

HTML Basics

Website Development 1

Overview

- Module introduction
- The nature of the Web
- HTML basics:
 - Page structure
 - Formatting
 - Adding an image
 - Adding lists
 - Linking pages
 - Validation
- Structure of practical classes

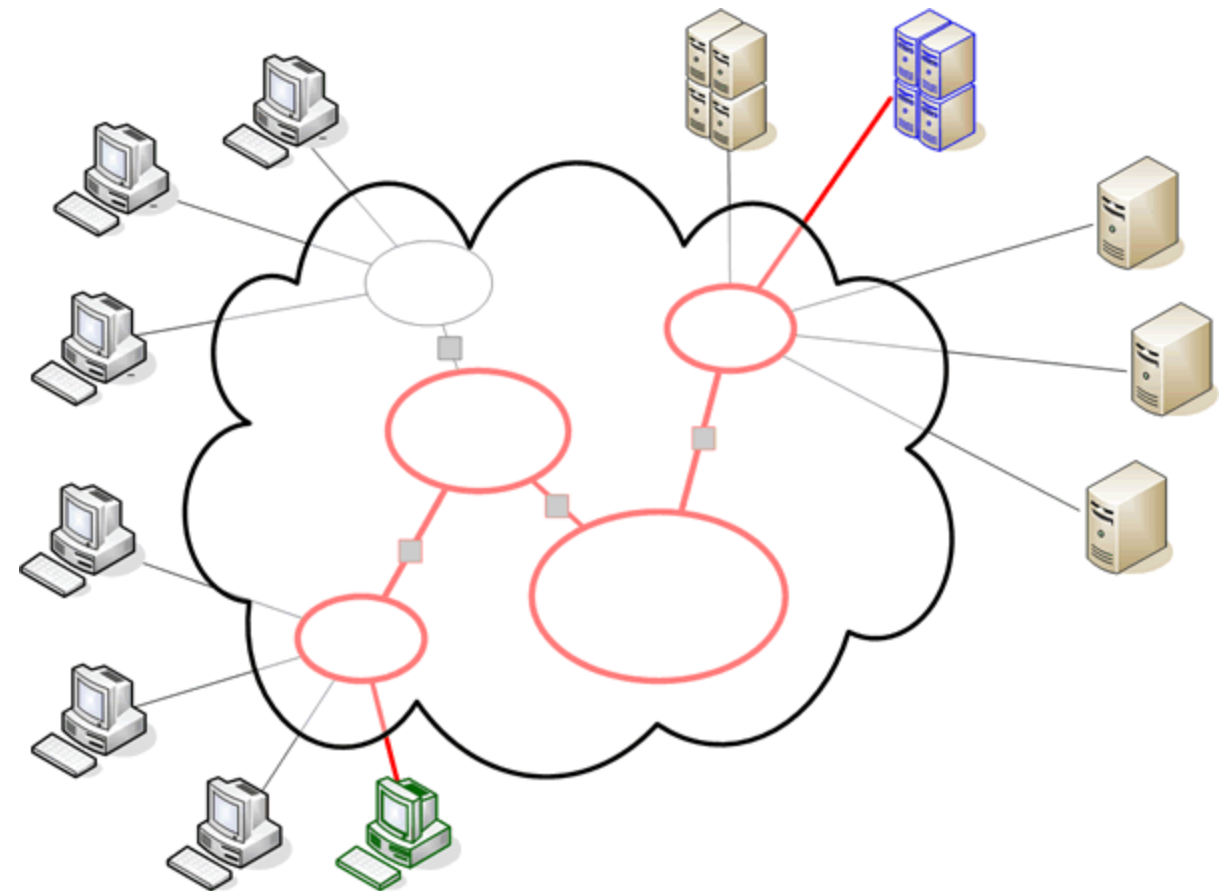
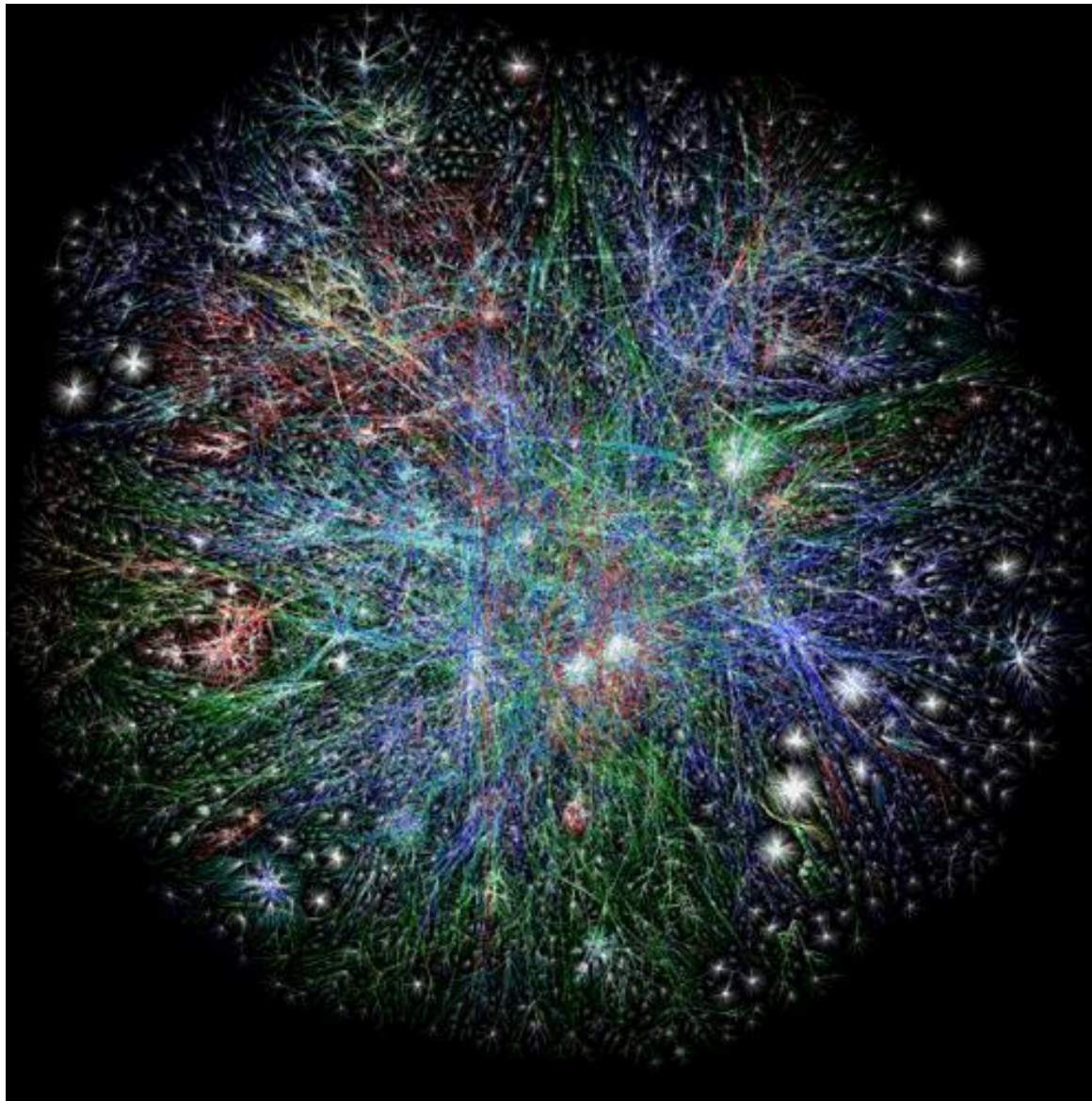
Website Development 1

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- 12 Week Module
 - 1 lecture
 - 3 hours supervised lab
 - 100% Continuous assessment
 - 2 Assignments during term

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The Internet



The Internet

- Global network infrastructure connecting millions of computers.
- More than 190 countries linked
- www.internetlivestats.com
- Over one billion websites.

