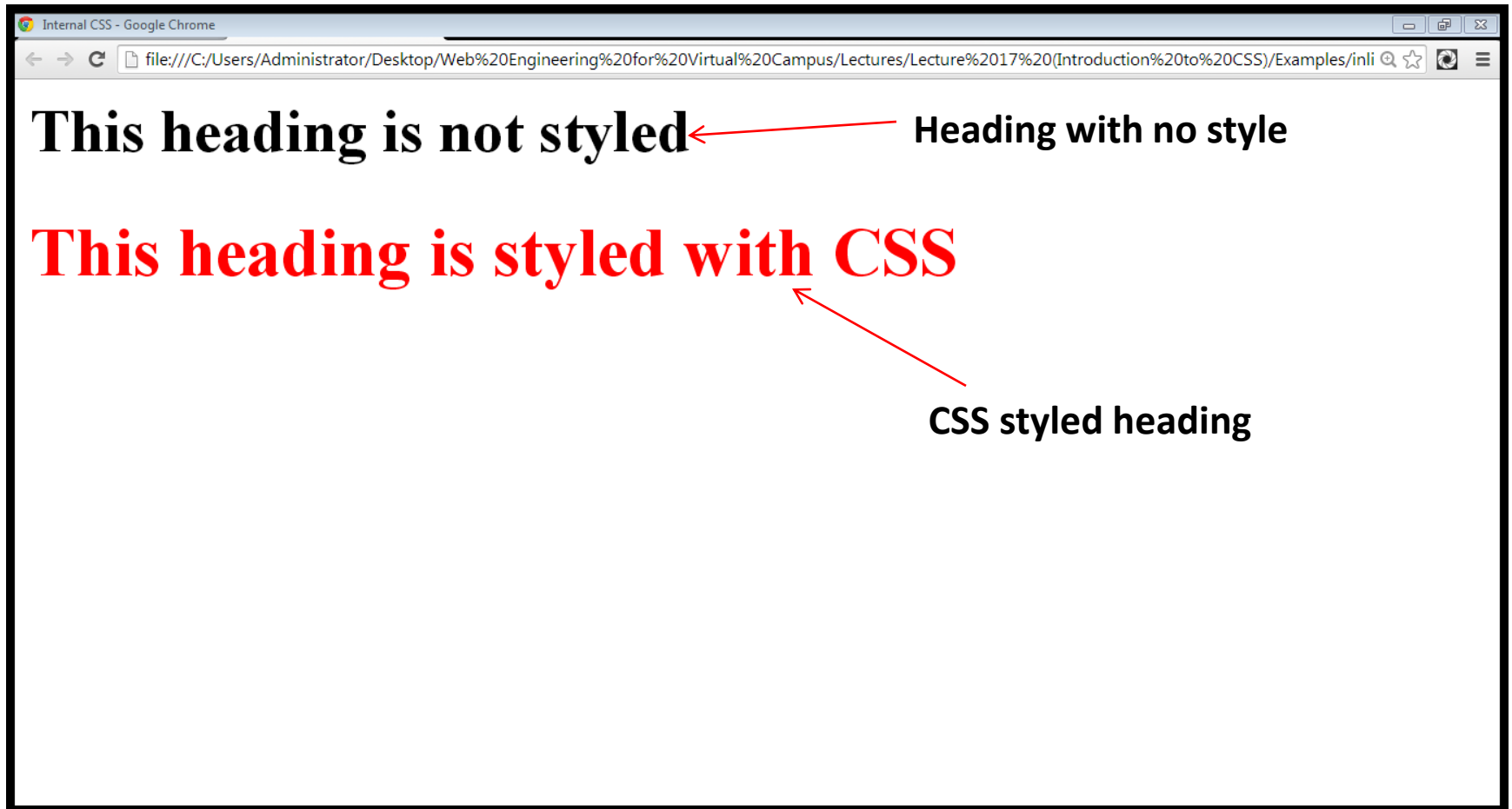
Heading with no style

Style attribute

Color setting

Font size setting

2.1 In-line Styles...



2.2 Internal Styles

- A **style** is applied to the **entire** HTML file
- Use it when you need to modify **all instances** of particular element (e.g., h1) in a **web page**

