INFO2180 - LECTURE 2

HTML/CSS

Photo by Goran Ivos on Unsplash

HYPERTEXT MARKUP LANGUAGE (HTML)

HTML

> HTML is a markup language, used to tell your browser how to structure the webpages you visit.

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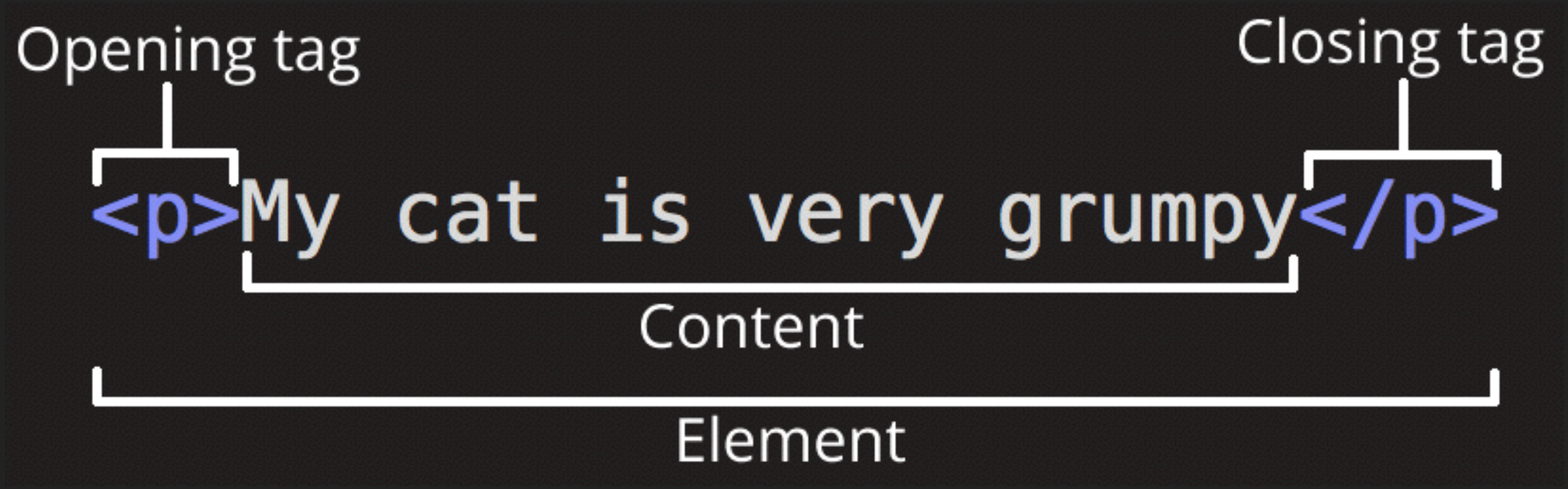
HTML consists of a series of elements, which you use to enclose, or wrap, different parts of the content to make it appear a certain way, or act a certain way.

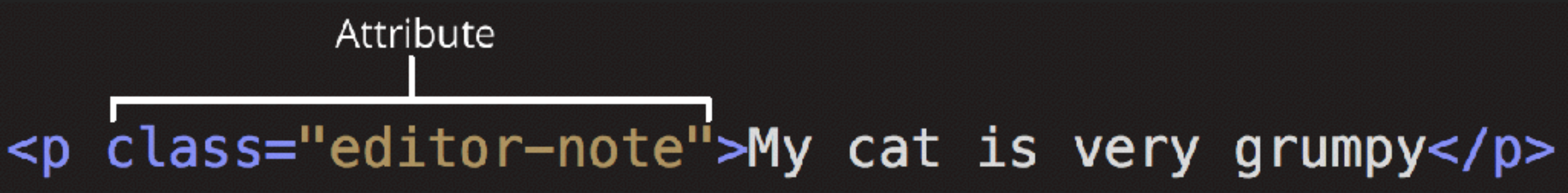
ANATOMY OF AN HTML ELEMENT



```
<p>My cat is very grumpy</p>
```