World Wide Web

- The world wide web is a huge globally distributed collection of information and data that can be accessed via the internet with the help of http: Hypertext Transfer Protocol
- WWW has made the Internet the most important communication medium of our days.
- Thanks to the simple to use graphical interface – The Web Browser – the WWW provides everyone with simple access to information

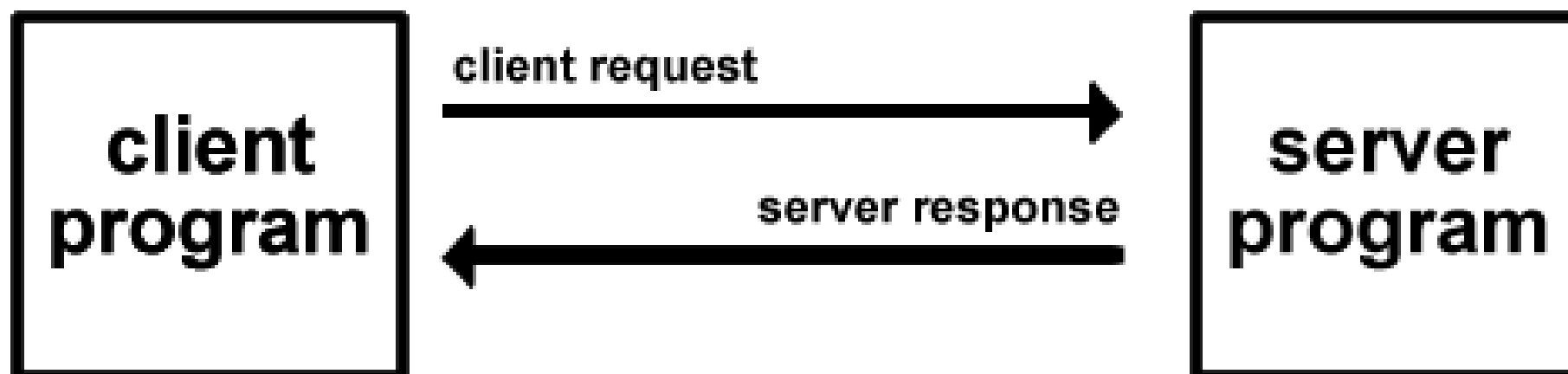


The Web

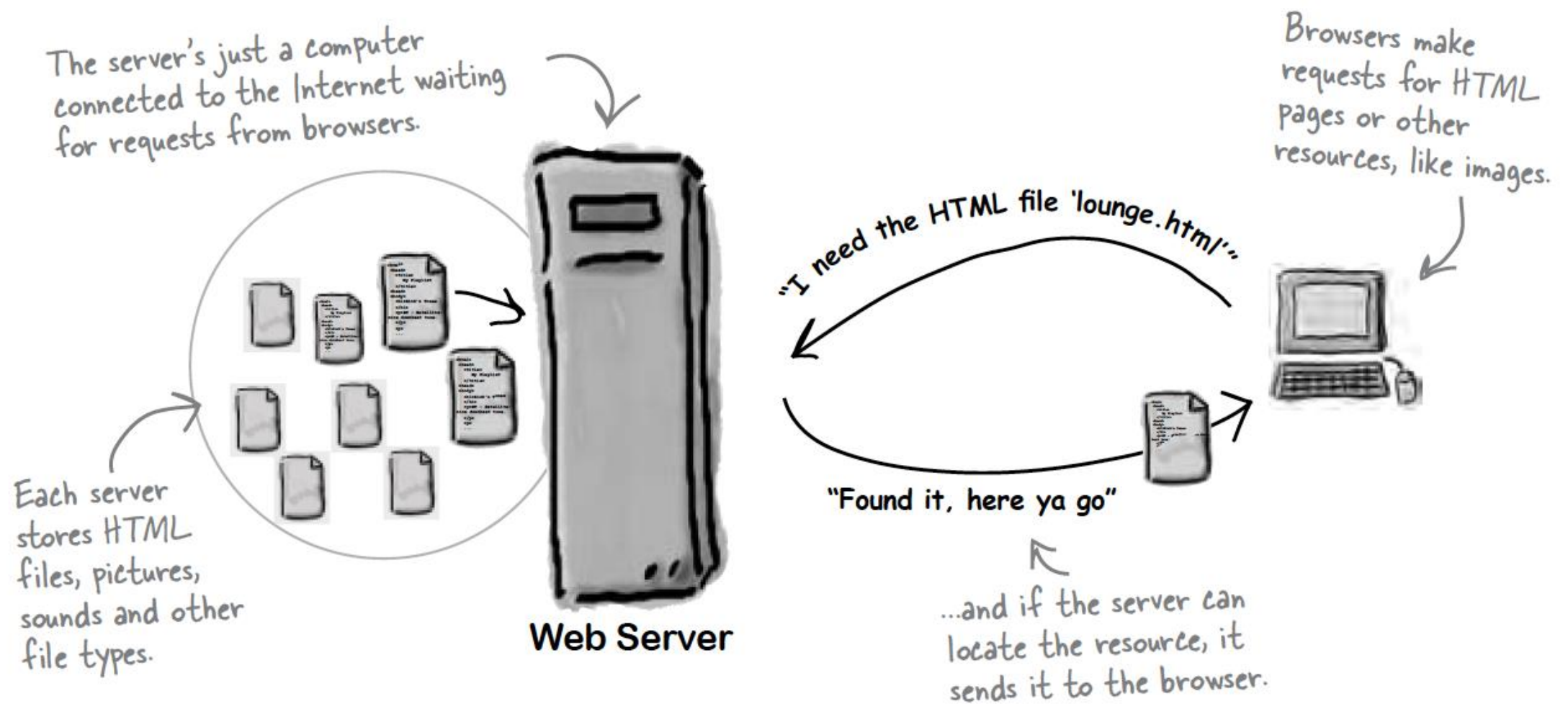
- Protocols & Standards
 - Protocol : agreed vocabulary to enable two programs to communicate
 - Standard: an agreed definition of the structure and meaning of a document
- Web Protocol
 - Hyper Text Transfer Protocol - HTTP
- Web Standard
 - Hyper Text Markup Language – HTML
 - Cascading Style Sheets - CSS
- Web Servers and Web Browsers use HTTP to exchange HTML documents

Clients and Servers

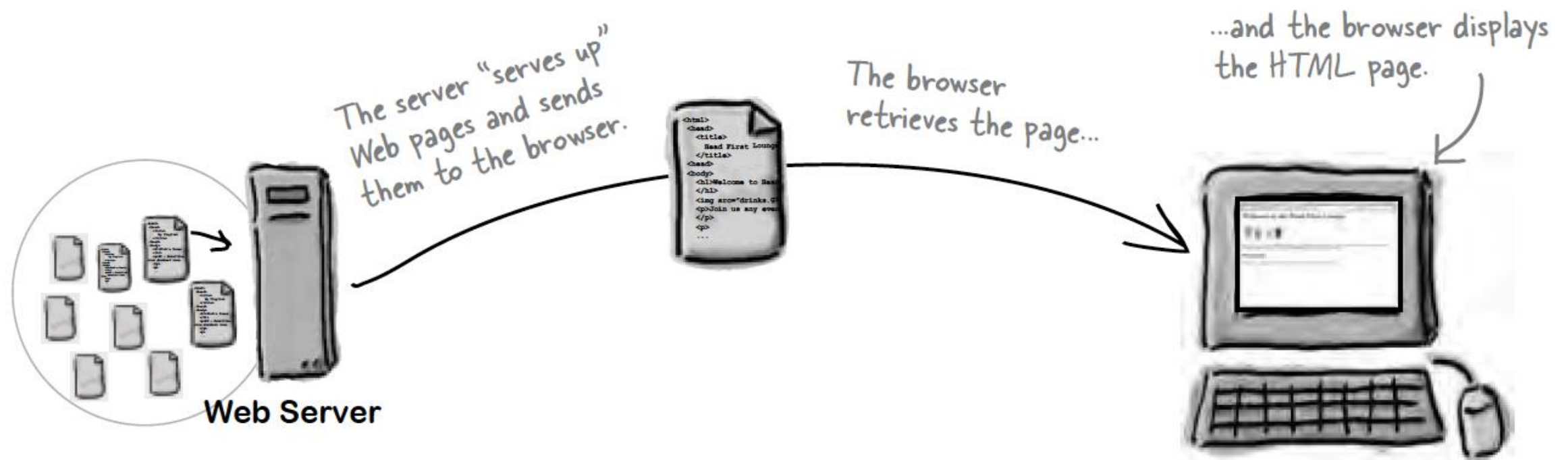
- Client/Server Computing:
 - The interaction between two programs when they communicate across a network.
 - A program at one site sends a request to a program at another site and awaits a response.
 - The requesting program is called a client; the program satisfying the request is called the server.



