

WEB TECHNOLOGIES A COMPUTER SCIENCE PERSPECTIVE

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Chapter 2 Markup Languages: XHTML 1.0

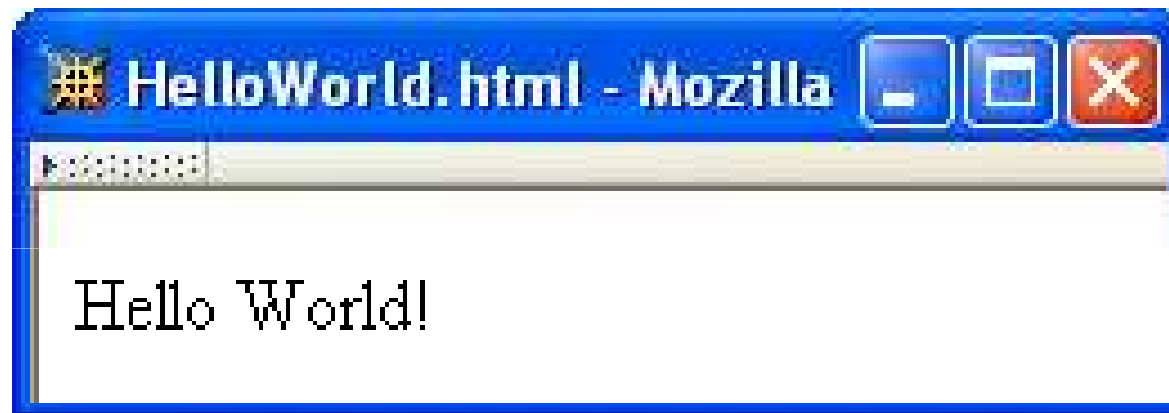
HTML “Hello World!”

Document
Type
Declaration

Document
Instance

```
{ <!DOCTYPE html
    PUBLIC "-//W3C//DTD XHTML 1.0 Strict//EN"
    "http://www.w3.org/TR/xhtml1/DTD/xhtml1-strict.dtd">
{ <html xmlns="http://www.w3.org/1999/xhtml">
  <head>
    <title>
      HelloWorld.html
    </title>
  </head>
  <body>
    <p>
      Hello World!
    </p>
  </body>
</html>
```

HTML “Hello World”

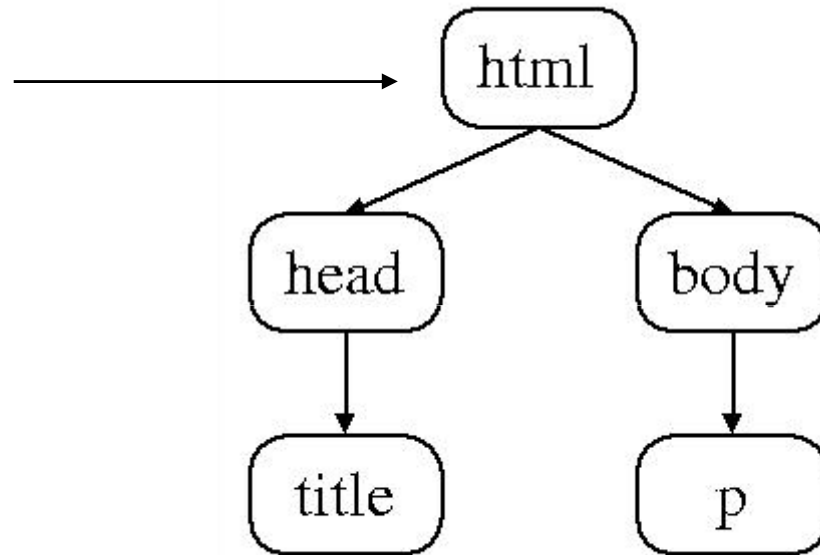


HTML Tags and Elements

- Any string of the form `< ... >` is a *tag*
- All tags in document instance of Hello World are either *end tags* (begin with `</`) or *start tags* (all others)
 - Tags are an example of *markup*, that is, text treated specially by the browser
 - Non-markup text is called *character data* and is normally displayed by the browser
- String at beginning of start/end tag is an *element name*
- Everything from start tag to matching end tag, including tags, is an *element*
 - *Content* of element excludes its start and end tags