HTML ATTRIBUTES

- Elements can also have attributes
- And some elements have different attributes



```
<p class="editor-note">My cat is very grumpy</p>
```

NESTING ELEMENTS

- You can place elements inside other elements.

```
<p>My cat is <strong>very</strong> grumpy.</p>
```

- Ensure that they are properly nested (as shown above) and not the following:

```
<p>My cat is <strong>very</p> grumpy.</strong> ✗
```

EMPTY ELEMENTS

- Some elements have no inner content.
- `<img src="images/firefox-icon.png" alt="My test image">`
- Other examples are the `<input />`, `<hr />` and `<br />`.

ANATOMY OF AN HTML DOCUMENT

```
<!DOCTYPE html>
<html>
  <head>
    <meta charset="utf-8">
    <title>My test page</title>
  </head>
  <body>
    <p>This is my paragraph</p>
    <img src="images/firefox-icon.png" alt="My test
image" />
  </body>
</html>
```

DOCTYPE

An instruction to the web browser about what version of HTML the page is written in.

```
<!DOCTYPE html>
```

```
<!DOCTYPE html PUBLIC "-//W3C//DTD
XHTML 1.0 Strict//EN" "http://
www.w3.org/TR/xhtml1/DTD/xhtml1-
strict.dtd">
```

IMAGES

```
<img src="images/firefox-icon.png"
alt="Firefox logo" width="250"
height=“350" />
```

HEADINGS

```
<h1>My main title</h1>

<h2>Level 2 heading</h2>

<h3>Level 3 heading</h3>

<h4>Level 4 heading</h4>

<h5>Level 5 heading</h5>

<h6>Level 6 heading</h6>
```

LINKS

- Links are what makes the Web **A WEB**. They link to other web pages or files.

```
<a href="https://www.mona.uwi.edu/">UWI
Mona</a>

<a href="documents/
mydocument.pdf">Download Document</a>
```

COMMENTS

```
<!-- This will not show on your page -->
```

LISTS

- Ordered List uses `<ol>` element
- Unordered List uses `<ul>` element
- Definition Lists uses `<dl>` element

EXAMPLE ORDERED LIST

```html
<ol>
  <li>technologists</li>
  <li>thinkers</li>
  <li>builders</li>
</ol>
```

EXAMPLE UNORDERED LIST

```
<ul>
  <li>technologists</li>
  <li>thinkers</li>
  <li>builders</li>
</ul>
```

EXAMPLE DEFINITION LIST

```html
<dl>
  <dt>Fun</dt>
  <dd>amusing or entertaining</dd>
  <dt>Learn</dt>
  <dd>gain or acquire knowledge</dd>
</dl>
```

META TAGS

- They provide additional information about your page for web browsers, search engines, etc.

```
<meta charset="utf-8">
<meta name="description"
   content="Learn to create awesome websites." />
<meta name="keywords" content="html, css, javascript" />
<meta name="author" content="John Doe">
```

These <meta> tags are typically placed in the <head></head> of the document.

HTML CHARACTER ENTITIES

- Reserved characters in HTML must be replaced with character entities. (e.g. `<` `>` are `&lt;` `&gt;`)
- Characters that are not present on your keyboard can also be replaced by entities. E.g. é è ñ are `&eacute;` `&egrave;` `&ntilde;`
- ™ © are `&trade;` `&copy;`
- And there are many others

BLOCK AND INLINE ELEMENTS

- Elements are usually either block-level or inline elements.
- Block-Level elements begin on new lines (e.g. `<div>, <p>, <h1>, <ol>, <ul>, <table>`). They typically occupy the entire space of its parent element (container) and can contain inline elements or other block-level elements.
- Inline elements can start anywhere in a line and occupies only the space bounded by the tags that define the inline element. (e.g. `<a>, <span>, <strong>, <em>`)