Role of Server



Role of Client



Hyper Text Markup Language

- HTML tells your browser about the structure of your document:
 - where the headings are,
 - where the paragraphs are,
 - what text needs emphasis, etc
 - what text needs to be linked
 - what images to be displayed
- Given this information, browsers have built-in default rules for how to display each of these elements.
- This information is conveyed using “Tags”, this denotes the intention of the author regarding the structure and display of the document.

HTML

- An HTML document is called a 'page'
- The starting page of a site is called the 'homepage'
- Markup language should only be used for the description of the document structure and not to describe the document presentation
- Every HTML document consists of two parts:
 - Document 'header': contains information about the document.
 - Document 'body': contains the content of the document.

HTML Tags

(more correctly called Elements)

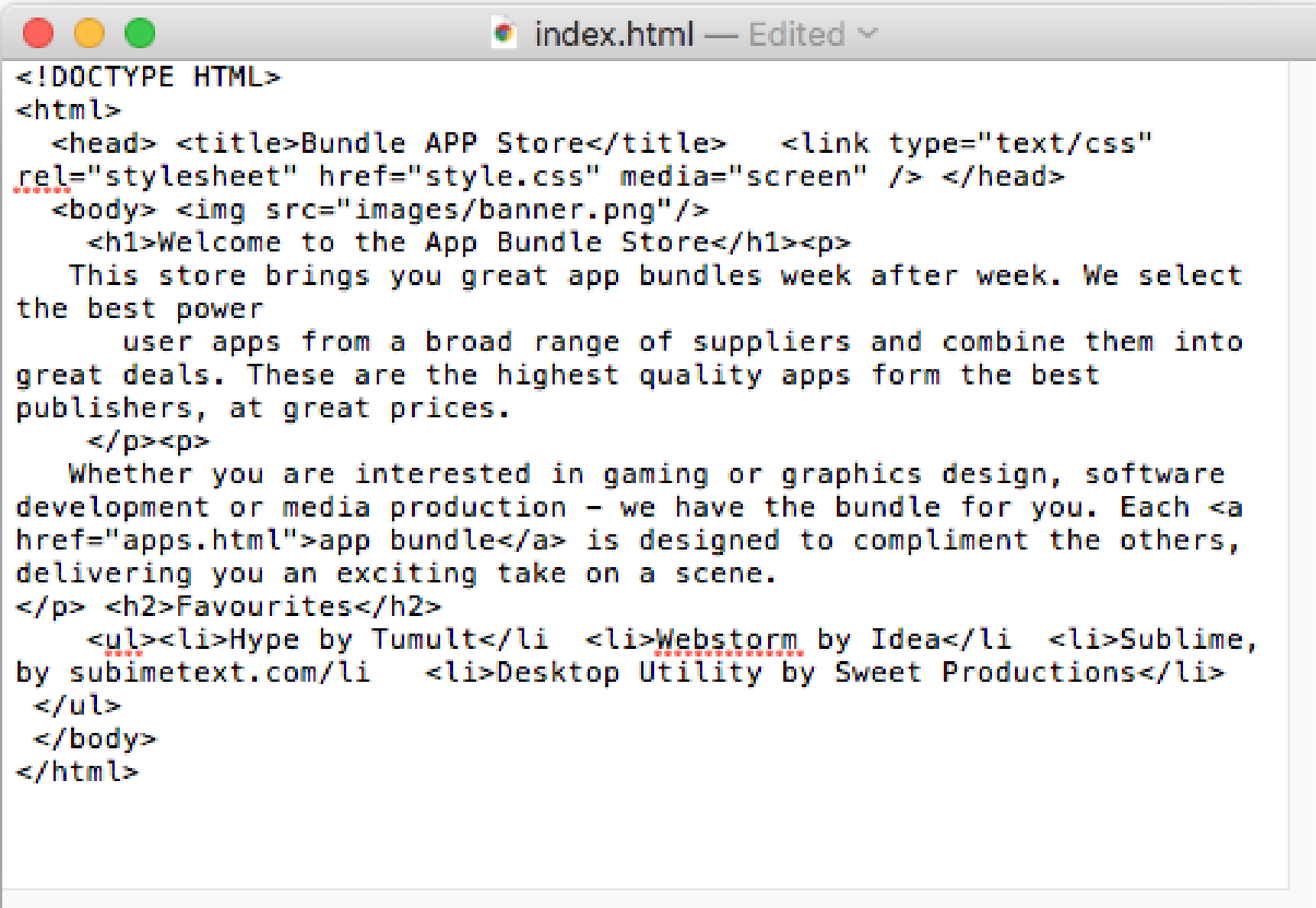
*Tags for this
week*

```
<html>
<head>
  <title>
</head>
<body>
  <h1>
  <h2>
  <p>
  <a>
  <img>
```

- Grouped by purpose:
 - Structural
 - <html>, <head>, <title>, <body>
 - Text
 - Heading
 - <h1>, <h2>
 - Text
 - <p>, , <i>
 - Hypertext
 - <a>
 - Image
 -

The Code in a Conventional Editor

- The actual document text - but poorly structured (indented)



```
<!DOCTYPE HTML>
<html>
  <head> <title>Bundle APP Store</title>   <link type="text/css"
rel="stylesheet" href="style.css" media="screen" /> </head>
  <body> 
    <h1>Welcome to the App Bundle Store</h1><p>
      This store brings you great app bundles week after week. We select
the best power
      user apps from a broad range of suppliers and combine them into
great deals. These are the highest quality apps form the best
publishers, at great prices.
    </p><p>
      Whether you are interested in gaming or graphics design, software
development or media production - we have the bundle for you. Each <a
href="apps.html">app bundle</a> is designed to compliment the others,
delivering you an exciting take on a scene.
    </p> <h2>Favourites</h2>
      <ul><li>Hype by Tumult</li> <li>Webstorm by Idea</li> <li>Sublime,
by subimetext.com/li   <li>Desktop Utility by Sweet Productions</li>
      </ul>
    </body>
  </html>
```