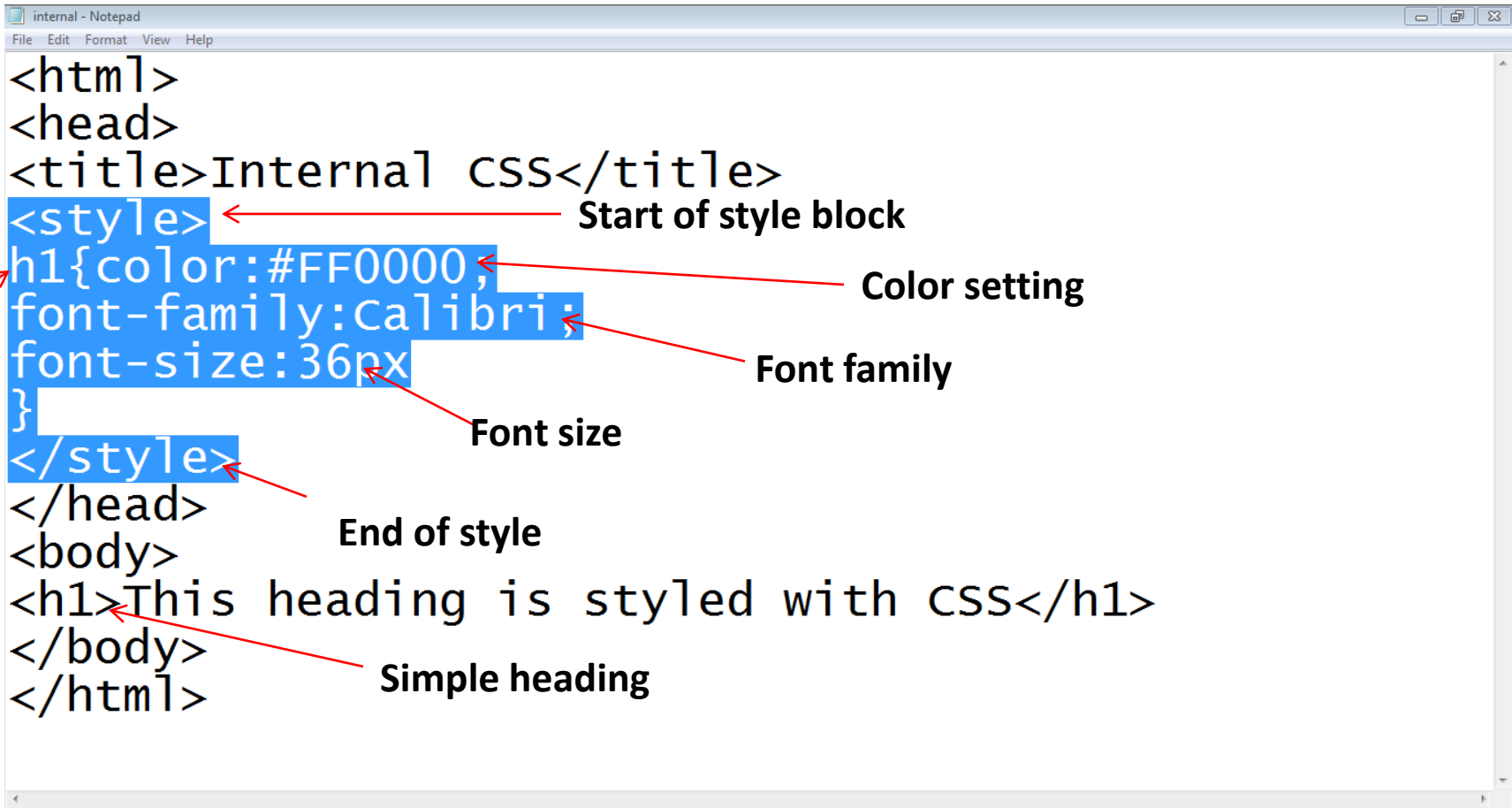
- **Example**

```
<style>
```

```
h1 {color:red; font-family:sans-serif}
```

```
</style>
```

