WEB TECHNOLOGIES

HTML - Basic Markups

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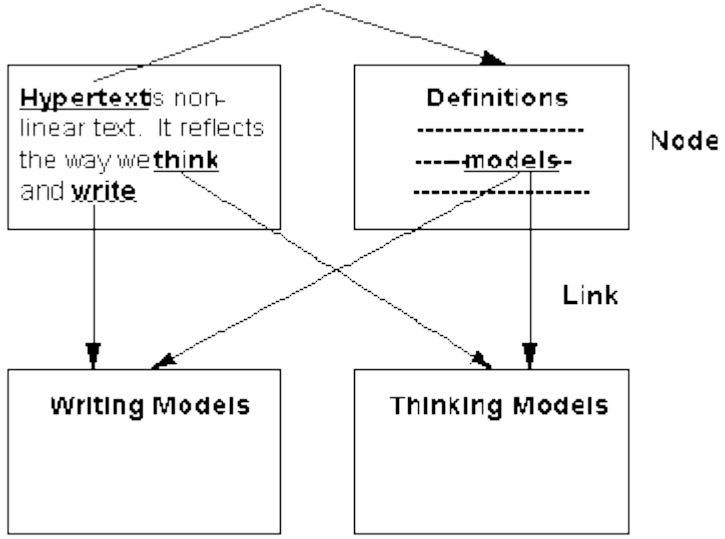
HTML – Hyper Text Markup Language

Hypertext - cross-referencing /linking between related sections of text and associated graphic material



Markup - define elements within a document using tags

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE recipe PUBLIC "-//Happy-Monkey//DTD RecipeBook//EN"
"http://www.happy-monkey.net/recipebook/recipebook.dtd">

<recipe>

    <title>Peanut-butter On A Spoon</title>

    <ingredientlist>
        <ingredient>Peanut-butter</ingredient>
    </ingredientlist>

    <preparation>
        Stick a spoon in a jar of peanut-butter,
        scoop and pull out a big glob of peanut-butter.
    </preparation>

</recipe>
```

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Basic Syntax

- Elements are defined by tags (markers)
  - Tag format:
    - Opening tag: **<tag_name>**
    - Closing tag: **</tag_name>**

    Syntax:

    <tag_name>

    Content…

    </tag_name>
- Not all tags have content
  - If a tag has no content, its form is **<tag_name … />**
- The container and its content together are called an *element*

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Comments

- An HTML comment begins with **<! – –** and the comment closes with **– –>**.
- HTML comments are visible to anyone that views the page source code, but are not rendered when the HTML document is rendered by a browser.

```
You will be able to see this text.

<!-- You will not be able to see this text. -->

You can even comment out things in <!-- the middle of --> a sentence.