The Code in a Programmer's Editor

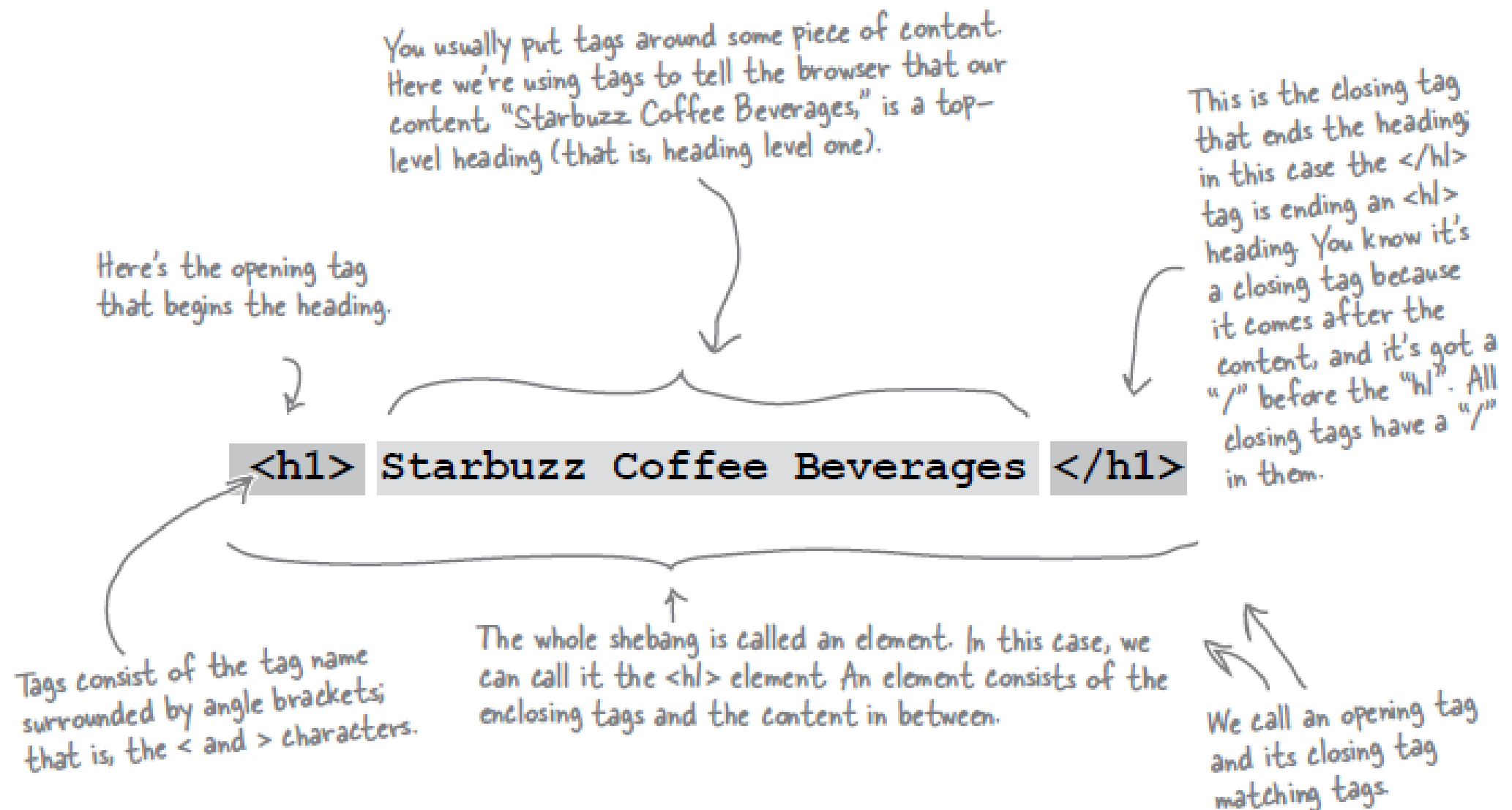
```
html
1 <html>
2   <head>
3     <title>Bundle APP Store</title>
4   </head>
5   <body>
6     
7     <h3>Freebie</h3>
8     <p>
9       Stacksocial just published its so called Free Ondesoft Mac Tool Bundle, which contains
10      5 apps from Ondesoft. The bundle worth $146 will be probably available only a couple
11      of days so you'd better hurry up to get it.
12    </p>
13    <p>
14      
15    </p>
16    <hr>
17    <h3>Macware Business Bundle</h3>
18    <p>
19      Here comes the next bundle for march. This time its macware who publish a bundle. The
20      so called macware Business Bundle contains 6 apps at a price of only $29.99 instead
21      of $199.94. So you can save around 84%. There is n...
22    </p>
23  </body>
24 </html>
```

- Same document - pleasingly indented and syntax highlighted

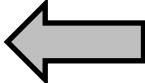

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Components of an HTML Element



Components of an HTML Element

<code><ElementName ></code>		
Content		Start Tag
<code></ElementName></code>		End Tag

Example: <title>

<title>My App Store</title>

ElementName: *<title>*
Content: *My App Store*
ElementName: *</title>*

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Structural Elements - <html>

- The html element is the outer container for everything that appears in an HTML document.
- It can only contain two elements as direct descendants, namely the head element and the body element.
- As it is the outermost element in the document, it's also known as the root element.
- This element will have a place on every single web page you ever create. There's no case in which you would not use this element when crafting a web page.

```
<html>  
  <head>  
    ...  
  </head>  
  <body>  
    ...  
  </body>  
</html>
```

Structural Elements - <head>

- The head element is the wrapper for all the head elements that:
 - instruct the browser where to find style sheets,
 - define relationships that the document has to others in the web site;
 - provide essential meta information;
 - point to or include scripts that the document will need to apply later on.

```
<html>
  <head>
    <title>
      ...
    </title>
    ...
  </head>
  <body>
    ...
  </body>
</html>
```

Head Elements - <title>

- Displaying a title in the browser toolbar or in the task bar (on Windows)
- Providing for the document a name that's used by the browser when you add the page as a favorite or bookmark
- Displaying a title of the page when it appears in search engine results

```
<html>  
  <head>  
    <title>  
      FAQ  
    </title>  
  </head>
```



Structural Elements - <body>

- The body element wraps around all of the content that will be displayed on screen.
- You should not place character data (text) or inline elements such as em, or q directly into the body.
- Instead, these should be contained inside block-level elements such as p elements, headings h1 - h6 and so on.

```
<html>
  <head>
    <title>Page title goes here</title>
    <link type="text/css" rel="stylesheet" href="style.css" media="screen">
  </head>
  <body>
    <h1>101 Ways to make a paper aeroplane</h1>
    <p>Let's start with the basics ...</p>
  </body>
</html>
```