HTML Element Tree

Root
Element



HTML Root Element

- Document type declaration specifies name of root element:

```
<!DOCTYPE html
```

- Root of HTML document must be `html`
- XHTML 1.0 (standard we will follow) requires that this element contain `xmlns` **attribute specification** (name/value pair)



```
<html xmlns="http://www.w3.org/1999/xhtml">
```

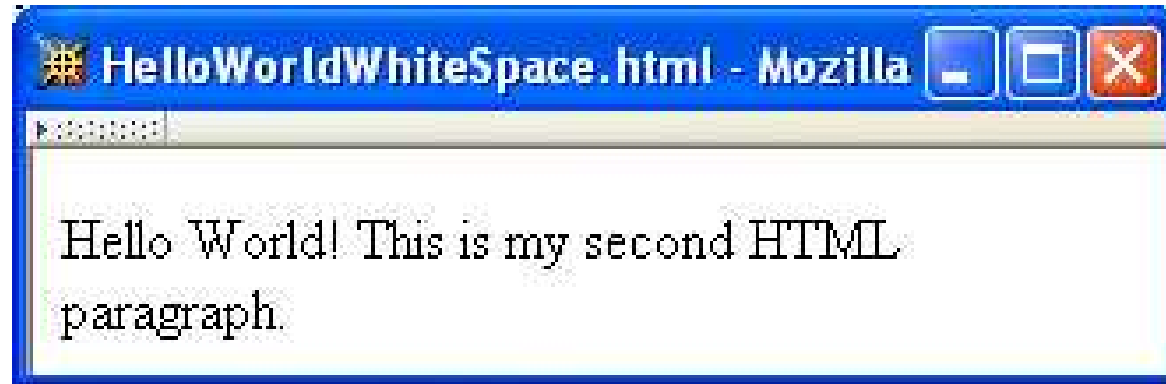
HTML head and body Elements

- The **body** element contains information displayed in the browser client area
- The **head** element contains information used for other purposes by the browser:
 - title (shown in title bar of browser window)
 - scripts (client-side programs)
 - style (display) information
 - etc.

XHTML White Space

```
<body>
  <p>
    Hello World!

    This is my second HTML paragraph.
  </p>
</body>
```



XHTML White Space

```
<p>  
    Hello World!  
</p>  
<p>  
    This is my second HTML paragraph.  
</p>
```



Unrecognized HTML Elements

```
<!DOCTYPE html
    PUBLIC "-//W3C//DTD XHTML 1.0 Strict//EN"
    "http://www.w3.org/TR/xhtml1/DTD/xhtml1-strict.dtd">
<html xmlns="http://www.w3.org/1999/xhtml">
  <head>
    <titl>
      HelloWorldBadElt.html
    </title>
  </head>
  <body>
    <p>
      Hello World!
    </p>
  </body>
</html>
```

Misspelled
element name →

Unrecognized HTML Elements



Unrecognized HTML Elements



HTML References

- Since < marks the beginning of a tag, how do you include a < in an HTML document?
- Use markup known as a **reference**
- Two types:
 - **Character reference** specifies a character by its Unicode code point
 - For <, use < or < or <
 - **Entity reference** specifies a character by an HTML-defined name
 - For <, use <

HTML References

TABLE 2.2: Example entity and character references.

Character	Entity Reference	Character Reference (decimal)
<	<	<
>	>	>
&	&	&
"	"	"
'	'	'
©	©	©
ñ	ñ	ñ
α	α	α
∀	∀	∀

HTML References

- Since `<` and `&` begin markup, within character data or attribute values these characters must ***always*** be represented by references (normally `<` and `&`;))
- Good idea to represent `>` using reference (normally `>`;))
 - Provides consistency with treatment of `<`
 - Avoids accidental use of the reserved string `]]>`

HTML References

- Non-breaking space (` `) produces space but counts as part of a word
 - Ex: keep together keep together

...