<!--
Or you can
comment out
a large number of lines.
-->

<div class="example-class">
Another thing you can do is put comments after closing tags, to help you find
where a particular element ends. <br>
(This can be helpful if you have a lot of nested elements.)
</div> <!-- /.example-class -->
```

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Document Structure

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

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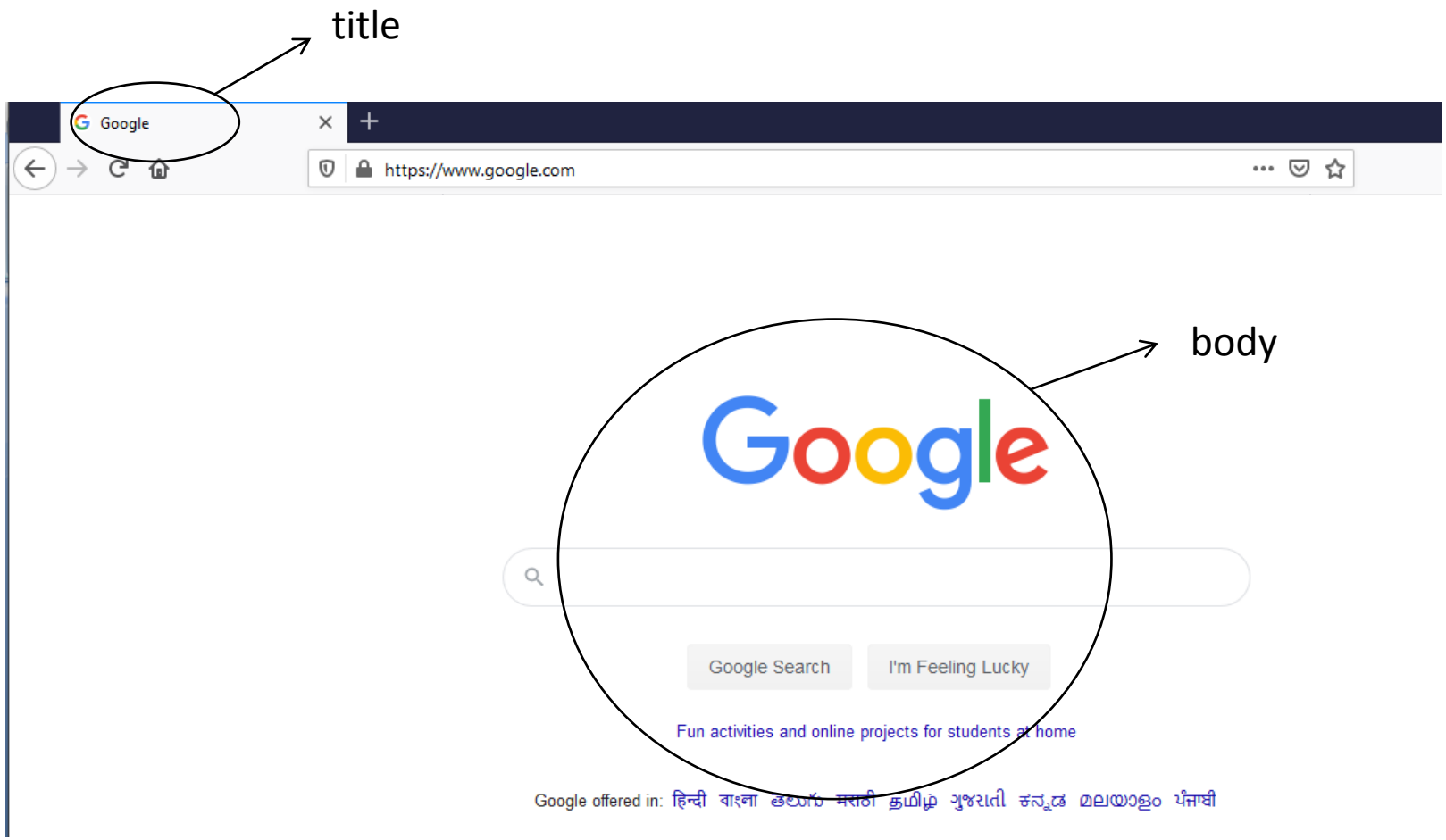
Document Structure



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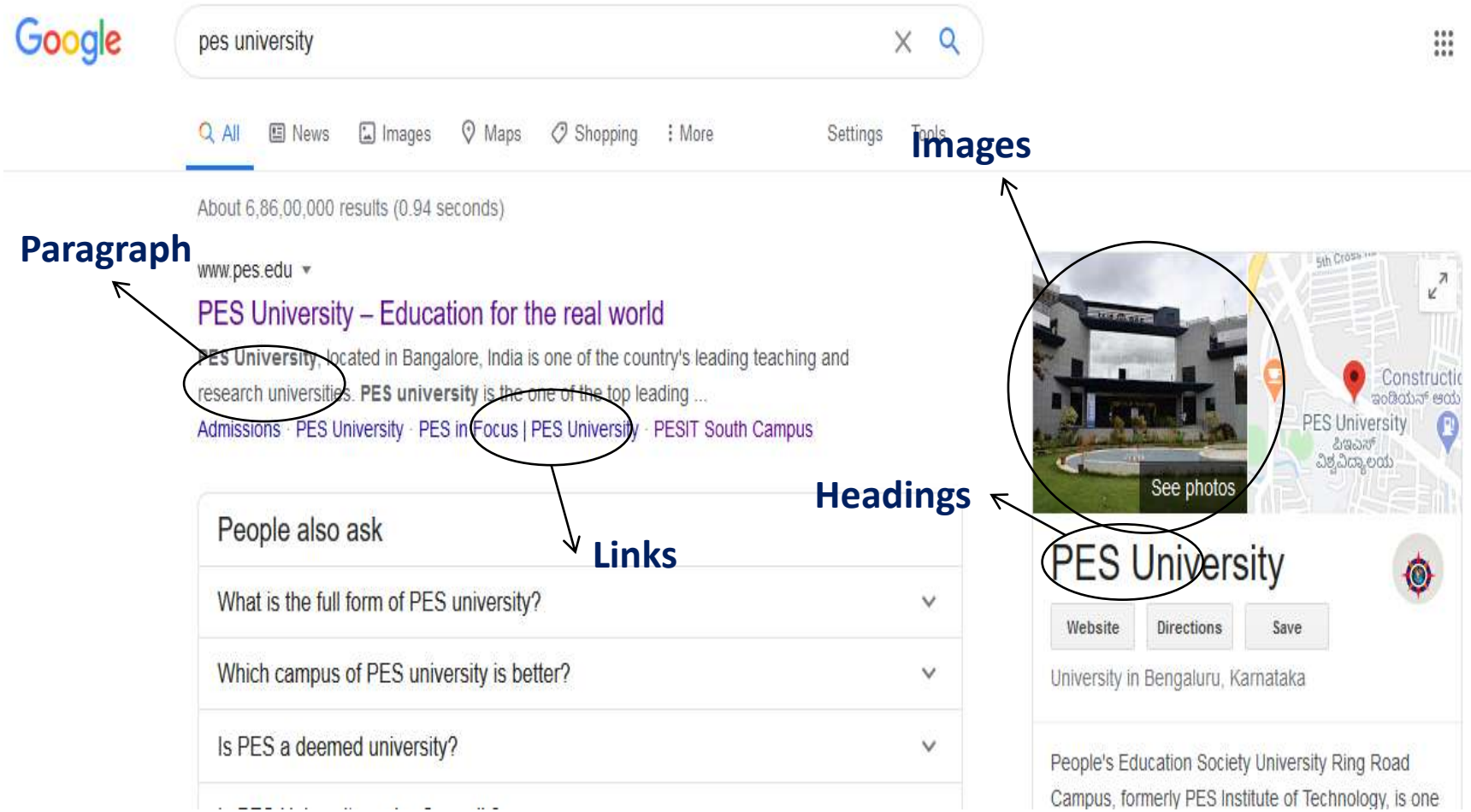
Common Tags / Elements



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Common Tags / Elements

- Text Content
  - Paragraphs
  - Headings
  - Lists
  - Tables
- Images
- Links

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Paragraph

- Text is normally placed in paragraph elements
- Paragraph Elements:
  - The <p> tag breaks the current line and inserts a blank line - the new line gets the beginning of the content of the paragraph
  - The browser puts as many words of the paragraph's content as will fit in each line

Example:

```
<p>
    A paragraph always starts on a new line, and browsers automatically add some white space (a margin) before and after a paragraph.
</p>
```

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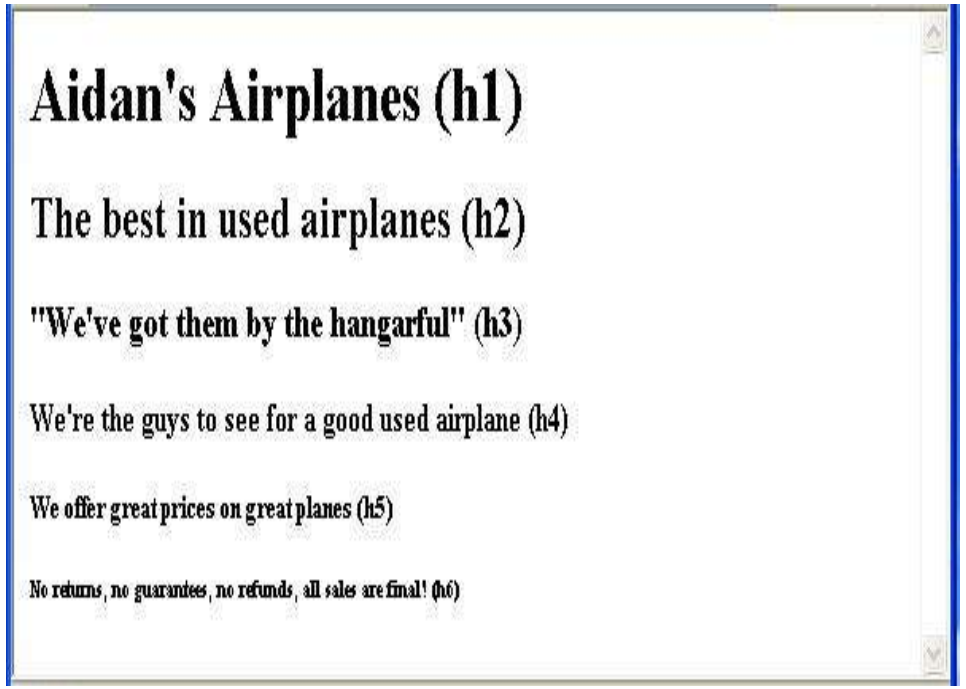
Headings

Example:

```
<body>
    <h1> Aidan’s Airplanes </h1>
    <h2> The best in used airplanes </h2>
    <h3> "We’ve got them by the hangarful" </h3>
    <h4> We’re the guys to see for a good used airplane /h4> <!– Regular text size -->
    <h5> We offer great prices on great planes </h5>
    <h6> No returns, no guarantees, no refunds </h6>
</body>
```



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Formatting tags

- Superscripts and subscripts
  - Subscripts with <sub>
  - Superscripts with <sup>

Example: x₂³

Display: x_2^3

- Inline versus block elements
- Block elements CANNOT be nested in inline elements

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Special Characters

- Character Entities:

Char.	*Entity*	*Meaning*
&	&	Ampersand
<	<	Less than
>	>	Greater than
”	"	Double quote
’	'	Single quote
(space)		Non-breaking space

- Horizontal rules:

  <hr /> draws a line across the display, after a line break

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Images

- GIF (Graphic Interchange Format) =8-bit color (256 different colors)
- JPEG (Joint Photographic Experts Group) =24-bit color (16 million different colors)
- Portable Network Graphics (PNG)
- Images are inserted into a document with the <img /> tag with the src attribute
  - The alt attribute is required by XHTML

  <img src = "comets.jpg" alt = "Picture of comets" />
- The <img> tag has 30 different attributes, including width and height (in pixels)

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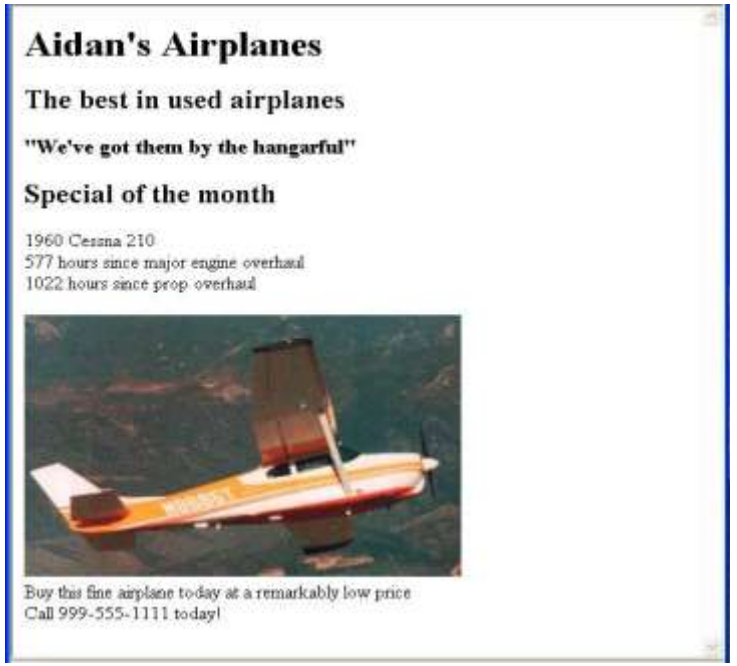
Images…(cntd.)