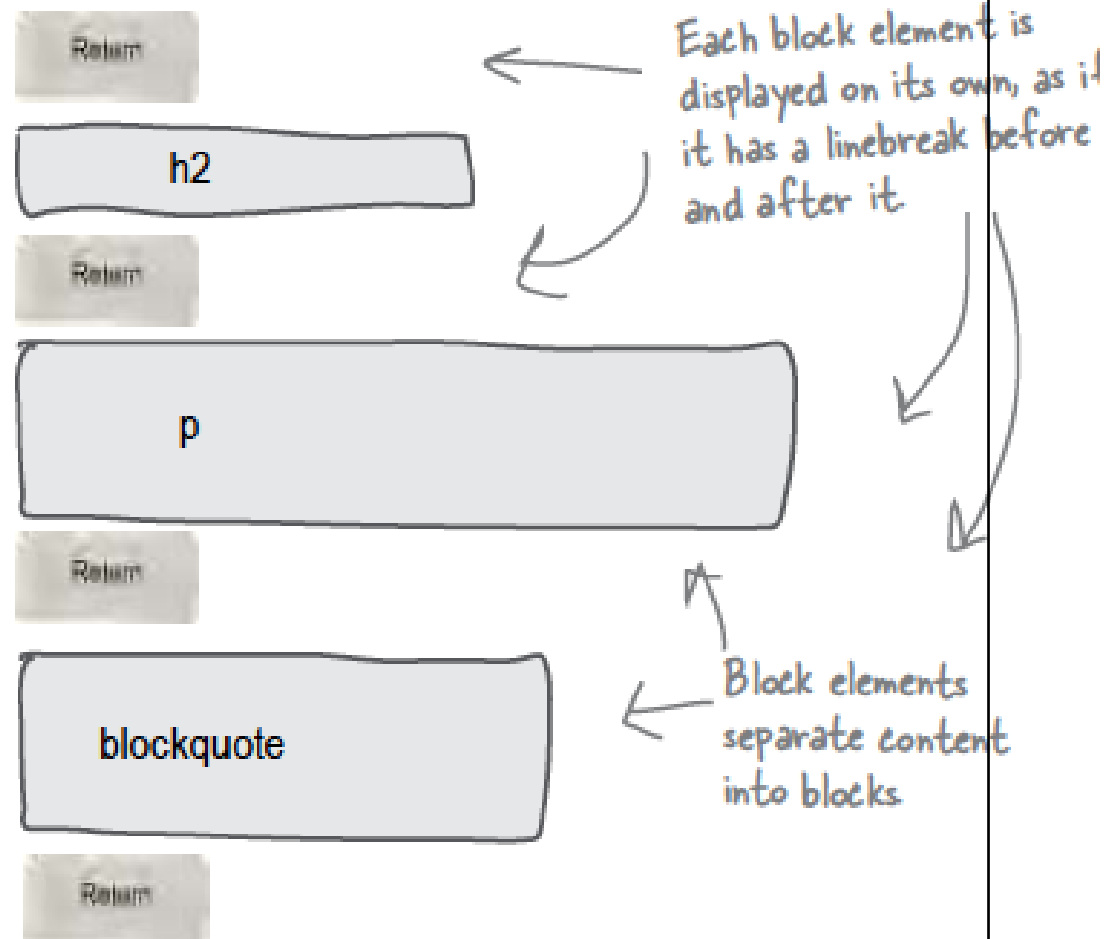
Block vs Inline Elements

- Block elements are always displayed as if they have a line break before and after them
- inline elements appear “in line” within the flow of the text in your page.

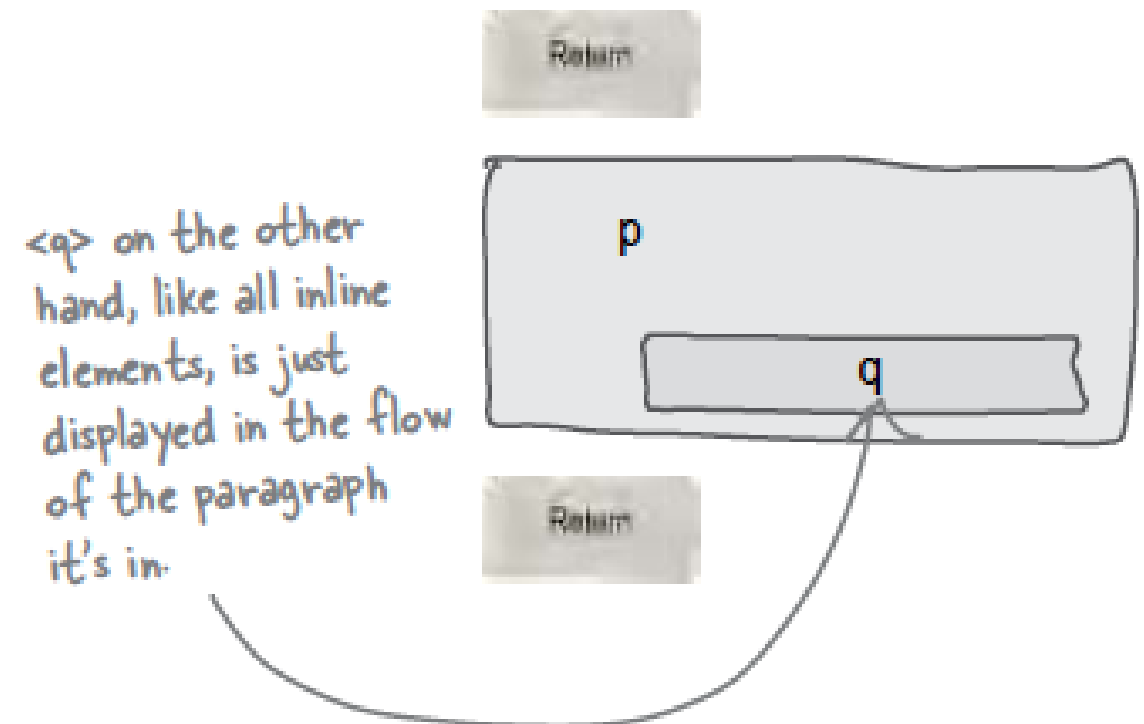
“Block elements stand on their own; inline elements go with the flow.”