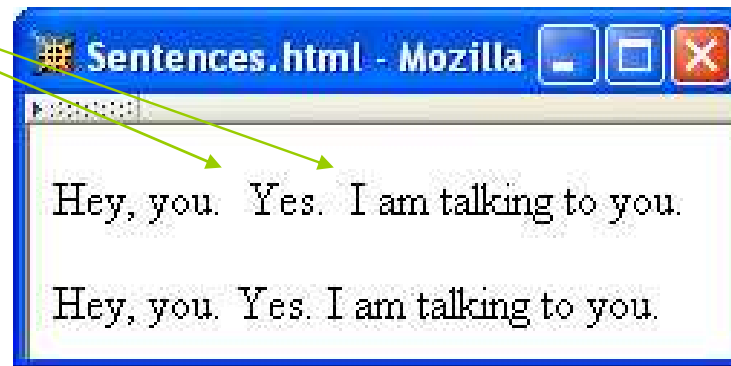


HTML References

- Non-breaking space often used to create multiple spaces (not removed by normalization)

```
<p>  
  Hey, you.&nbsp;   Yes.&nbsp;   I am talking to you.  
</p>  
<p>  
  Hey, you.  Yes.  I am talking to you.  
</p>
```

 + space
displays as two
spaces

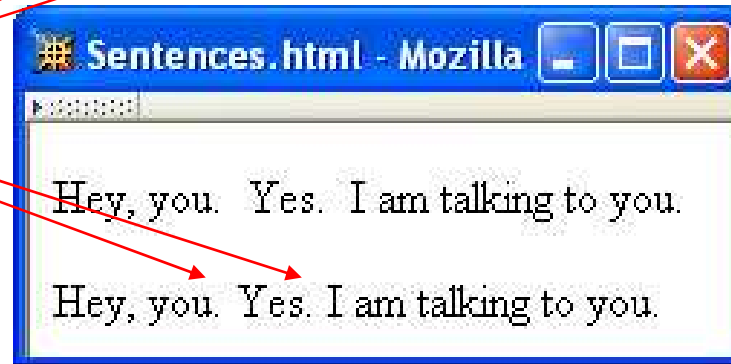


HTML References

- Non-breaking space often used to create multiple spaces (not removed by normalization)

```
<p>
  Hey, you.&nbsp; Yes.&nbsp; I am talking to you.
</p>
<p>
  Hey, you.  Yes.  I am talking to you.
</p>
```

two spaces
display as one



Common HTML Elements

- **Headings** are produced using `h1`, `h2`, ..., `h6` elements:

```
<h1>
    Some Common HTML Elements
</h1>
<h2>
    Simple formatting elements
</h2>
```

- Should use `h1` for highest level, `h2` for next highest, etc.
 - Change style (next chapter) if you don't like the “look” of a heading

Common HTML Elements

- Use `pre` to **retain format** of text and display using monospace font:

```
<pre>
Use pre (for "preformatted") to
preserve white space and use
monospace type.
(But note that tags such as<br />still work!)
</pre>
```

- Note that any embedded markup (such as `
`) is still treated as markup!

Common HTML Elements

- `br` element represents **line break**
- `br` is example of an **empty element**, i.e., element that is not allowed to have content
- XML allows two syntactic representations of empty elements
 - **Empty tag** syntax `
` is recommended for browser compatibility
 - XML parsers also recognize syntax `
</br>` (start tag followed immediately by end tag), but many browsers do not understand this for empty elements

Strong element

- **Strong** is a logical state and **bold** is a physical state.
- Logical states separate presentation from the content and by doing so allow for it to be expressed in many different ways.
- Instead of rendering some text as bold you want to render it red, or a different size, or underlined, or whatever.

Common HTML Elements

TABLE 2.3: HTML font style elements.