2.2 Internal Styles...



The image shows a Notepad window titled 'internal - Notepad' containing the following HTML code:

```
<html>
<head>
<title>Internal CSS</title>
<style>
h1{color:#FF0000;
font-family:Calibri;
font-size:36px;
}
</style>
</head>
<body>
<h1>This heading is styled with CSS</h1>
</body>
</html>
```

Annotations with red arrows point to specific parts of the code:

- Start of style block**: Points to the opening `<style>` tag.
- Color setting**: Points to the `color:#FF0000;` property.
- Font family**: Points to the `font-family:Calibri;` property.
- Font size**: Points to the `font-size:36px;` property.
- End of style**: Points to the closing `</style>` tag.
- Simple heading**: Points to the `<h1>` tag in the body.
- Tag**: Points to the `h1` tag in the style block.

2.2 Internal Styles...



2.3 External Styles

- An **external style** sheet is a text file containing the **style definition** (declaration)
- Use it when you need to **control** the style for an **entire web site**

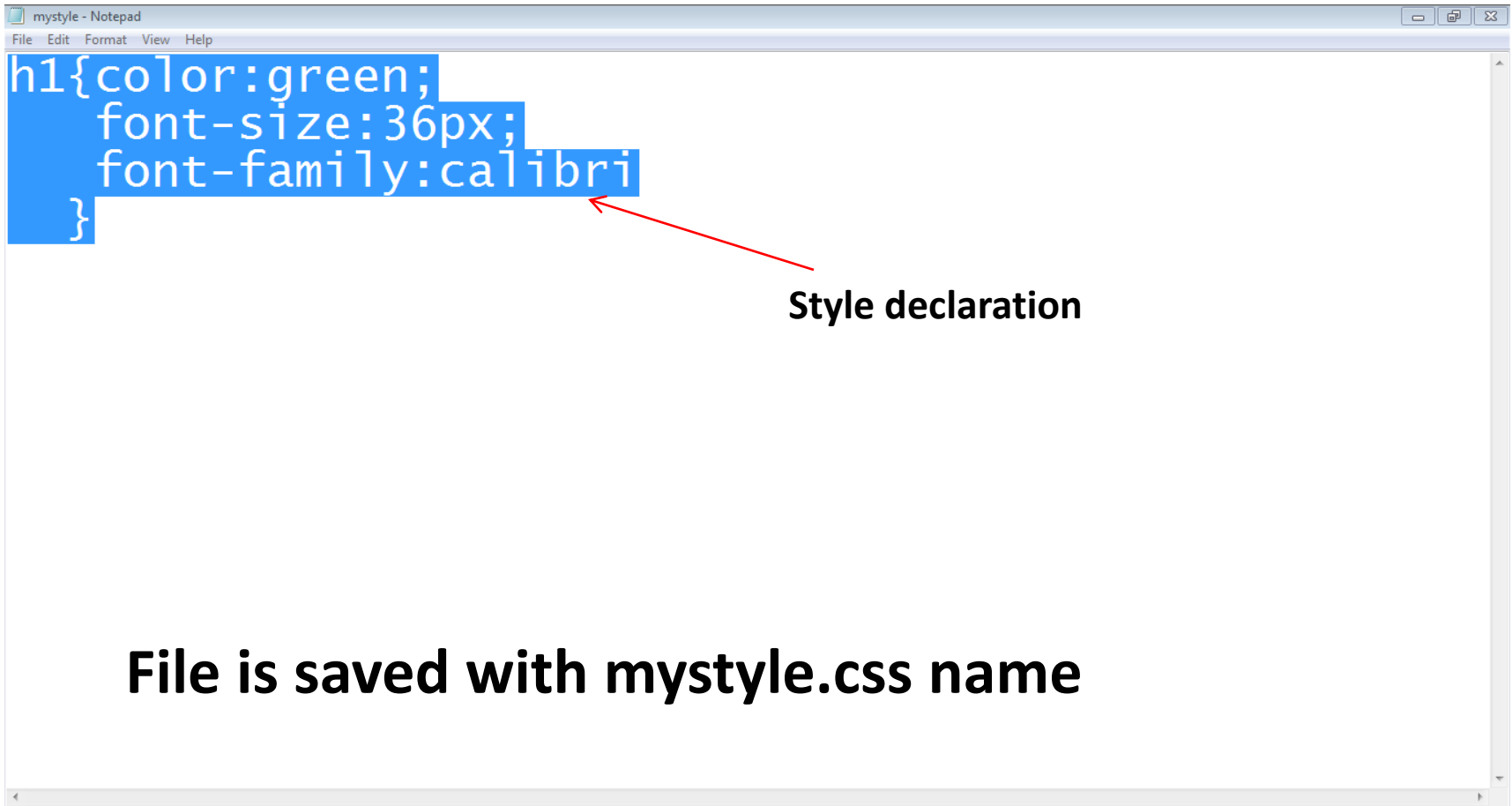
2.3 External Styles...