Examples

- Block - h1, h2, p, blockquote

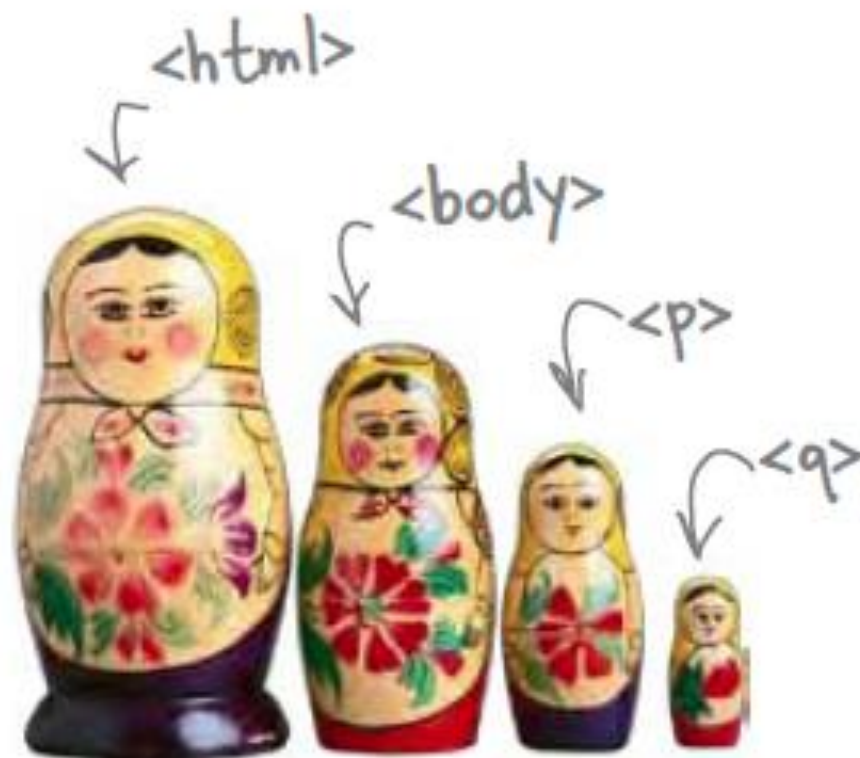


- Inline - a, em, q

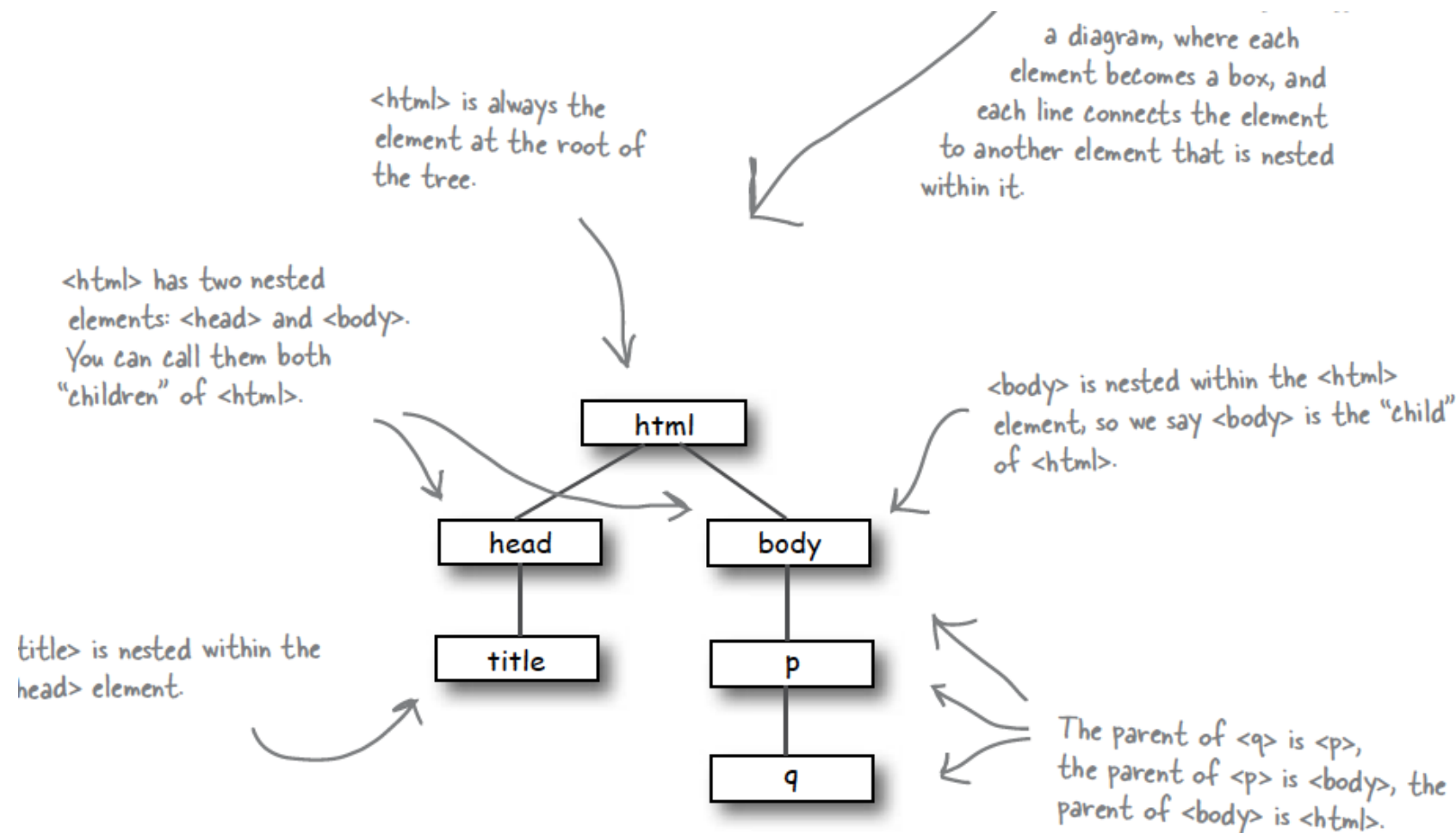


Nesting

- When we put one element inside another element, we call that nesting.
- We say, the `<p>` element is nested inside the `<body>` element.
- We put a `<body>` element inside an `<html>` element, a `<p>` element inside a `<body>` element etc.



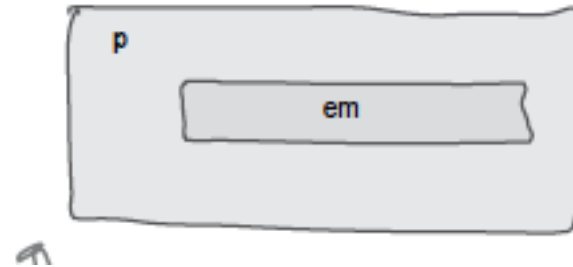
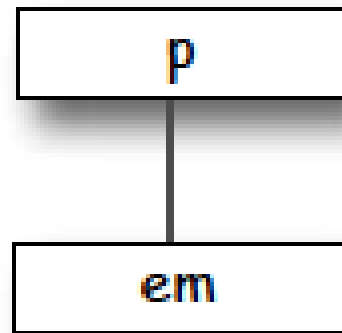
Nesting - Tree Structure



```
<html>
  <head>
    <title>Musings</title>
  </head>
  <body>
    <p>
      To quote Buckaroo,
      <q>The only reason
        for time is so
        that everything
        doesn't happen
        at once.</q>
    </p>
  </body>
</html>
```

Nesting can be Incorrect!

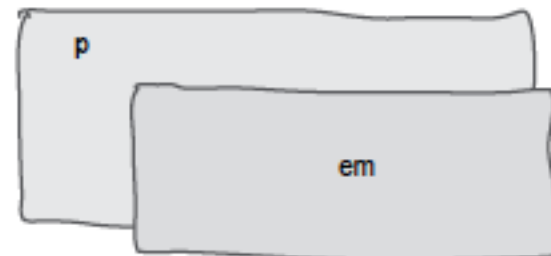
```
<p>I'm so going to blog <em>this</em></p>
```



Good

```
<p>I'm so going to blog <em>this</p></em>
```

?



Bad

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Structural Elements - <p>

- One of the most commonly used building blocks of HTML.
- When you use the p element to begin a new paragraph in HTML, it automatically creates some space above and below the content.
- Can only contain inline elements

<p>

We endeavour to give you your most wanted DVD and/or Game from your rental queue depending on our stock situation. All DVDs and Games are posted out at noon FIRST CLASS, and should be at your doorstep by the next morning.

When we dispatch your DVD/Game we'll send you an e-mail to advise you on which

DVD/Game was dispatched to you. There are no late fees so you can watch or play at your leisure

</p>

We endeavour to give you your most wanted DVD and/or Game from your rental queue depending on our stock situation. All DVDs and Games are posted out at noon FIRST CLASS, and should be at your doorstep by the next morning. When we dispatch your DVD/Game we'll send you an e-mail to advise you on which DVD/Game was dispatched to you. There are no late fees so you can watch or play at your leisure

Structural Elements – <h1-h6>

- The h1 element is used to indicate the most important (or highest-level) heading on the page.
- There are six heading levels h1 to h6—to add structure to the web page.
- A document's first heading should be an h1, followed by one or more h2 headings; each of these h2 headings can then have a further series of h3 headings below them, and so on
- They may contain any text content, but it can't include any block-level elements: only inline elements can be included

Structural Elements – <h1-h6>

```
<body>
  <h1>BubbleUnder.com</h1>
  <p>Diving club for the south-west UK - let's make a splash!</p>

  <h2>Welcome to our super-doooper Scuba site</h2>
  <p>Glad you could drop in and share some air with us! You've passed
    your underwater navigation skills and successfully found your way to
    the start point - or in this case, our home page.</p>
</body>
```

BubbleUnder.com

Diving club for the south-west UK - let's make a splash!

Welcome to our super-doooper Scuba site

Glad you could drop in and share some air with us! You've passed your underwater navigation skills and successfully found your way to the start point - or in this case, our home page.

Structural Elements - <blockquote>

- The blockquote element is a mechanism for marking up a block of text quoted from a person or another document or source.
- It may be just a few lines, or it may contain several paragraphs - which must be marked up using nested [p](#) elements).

```
<p>Not such a good one from film.com:</p>
<blockquote>
  The film is pretty, and there are a few solid moments every hour.
  But considered as a work of cinema, with paid professionals involved,
  it's an extremely lackluster story.
</blockquote>
<p>Might be worth watching.</p>
```

Not so good one from film.com:

The film is pretty, and there are a few solid moments every hour. But considered as a work of cinema, with paid professionals involved, it's an extremely lackluster story.

Might be worth watching.

Structural Elements -

- Creates a line break within a block of text, leaving no padding or margins between the two blocks of text created by the line break

```
<p>  
There was an old man from Swindon,<br>  
A place that rhymed only with 'pinned on,'<br>  
Okay, well that's fine,<br>  
Until the fifth line,<br>  
At which point ... well, I'm totally out of luck.  
</p>
```

```
There was an old man from Swindon,  
A place that rhymed only with 'pinned on,'  
Okay, well that's fine,  
Until the fifth line,  
At which point ... well, I'm totally out of luck.
```

Text Formatting Elements - `<i>` and ``

- The `i` element is used to italicise text content, and displays in italics in all current browsers.
- The `b` element works in the same way, but displays bold text.

```
<p>  
  This week we recommend <em>the Crazies</em>.  
</p>
```

This week we recommend *the Crazies*.