Element	Font used by content
<code>b</code>	Bold-face
<code>i</code>	Italic
<code>tt</code>	“Teletype” (fixed-width font)
<code>big</code>	Increased font size
<code>small</code>	Decreased font size

Common HTML Elements

- Horizontal rule is produced using `hr`
- Also an empty element
- Style can be modified using style sheet technology

Common HTML Elements

- **Images** can be embedded using **img** element

```

```

- **Attributes:**
 - **src**: URL of image file (required). Browser generates a GET request to this URL.
 - **alt**: text description of image (required)
 - **height** / **width**: dimensions of area that image will occupy (recommended)

Common HTML Elements

- **Hyperlinks** are produced by the **anchor** element **a**

See

```
<a href="http://www.w3.org/TR/html4/index/elements.html">the  
  W3C HTML 4.01 Element Index</a>  
for a complete list of elements.
```

- Clicking on a hyperlink causes browser to issue GET request to URL specified in href attribute and render response in client area
- Content of anchor element is text of hyperlink (avoid leading/trailing space in content)

Common HTML Elements

- Anchors can be used as **source** (previous example) or **destination**

```
<a id="section1" name="section1"></a>
```

- The fragment portion of a URL is used to reference a destination anchor

```
<a href="http://www.example.org/PageWithAnchor.html#section1">...
```

- Browser scrolls so destination anchor is at (or near) top of client area

Example for Destination Anchor Element

```
<html>
<body>
<a id="a1" href="#intradocument">Click this Link</a>
<p id="p1">Praba</p>
<pre>
Generate as much as space you want
/</pre>
<h2 id="intradocument">Intradocument Linking</h2>
The link that jumps to that location looks like this:
<a href="#p1">Home</a>
</body>
</html>
```

Common HTML Elements

- Comments are a special form of tag

`<!-- Notice that img must nest within a "block" element,
such as p -->`

- Not allowed to use `--` within comment

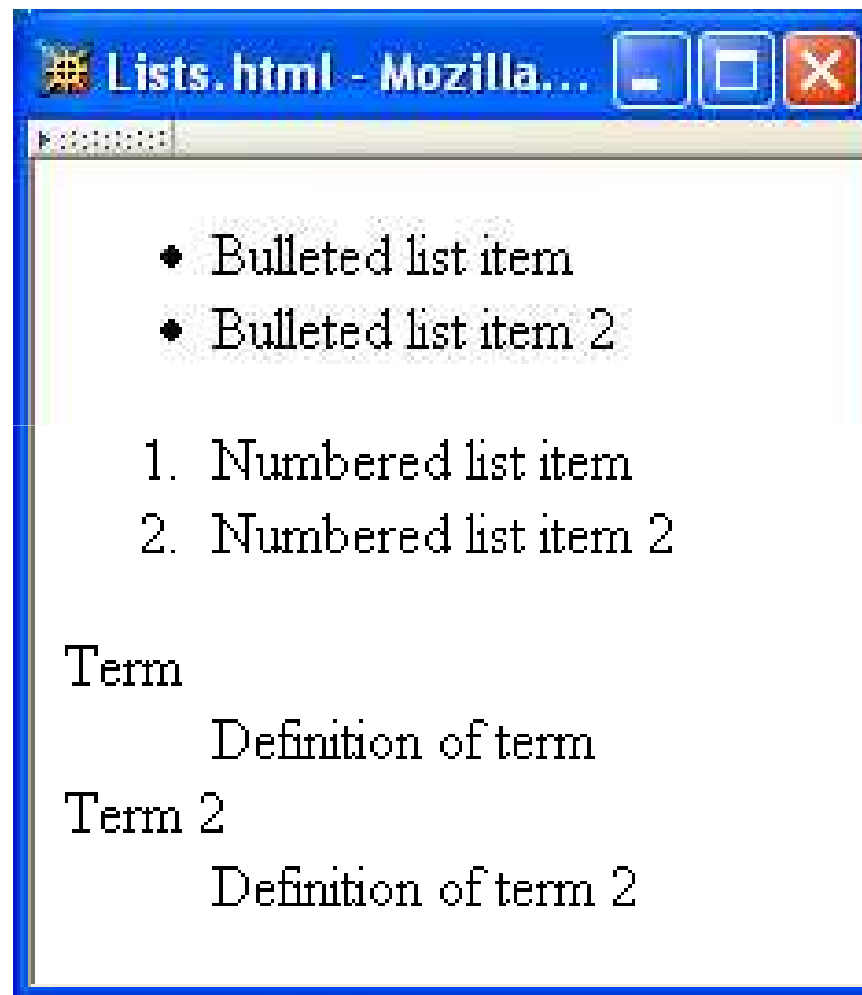
✗ `<!-- This is NOT
-- a good comment.
-->`

