HTML Primer

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1   HTML

HTML is used to "mark up" a document (content). The markup specifies formatting for the content. HTML stands for "hyper text markup language." We will briefly identify the main markup elements you need to know. Remember that we are (here) greatly simplifying the world of HTML, and you can find more powerful and complex markup commands discussed elsewhere. Our purpose here is simply to introduce you and get you started.

`<doctype` is used to tell the browser what type of document it is receiving, in what "language" it is written. In the programming labs we give you a standard doctype line to use. We will not explain it. It should be the first line in your web page.

`<html>` starts your document. `</html>` ends your document. Everything else goes between those tags.

`<head>` starts the heading portion of your document. `</head>` ends the heading portion of your document. The heading portion includes the title of your web page, which should be between the `<head>` and `</head>` tags.

`<title>` starts the title portion of your document. `</title>` ends the title portion of your document. Naturally the title goes between them.

`<body>` starts the content (body) portion of your document. `</body>` ends the content (body) portion of your document. All the content of your document goes between those two tags.

`<h1>` and `</h1>` delimit a main heading in your document. The words of the heading go between them.

`<h2>` and `</h2>` delimit a second-level main heading in your document. The words of the heading go between them.

`<p>` is used to end a paragraph.

`<br>` is used to break to a new line in the same paragraph.

`<hr>` is used to draw a horizontal rule across the web page.

That should get us started. Here is a sample web page using html.

```
<html><head><title>Aloha</title>
</head><body>
<h1>Aloha from BYUH!</h1>
This is a short web page!<p>
Here is a line:<p>
<hr>
Here are two more lines:<p>
<hr><hr>
Well, that's all folks!<p>
</body></html>
```

2   Web Forms

Web forms provide the input to CGI programs. They consist of blanks into which the user can type information, and buttons or boxes of several types that can be checked or pressed. A web page can have any number of forms.

2.1   `<form>`

Each form starts with a `<form>` command and ends with a `</form>` command. Forms cannot be nested within one another. Here is a sample `<form>` command:

```
<form method=post action="bar.cgi">
```

2.2 `<input>`

Within the form, the most important item is the `<input ...>` item. These create the data entry areas, the check boxes, and the buttons that can be pressed to communicate with your CGI program.

```
<input type=button   name=x value="y">
<input type=checkbox name=x value="y">
<input type=file     name=x value="y">
<input type=hidden   name=x value="y">
<input type=image    name=x value="y">
<input type=password name=x value="y">
<input type=radio    name=x value="y">
<input type=reset    name=x value="y">
<input type=submit   name=x value="y">
<input type=text name=x value="y" size=20>
```

There are many resources on the web to show you examples of the `<input>` command. Each input will have a name and a value. The name and value are sent to your CGI program.

2.3 Example

In this example, there is a form with three visible inputs: nuts, bolts, and enter. When the user keys in values for nuts and bolts, and presses the enter button, a string of information is sent to the CGI program.

```
<form method=post action="bar.cgi">
<input type=hidden name=f value=1>
<input type=text
 name=nuts value="" size=20>
<input type=text
  name=bolts value="" size=20>
<input type=submit name=done value="enter">
</form>
```

If the user keys in the values `19` for nuts and `27` for bolts, and clicks on the `enter` button, the CGI program will receive a single line of standard input with exactly the following content:

```
f=1&nuts=19&bolts=27&done=enter
```

A program can be used to read this line and extract the data from it.

3 Tables

When you want to align the elements of your web page into neat columns, it is handy to use a table. You can start a table using a `<table>` command, and end it using a `</table>` command. Within the table, there are rows, each of which starts with a `<tr>` (table row) command. It is not necessary to use a `</tr>` at the end of the row. Within the row are data items. Each is introduced by a `<td>` (table data) command. It is not necessary to use a `</td>` at the end of the data item. Here is a sample table.

```
<table>
  <tr>
    <td>upper left
    <td>upper right
  <tr>
    <td>lower left
    <td>lower right
</table>
```

You can nest tables inside one another.

4 Validator

The `w3.org` consortium provides a free web page validation service. Go to their web site at

```
http://validator.w3.org/
```

and type in the URI of your web page. It will tell you if your page has the correct syntax or not, and how to fix it.