- Open a new blank document in **Notepad**
- Type style declarations
 - **h1 {color:red; font-family:calibri;}**
- Do not include **<style>** tags
- Save the document as **filename.css**

2.3 External Styles...

- Open an **HTML file**
- Between **<head>** and **</head>** add
 - **<link href=URL rel="relation_type" type="link_type">**
 - **URL is the file.css**
 - **Relation_type="stylesheet"**
 - **Link_type="text/css"**
- Save **this file and the .css file in the same web server directory**

2.3 External Styles...

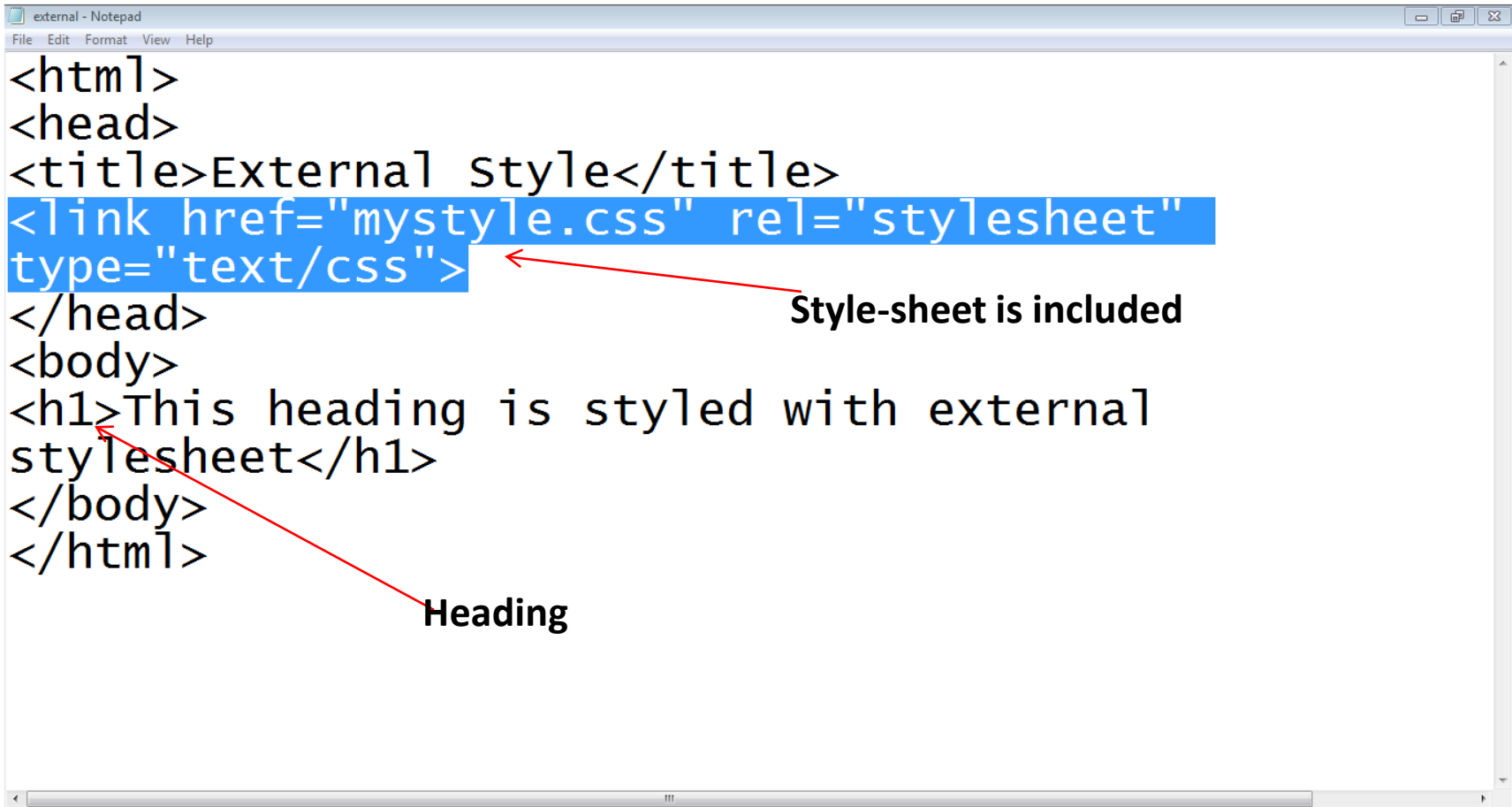


```
mystyle - Notepad
File Edit Format View Help
h1{color:green;
font-size:36px;
font-family:calibri
}
```