✗ `<!-- Can't end with more than two dashes! --->`

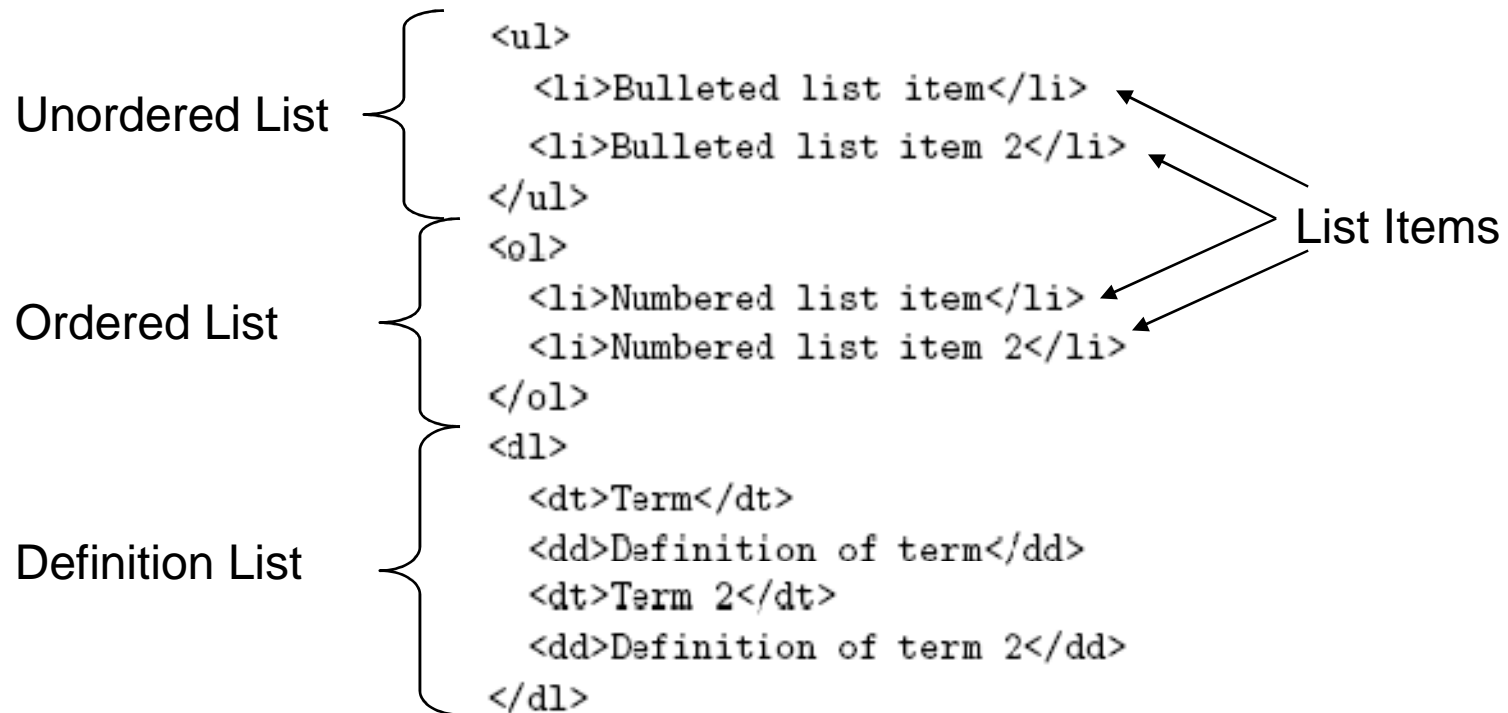
Block and Inline Elements

- Most HTML elements are either **block** or **inline**
 - **Block**: browser automatically generates line breaks before and after the element content
 - Ex: p
 - **Inline**: element content is added to the “flow”
 - Ex: span, strong, a