Text Formatting Elements - <q>

- Used for inline quotations (instead of blockquote, which sets the quotation in its own block).
- It is intended that the browser should insert the necessary quotation marks, the style of which should depend on the language of the document or that section of the document, rather than the author adding quotation marks
- This can sometimes cause double sets of quotation marks to appear.

<p>

Not so good one from film.com: <q>The film is pretty, and there are a few solid moments every hour. But considered as a work of cinema, with paid professionals involved, it's an extremely lackluster story.</q>

</p>

Not so good one from film.com: "The film is pretty, and there are a few solid moments every hour. But considered as a work of cinema, with paid professionals involved, it's an extremely lackluster story."

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Image & Media Elements -

- Provides a means for embedding an image in the document.
- Has a total of 12 attributes
 - **src** provide a link to the image to be displayed
 - **alt** provides text to be displayed if the image cannot be retrieved.
 - **Height & Width** provide (optional) dimensions. Used to help the browser lay out images properly, and should coincide with the actual image dimensions

```

```



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List Elements - Unordered List -

- Used to group a collection of items together in a list, but in a way that doesn't suggest an order of precedence or importance.
- Individual items in the list marked with - li

```
<ul>  
  <li>Avatar</li>  
  <li>Titanic</li>  
  <li>Lord of the Rings: Return of the King</li>  
</ul>
```

- Avatar
- Titanic
- Lord of the Rings: Return of the King

List Elements - Ordered List -

- Like ul, used to group a collection of items together in a list
- However, the bullets in an unordered list are replaced with a series of incrementing numbers

```
<ol>
  <li>Robin Hood</li>
  <li>Prince of Persia, Sands of Time</li>
  <li>Date Night</li>
  <li>Last Chance, CO</li>
  <li>Bad Leutennant: Port of Call - New Orleans</li>
  <li>Cop Out</li>
</ol>
```

1. Robin Hood
2. Prince of Persia, Sands of Time
3. Date Night
4. Last Chance, CO
5. Bad Leutennant: Port of Call - New Orleans
6. Cop Out

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Text Formatting Elements - <a>

- Usually referred to as a link or hyperlink
- Has a 7 possible attributes in total, of which we start with just one: **href**, which defines the document to which the link leads. This may be
 - a web page in the same directory,
 - a page somewhere else on the same server,
 - a location within the current page,
 - a web page—or any another kind of document—stored on another server.
- In a link to another section within the same page, the destination is identified in the href attribute by a hash symbol combined with the id attribute of the destination

```
<a href="catalogue/newreleases.html">new releases</a>
```

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W3C Validator


- The World Wide Web Consortium (W3C) is an international community that develops open standards to ensure the long-term growth of the Web.
- The W3C provide online validation tools that you allow to check whether your HTML code complies with the standard they have set.
- You will try out this tool in your practical classes this week.

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On Moodle: lecture slides


HTML Basics



Module Home

2017/18 Teaching Team: Rosanne Birney, Catherine Fitzpatrick, Mary Lyng, Deirdre O' Halloran (Content adapted from Eamonn de Leastar & Brenda Mullally). Creative Commons License

HTML Basics

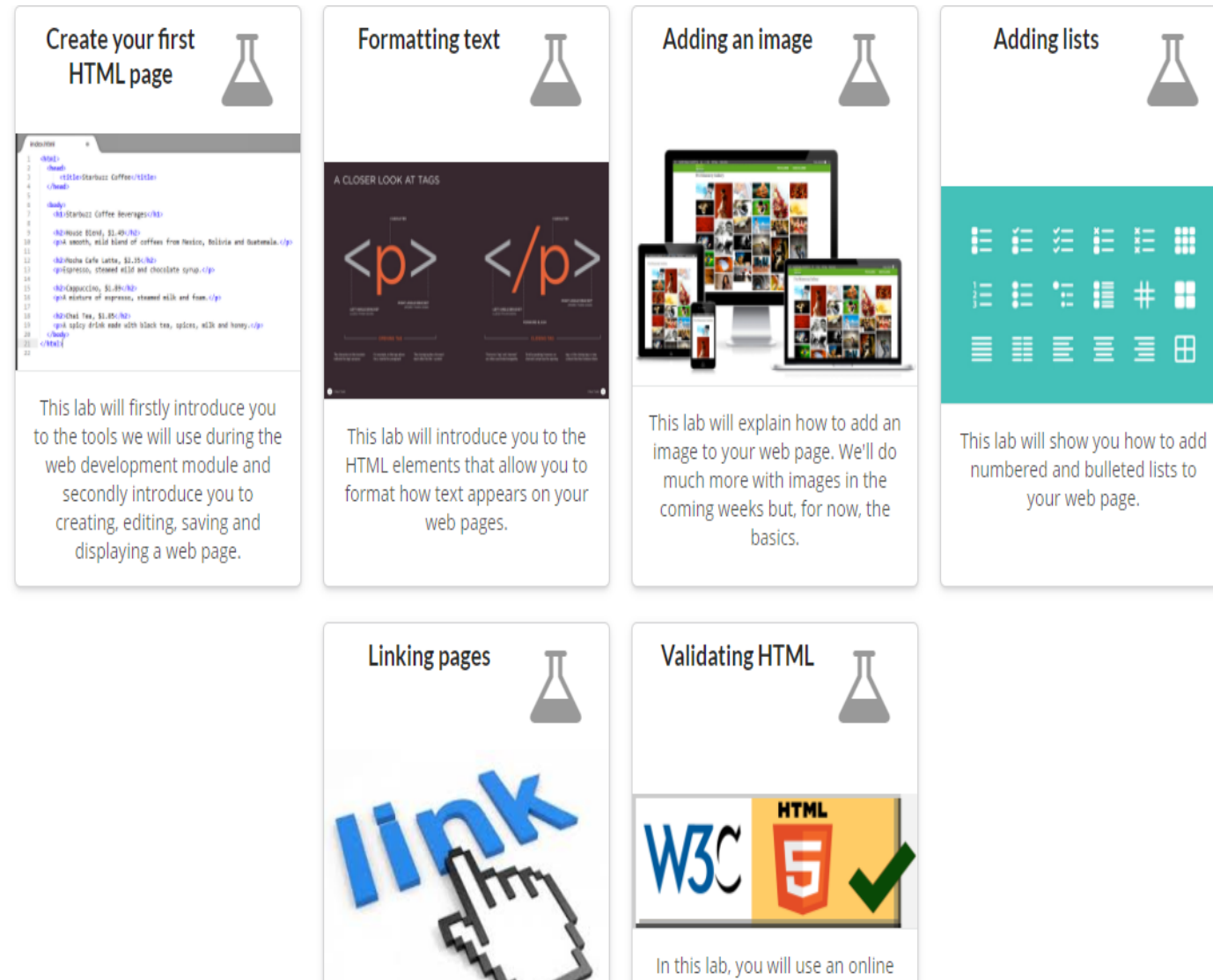


We can now explore the basics of HTML and we will try to get to grips with the fundamentals of the HTML language. As you will see, its structure and framework is