TABLES

- HTML Tables are used to to mark up structured tabular data.
- The <table></table> element is used to create a table on a page.
- The <tr></tr> element is then used to define rows in a table.
- The <td></td> element defines a table cell and when more than on is used within a row, it creates columns.
- You can also create table headings use the <th></th> element.

```html
<table>
  <tr>
    <th scope="col">Item</th>
    <th scope="col">Availability</th>
    <th scope="col">Qty</th>
    <th scope="col">Price</th>
  </tr>
  <tr>
    <td>Textbook</td>
    <td>In Stock</td>
    <td>1</td>
    <td>$130.02</td>
  </tr>
  <tr>
    <td>Mechanical Pencils</td>
    <td>In Stock</td>
    <td>2</td>
    <td>$52.94</td>
  </tr>
</table>
```

WEB STANDARDS

WEB STANDARDS

ARE RULES AND GUIDELINES ESTABLISHED BY THE WORLD WIDE WEB CONSORTIUM (W3C) TO PROMOTE CONSISTENCY IN THE CODE WHICH MAKES UP A WEB PAGE

http://www.soswebdesign.com/gallery/webstandards.cfm

WEB STANDARDS

- Its important to ensure you follow the Standards
  - It ensures your pages will work across different browsers.
  - more likely to display properly in the future.
- Current Standard is HTML 5
- Use the W3C Validator to check your HTML markup. https://validator.w3.org/

CASCADING STYLESHEETS (CSS)

THE OLD/BAD WAY TO STYLE YOUR WEBPAGES

```
<p>
  <font face="Arial">Welcome to The Best Website.</
font>
  You will <b>never</b>, <i>ever</i>, <u>EVER</u>
find a
  <font size="+4" color="red">BETTER</font> website!
</p>
```

NOW WE USE CSS

CSS

> CSS is the code you use to style your webpage.

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CSS lets you apply styles selectively to elements in HTML documents.

HOW DO YOU ADD CSS TO YOUR WEBPAGE?

3 WAYS TO ADD STYLES

- External Stylesheet (highly recommended)
- Internal/Embedded Stylesheet
- Inline Styles (not recommended)

EXTERNAL STYLESHEET

```
<link href="my-styles.css"
rel="stylesheet" type="text/css">
```

Place this between the <head></head> tags in your HTML document.

Recommended way as it’s easier to maintain and you don’t mix presentation with content.

INTERNAL/EMBEDDED STYLESHEET

```
<style type="text/css">
/* Put CSS rules here */
</style>
```

Place this between the <head></head> tags in your HTML document.

INLINE STYLES

```html
<p style="font-size: 14px; color:
red;">This is my paragraph</p>
```