Lists



Lists

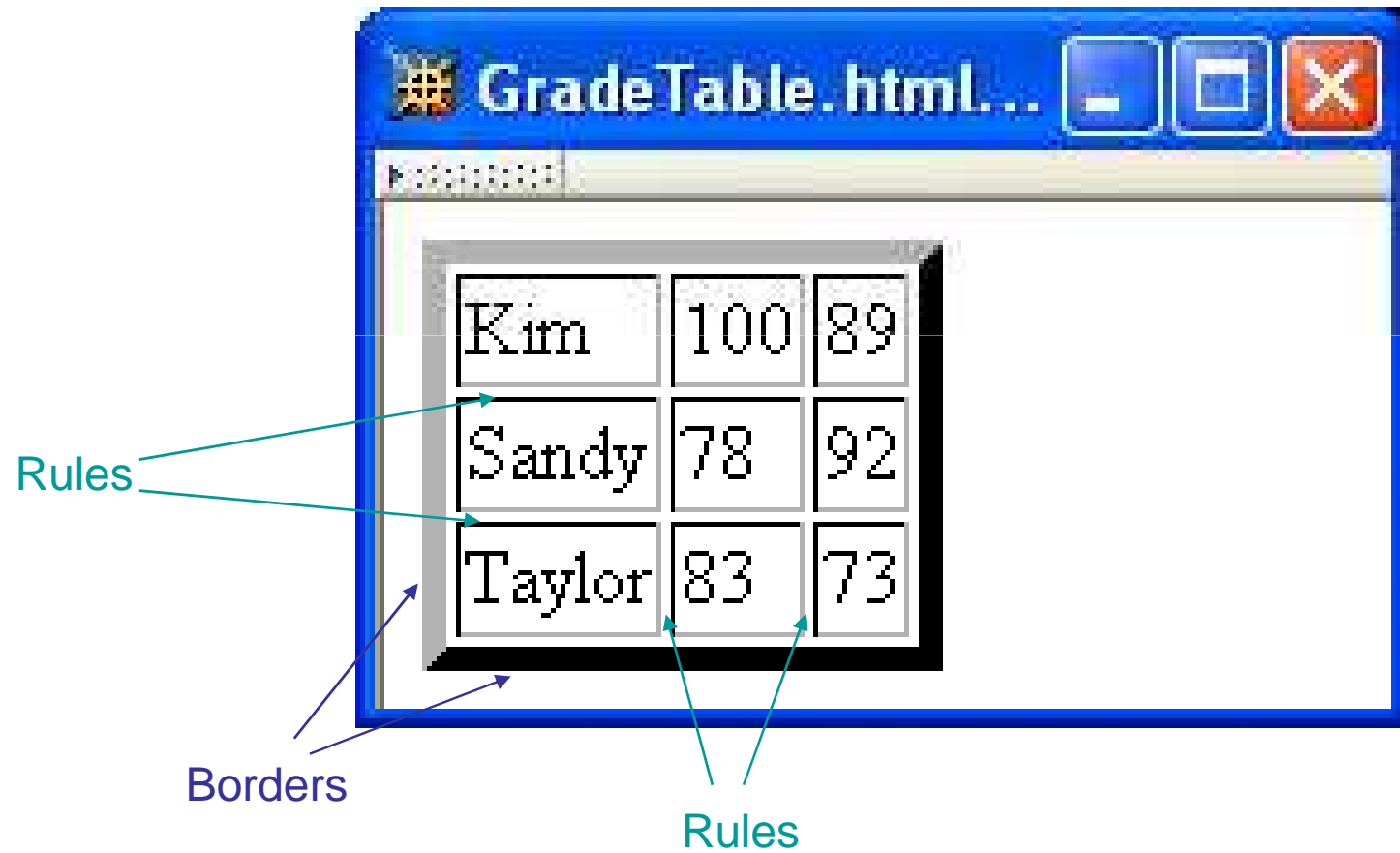


Lists

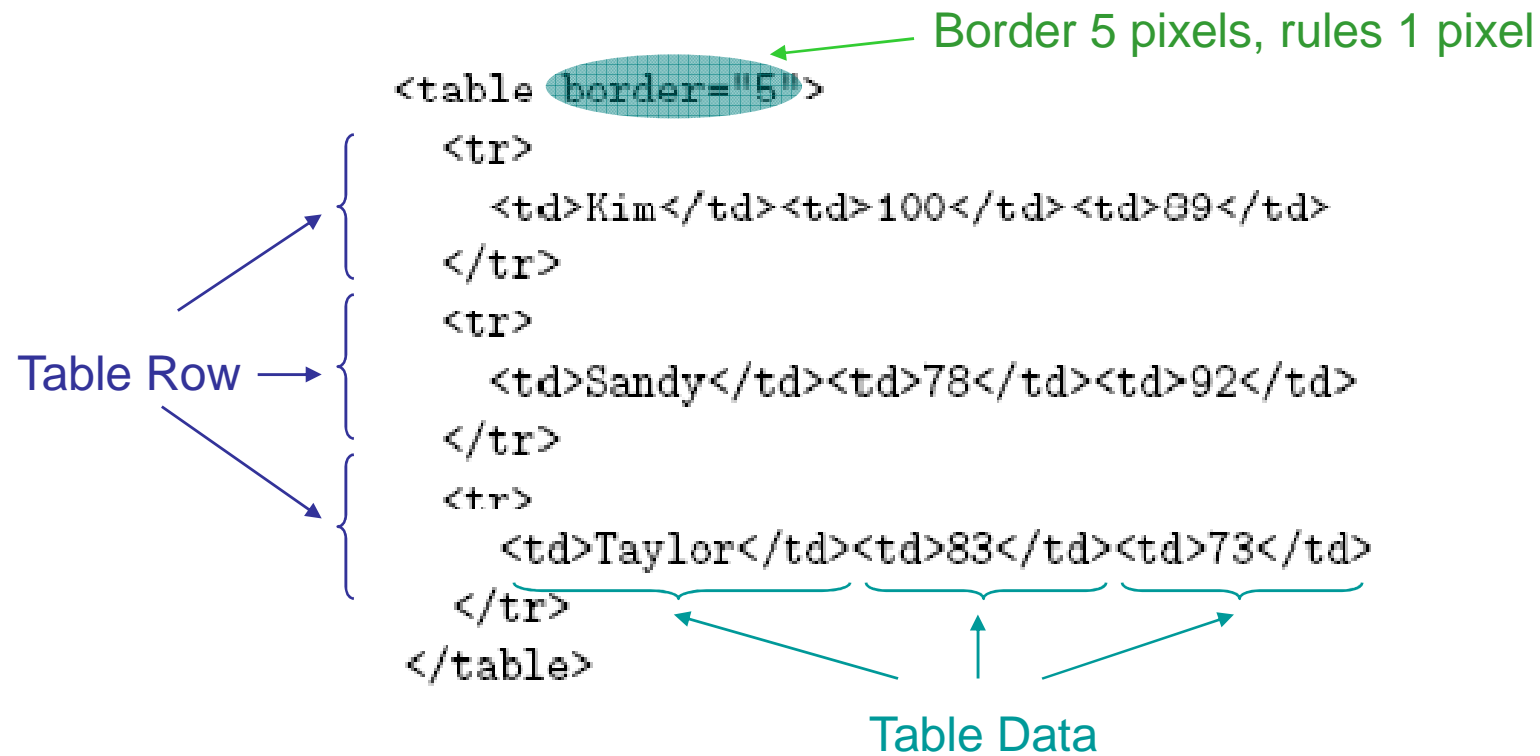


```
<ul>
  <li>Bulleted list item
    <ul>
      <li>Nested list item</li>
      <li>Nested list item 2</li>
    </ul>
  </li>
  <li>Bulleted list item 2</li>
</ul>
```