Style declaration

File is saved with mystyle.css name

2.3 External Styles...



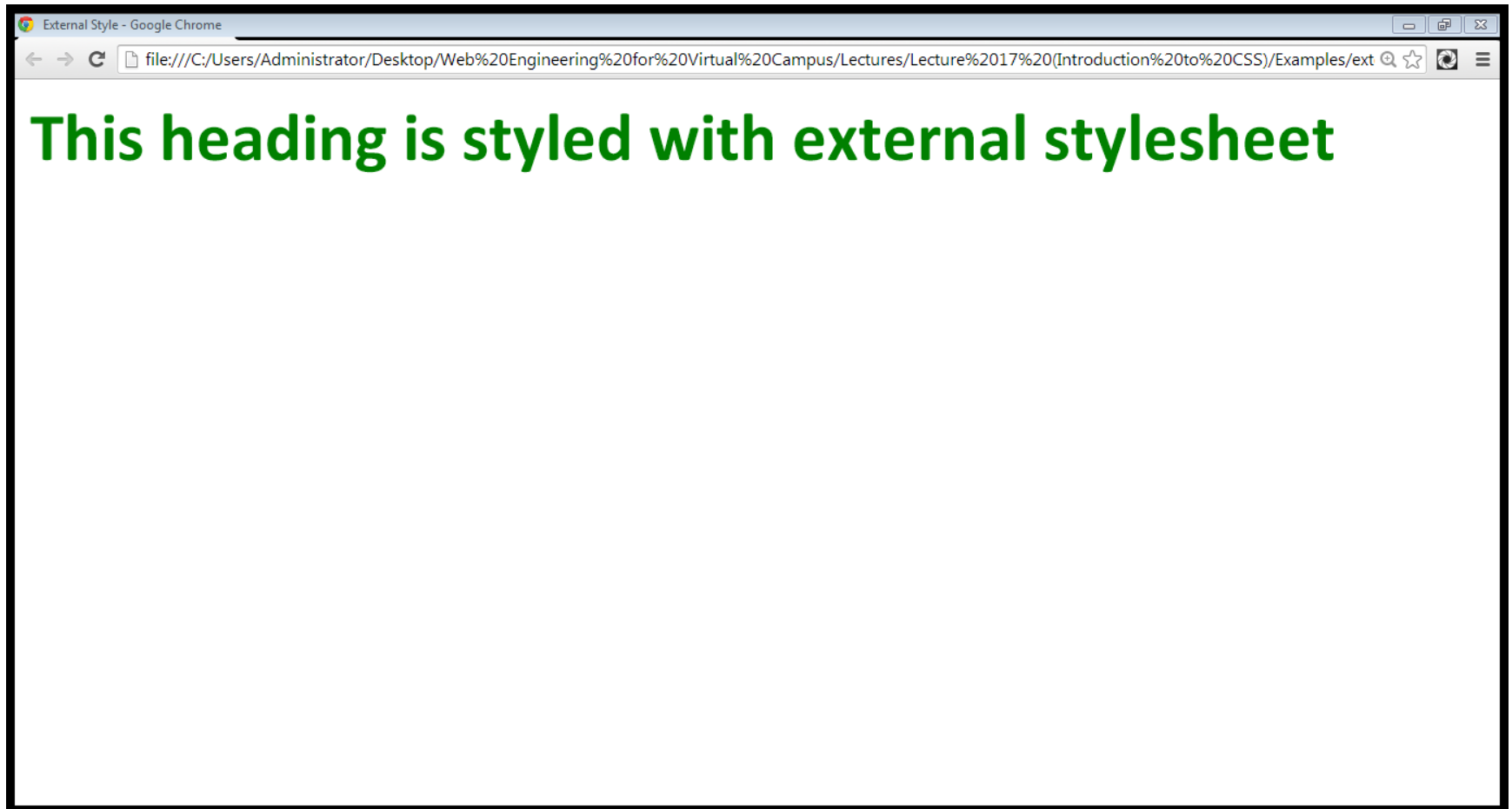
The image shows a Notepad window titled 'external - Notepad' with the following HTML code:

```
<html>
<head>
<title>External style</title>
<link href="mystyle.css" rel="stylesheet"
type="text/css">
</head>
<body>
<h1>This heading is styled with external
stylesheet</h1>
</body>
</html>
```