```
<html>
 <head> <title> Images </title>
 </head>
 <body>
<p>
<img src = "c210new.jpg"  alt = "Picture of a Cessna 210"/>
     <br />
     Buy this fine airplane today at a
     remarkably low price <br />
     Call 999-555-1111 today!
 </p>
 </body>
</html>
```



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Hypertext Links

- Hypertext is the essence of the Web!
- A link is specified with the href attribute of <a> (the anchor tag)
  - The content of <a> is the visual link in the document
  - If the target is a whole document (not the one in which the link appears), the target need not be specified in the target document as being the target
- Note: Relative addressing of targets is easier to maintain and more portable than absolute addressing

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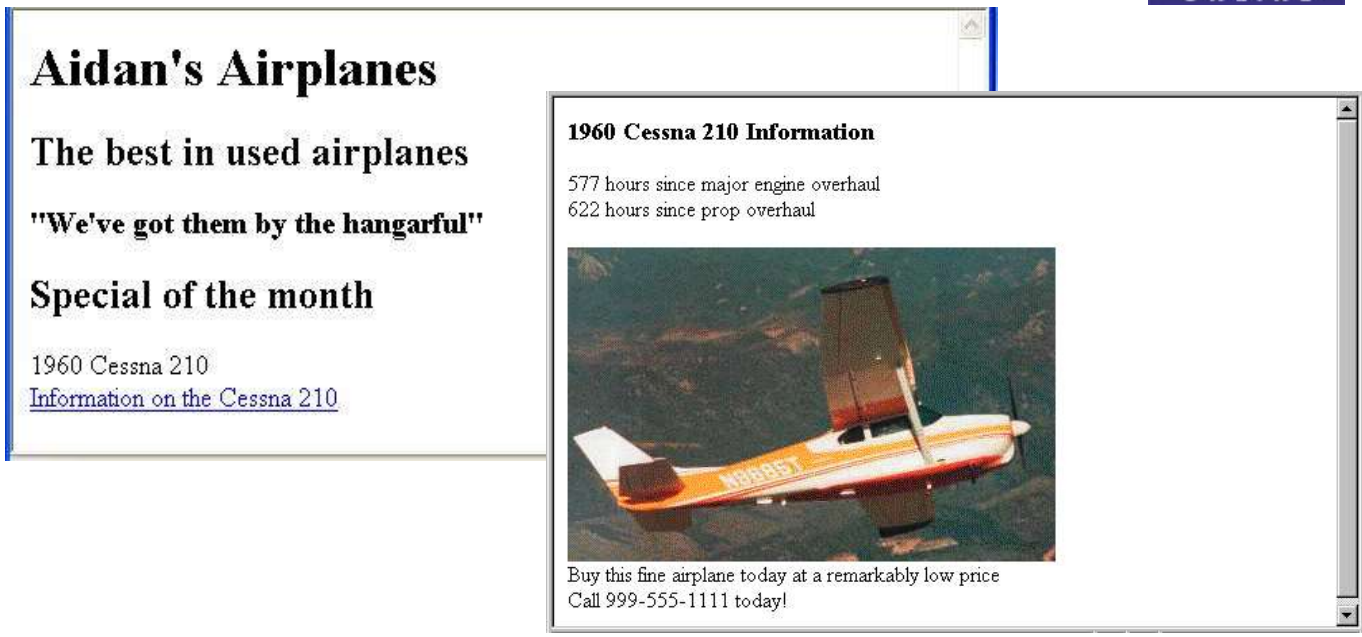
Hypertext links…(cntd.)

Example:

```
<html>
 <head> <title> Links </title>  </head>
 <body>
  …
  <h2> Special of the month </h2>
  <p> 1960 Cessna 210 <br />
  <a href = "C210data.html"> Information on the Cessna 210
  </a>
  </p>
 </body>
</html>
```



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Lists

Used to present list of information in well formed and semantic way.

- Three types of Lists:
  - ❑Unordered list
  - ❑Ordered list
  - ❑Definition List

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Unordered Lists

- The list is the content of the <ul> tag
- List elements are the content of the <li> tag

```
<h3> Some Common Single-Engine Aircraft </h3>
 <ul>
   <li> Cessna Skyhawk </li>
   <li> Beechcraft Bonanza </li>
   <li> Piper Cherokee </li>
 </ul>
```

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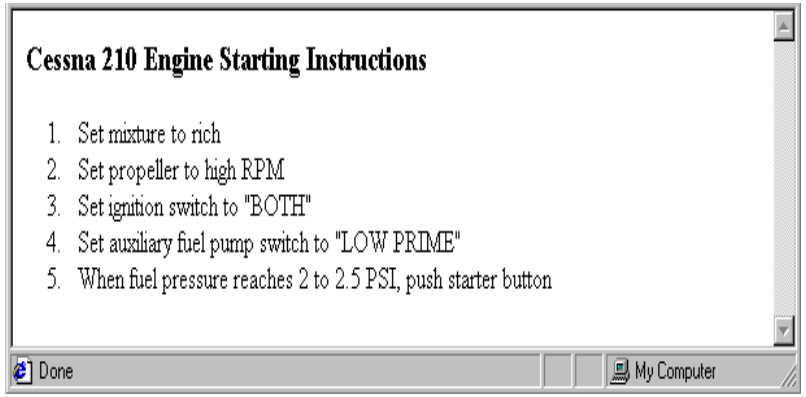
Ordered Lists

- The list is the content of the <ol> tag
- Each item in the display is preceded by a sequence value