talks

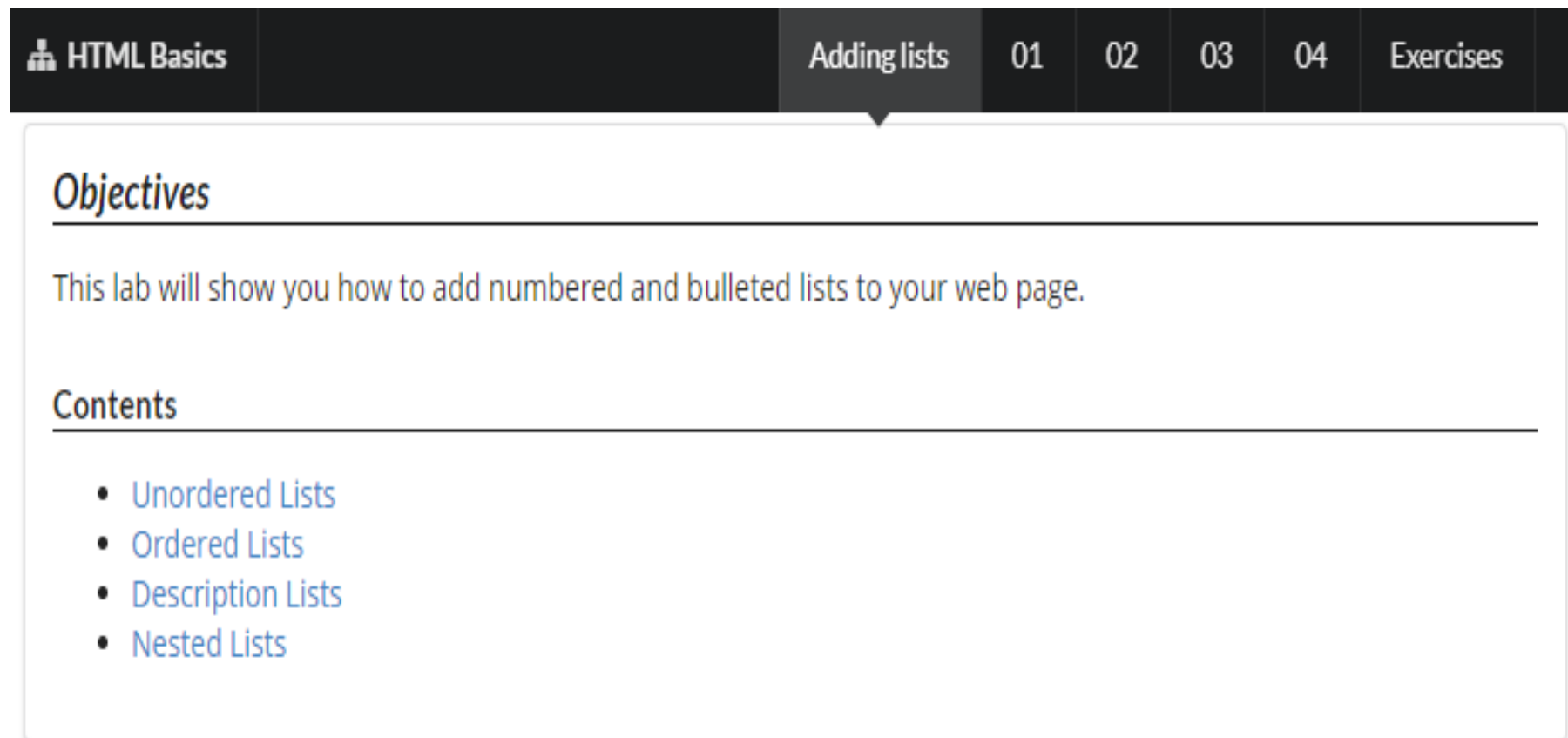
- This week's topic: HTML Basics
- Each week there will be a new topic; you will find these lecture slides in the 'card' at the top

On moodle: labs



- Below that, you will see a card for each of the labs in this section
- Each topic will be split into a number of sections in this way

Lab contents



The screenshot shows a web page with a dark navigation bar at the top. The bar contains several items: a small icon followed by 'HTML Basics', 'Adding lists' (which is highlighted with a white arrow pointing down), '01', '02', '03', '04', and 'Exercises'. Below the navigation bar, the main content area is white. It starts with the heading 'Objectives' underlined. Below this, a paragraph states: 'This lab will show you how to add numbered and bulleted lists to your web page.' Further down, the heading 'Contents' is underlined. Below 'Contents' is a bulleted list with four items: 'Unordered Lists', 'Ordered Lists', 'Description Lists', and 'Nested Lists'. All list items are in blue text.

HTML Basics Adding lists 01 02 03 04 Exercises

Objectives


This lab will show you how to add numbered and bulleted lists to your web page.

Contents

- Unordered Lists
- Ordered Lists
- Description Lists
- Nested Lists

- In each lab, you will see a list of the contents
- Use the links to jump to a particular piece of information if you wish

Lab contents

 HTML Basics

Adding lists

01

02

03

04

Exercises

Lists

It is possible to display a group of items in a list or bulleted format. You can have them numbered, un-numbered or in definition format. In the list syntax the tag `` identifies an element of the list (list item).

Unordered Lists

```
<ul>
<li> ...</li>
<li> ...</li>
</ul>
```

Displays a list of items that uses bullet points. The `` indicates that a unordered list is to follow. Each of the elements in the list is started with `` and ended with ``. When you are done with the list it is closed with a `` tag.

- Go through the numbered steps at the top
- Read through the information in each step to refresh your memory from the lecture
- Try out the examples (if you wish)

Lab contents

HTML Basics

Adding lists

01

02

03

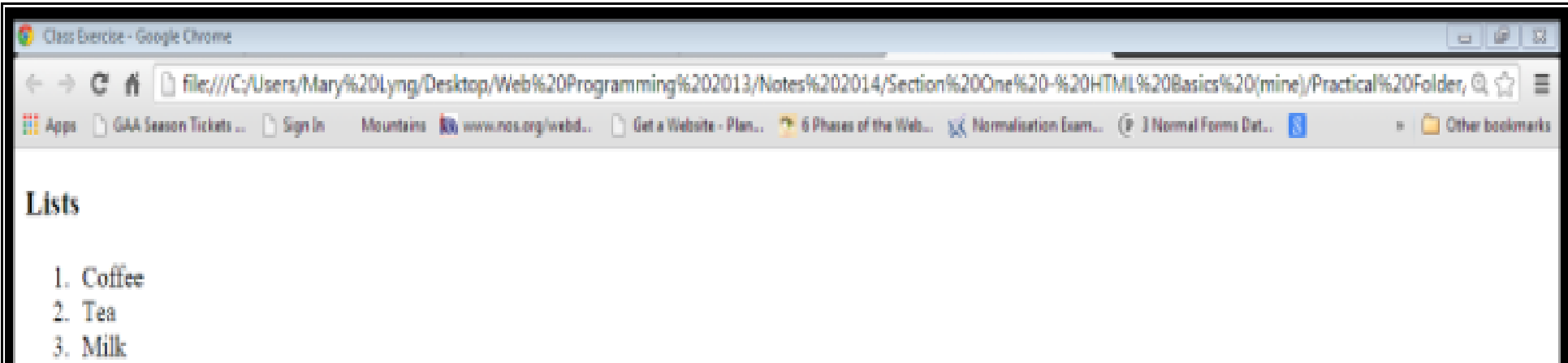
04

Exercises

Adding lists: Exercises

Exercise One

- Create a folder called 'Lab03' in your Web Development folder.
- Open a text editor and create a new web page called ListExercise1.htm. Save it into the Lab03 folder.
- Include the required tags to create the following web page which includes some lists:



The screenshot shows a Google Chrome browser window with the title 'Class Exercise - Google Chrome'. The address bar displays a file path: 'file:///C:/Users/Mary%20Lyng/Desktop/Web%20Programming%202013/Notes%202014/Section%20One%20-%20HTML%20Basics%20(mine)/Practical%20Folder/'. The browser's bookmark bar is visible with several entries. The main content area of the browser shows a heading 'Lists' followed by a numbered list: '1. Coffee', '2. Tea', and '3. Milk'.

- Complete the exercises in the last tab
- Each week, you should upload your completed exercises to Moodle