Annotations in the image:

- A red arrow points from the text "Style-sheet is included" to the `<link href="mystyle.css" rel="stylesheet" type="text/css">` line, which is highlighted in blue.
- A red arrow points from the text "Heading" to the `<h1>This heading is styled with external stylesheet</h1>` line.

2.3 External Styles...



2.4 Style Sheet Strategies

- **Whenever possible, place your styles in external style sheets**
- **At the top level of your web site: define a default global.css style sheet**
- **Refine styles at sublevels with a section.css style sheet**
- **Try to avoid using styles in tags**

3. CSS Syntax

3.1 Defining a CSS Rule

- **CSS works** by allowing you to associate rules with the elements that appear in a web page
- These rules **govern** how the content of those elements should be **rendered**

3.2 Using Id,s

- Use an id to **distinguish** something, like a paragraph, from the **others** in a document
- The **id selector** is used to specify a style for a **single**, unique element

3.2 Using Id,s...

- **Create a style Id:**
 - **#id_name {style attributes and values}**
- **Use a style Id:**
 - **<tag ID=id_name>**

3.2 Using Id,s...

```
id - Notepad
File Edit Format View Help
<html>
<head>
<title>Using ID</title>
<style>
p{color:red}
#p1{color:blue}
</style>
</head>
<body>
<p>This paragraph does not use Id</p>
<p id="p1">This paragraph uses Id</p>
</body>
</html>
```

3.2 Using Id,s...



2.3 Using Classes

- HTML and XHTML require each **id** be **unique**— therefore an id value can only be used **once** in a document
- You can mark a group of elements with a common identifier using the **class attribute**