```
<h3> Cessna 210 Engine Starting Instructions</h3>
<ol>
  <li> Set mixture to rich </li>
  <li> Set propeller to high RPM </li>
  <li> Set ignition switch to "BOTH" </li>
  <li> Set auxiliary fuel pump switch to
       "LOW PRIME" </li>
  <li> When fuel pressure reaches 2 to 2.5
       PSI, push starter button </li>
</ol>
```



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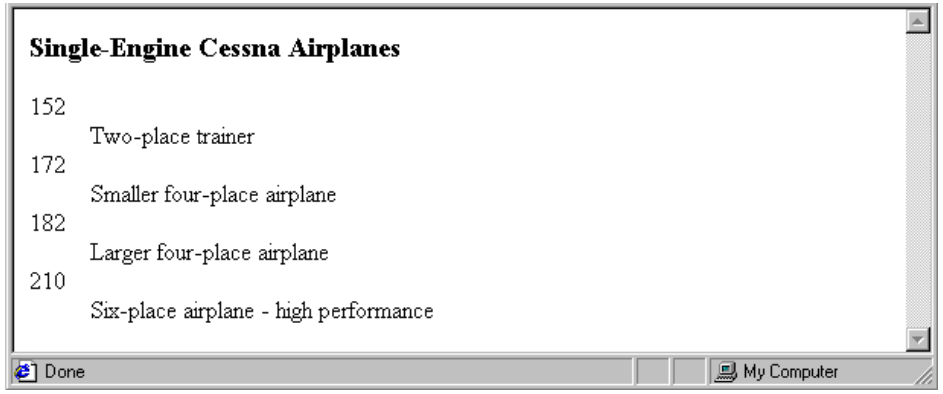
Definition Lists

- List is the content of the <dl> tag
- Terms being defined are the content of the <dt> tag
- The definitions themselves are the content of the <dd> tag




```
<h3> Single-Engine Cessna Airplanes </h3>
<dl >
  <dt> 152 </dt>
  <dd> Two-place trainer </dd>
  <dt> 172 </dt>
  <dd> Smaller four-place airplane </dd>
</dl>
```

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Tables

- A matrix of cells, each possibly having content
- The cells can include almost any element
- Some cells have row or column labels and some have data
- A table is specified as the content of a <table> tag
- A border attribute in the <table> tag specifies a border between the cells
- Tables are given titles with the <caption> tag, which can immediately follow <table>

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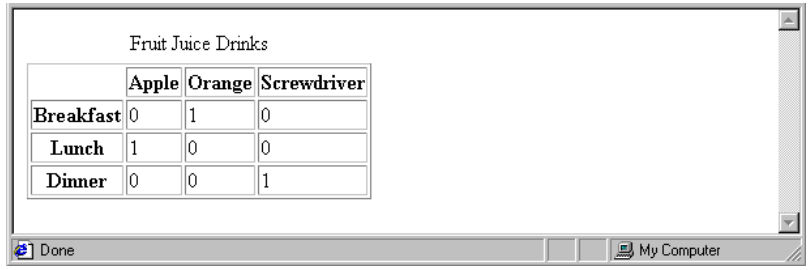
Tables…(cntd.)

- Each row of a table is specified as the content of a <tr> tag
- The row headings are specified as the content of a <th> tag
- The contents of a data cell is specified as the content of a <td> tag.




```
<table border = "border">
  <caption> Fruit Juice Drinks </caption>
   <tr>
    <th> </th>
    <th> Apple </th>
    <th> Orange </th>
    <th> Screwdriver </th>
   </tr>
   <tr>
    <th> Breakfast </th>
    <td> 0 </td>
    <td> 1 </td>
    <td> 0 </td>
   </tr>
   </table>
```

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Tables : Column Span

```
<tr>
  <th colspan = "3"> Fruit Juice Drinks
   </th>
</tr>
<tr>
  <th> Orange </th>
  <th> Apple </th>
  <th> Screwdriver </th>
</tr>
```

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Tables : Row Span

- If the rows have labels and there is a spanning column label, the upper left corner must be made larger, using rowspan

```
<table border = "border">
  <tr>
    <td rowspan = "2"> </td>
    <th colspan = "3"> Fruit Juice Drinks
    </th>
  </tr>
  <tr>
    <th> Apple </th>
    <th> Orange </th>
</tr>
        …
</table>
```

THANK YOU

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