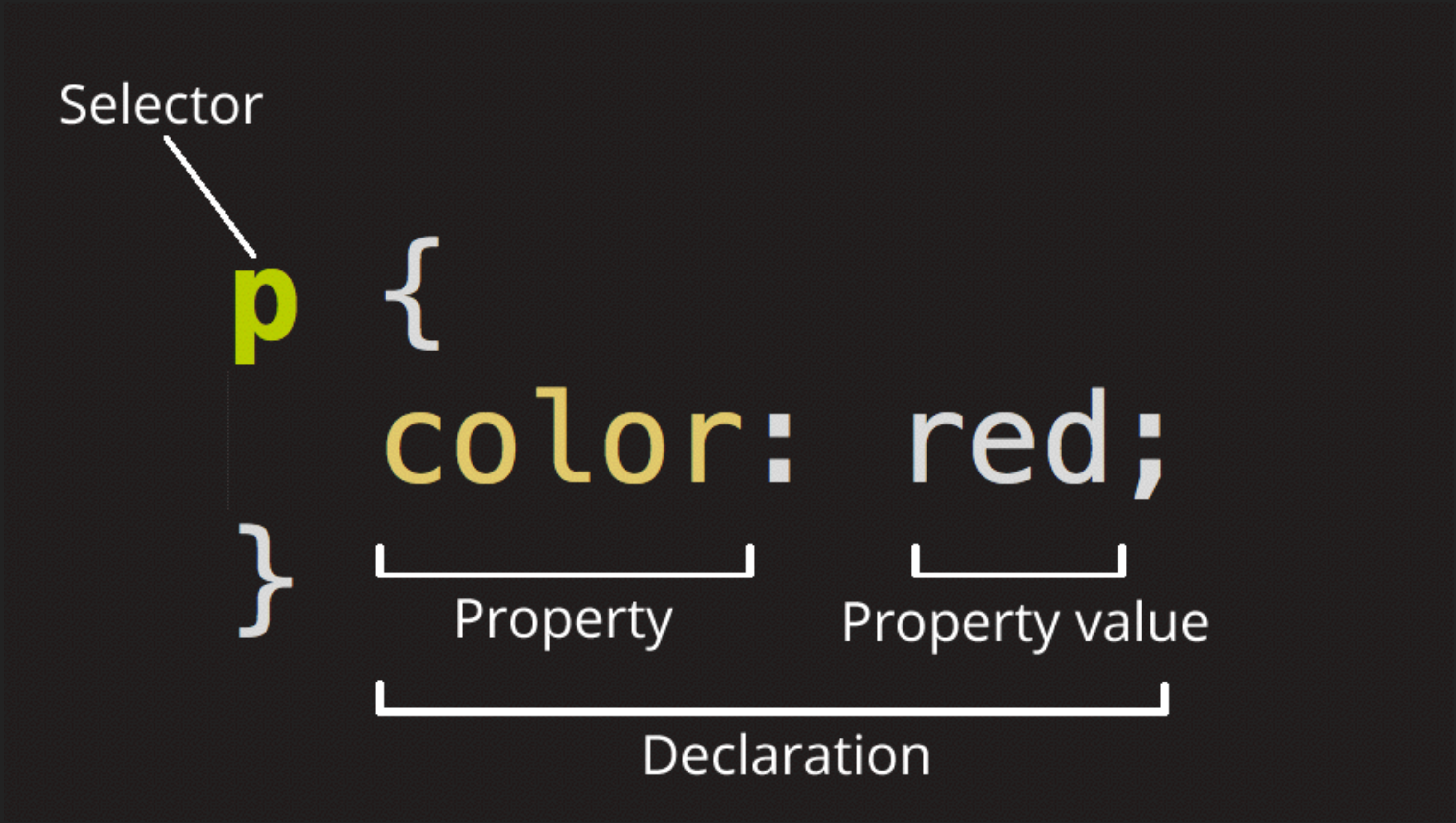
Not Recommended as its difficult to maintain and mixes presentation with content.

EXAMPLE CSS RULE

```css
p {
    color: red;
}
```

This makes all paragraphs red.

ANATOMY OF A CSS RULE



```
p {
    color: red;
}
```

EXAMPLE WITH MULTIPLE PROPERTY VALUES

```
p {
  color: red;
  width: 500px;
  border: 1px solid black;
  background-color: #ffffff;
}
```

EXAMPLE WITH MULTIPLE SELECTORS

```
p,
h1,
li {
  color: red;
}
```

EXAMPLE WITH FONT PROPERTIES

```css
h1 {
  font-size: 60px;
  font-family: Georgia, “Times New Roman”, serif;
  text-align: center;
  font-weight: bold;
  font-style: italic;
}

p, li {
  font-size: 16px;
  line-height: 2;
  letter-spacing: 1px;
}
```

TYPES OF SELECTORS

- Element Selector (e.g. `p` selects `<p>`)
- ID Selector (e.g. `#my-id` selects `<p id="my-id">`)
- Class Selector (e.g. `.my-class` selects `<p class="my-class">`)
- Attribute Selector (e.g. `img['src']` selects `<img src="image.jpg">` but not `<img>`)
- Pseudo Selector (e.g. `a:hover`, selects `<a>` but only when mouse hovers over link)
- And there are others.

ANY QUESTIONS?