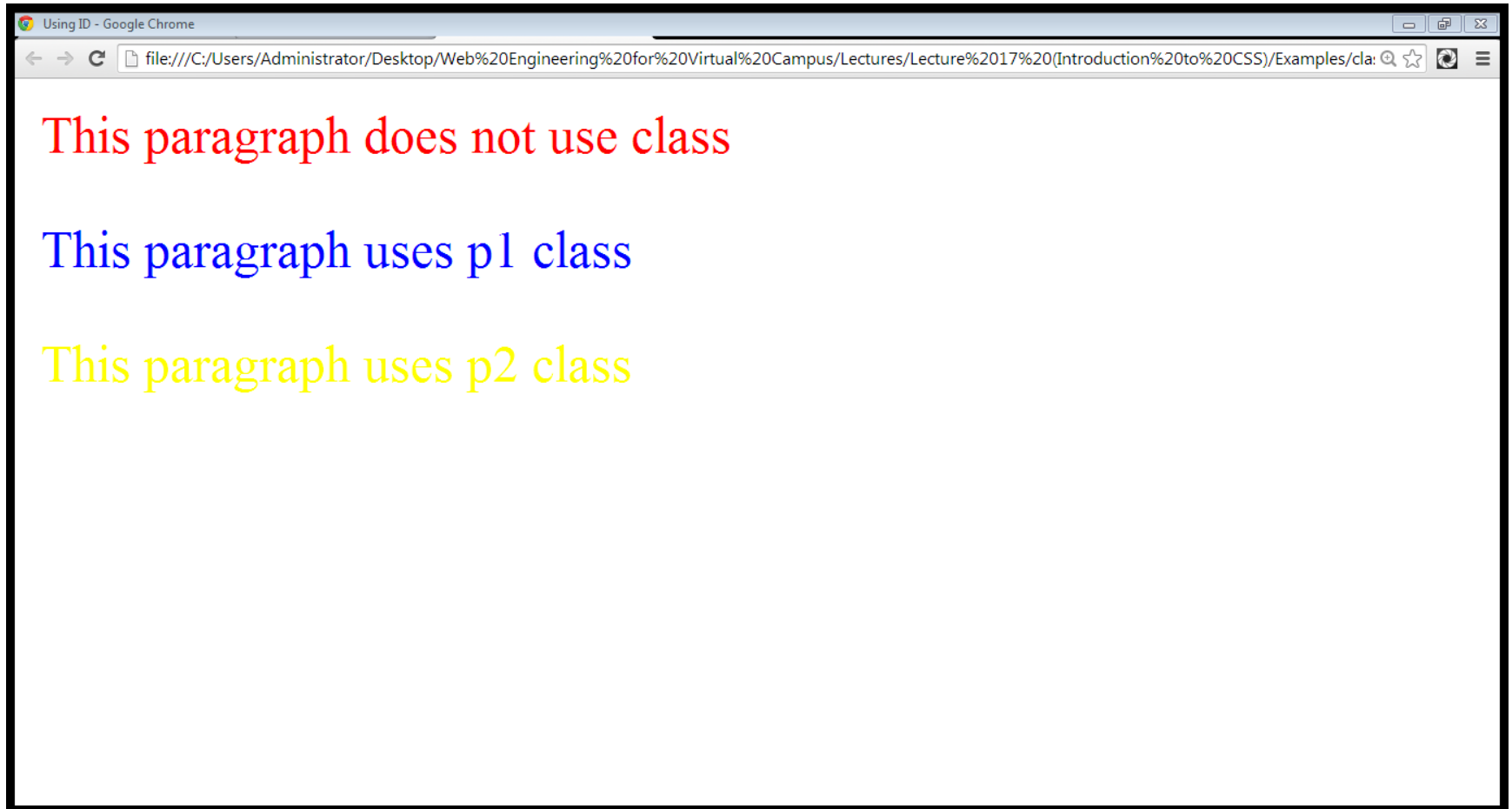
2.3 Using Classes...

- **To create a class**
 - **tag.class_name {style attributes} or**
 - **.class_name {style attributes}**
- **To apply a style**
 - **<tag CLASS=class_name>**
 - **<h1 CLASS=FirstHeader>IU</h1>**

2.3 Using Classes...

```
classes - Notepad
File Edit Format View Help
<html>
<head>
<title>Using ID</title>
<style>
p{color:red}
p.p1{color:blue}
.p2{color:yellow}
</style>
</head>
<body>
<p>This paragraph does not use class</p>
<p class="p1">This paragraph uses p1 class</p>
<p class="p2">This paragraph uses p2 class</p>
</body>
</html>
```

2.3 Using Classes...



3.4 Difference between classes and Id,s

- you can't have **more than one** tag with the same ID value
- You can apply the same Class value to **multiple document tags**
- **Classes or Id?**
 - use ID's for any elements that are simply used once on a page

OR

- only use classes to style websites, but, when you have to use an element in JavaScript, use an identifier

Summary

- **CSS basics**
- **CSS writing option**
- **CSS rules**
- **Id,s and Classes**

References

- **Chapter 7, Beginning HTML, XHTML, CSS, and JavaScript**, by Jon Duckett, Wiley Publishing; 2009, ISBN: 978-0-470-54070-1.