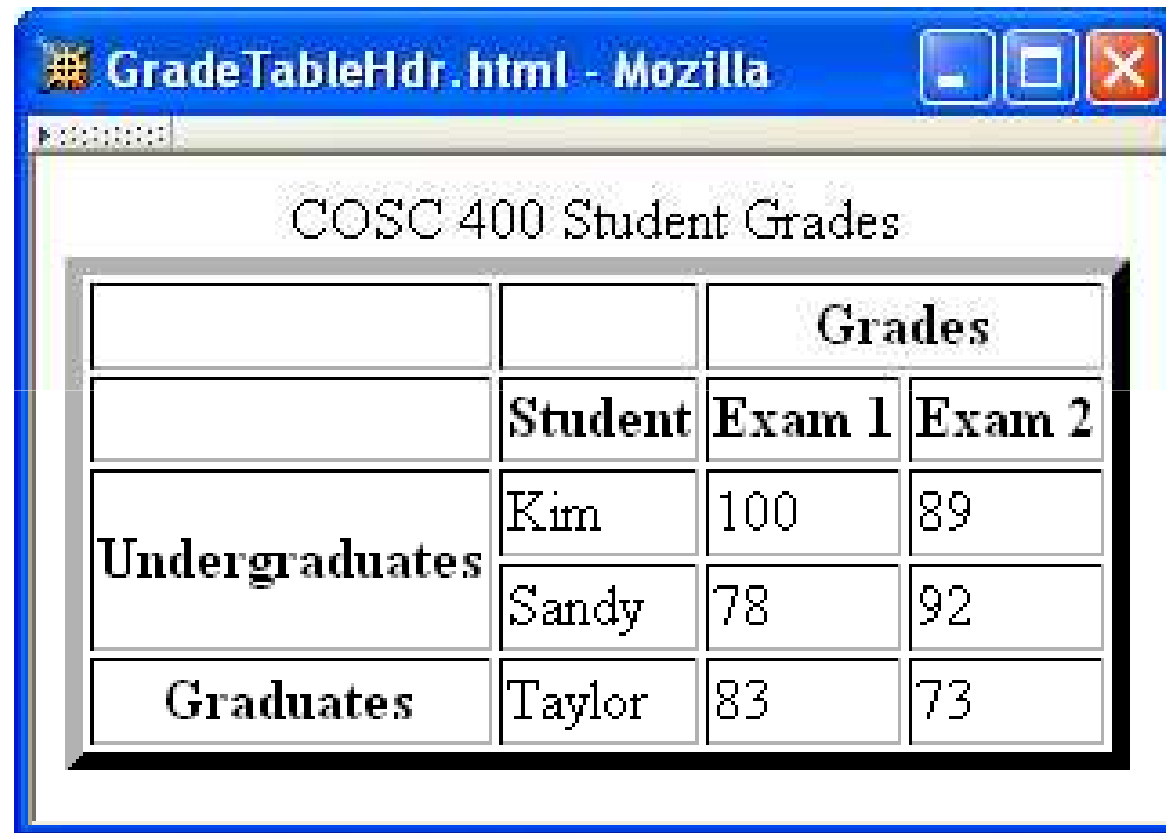
Tables



Tables



Tables



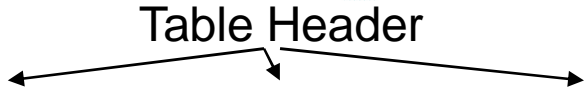
The screenshot shows a Mozilla browser window titled "GradeTableHdr.html - Mozilla". The address bar displays "http://localhost:8080/". The main content area contains the text "COSC 400 Student Grades" centered above a table. The table has four columns: an empty header cell, "Student", "Exam 1", and "Exam 2". The data rows are: "Undergraduates" (rowspan=2) with students Kim (100, 89) and Sandy (78, 92), and "Graduates" with student Taylor (83, 73).

		Grades	
	Student	Exam 1	Exam 2
Undergraduates	Kim	100	89
	Sandy	78	92
Graduates	Taylor	83	73

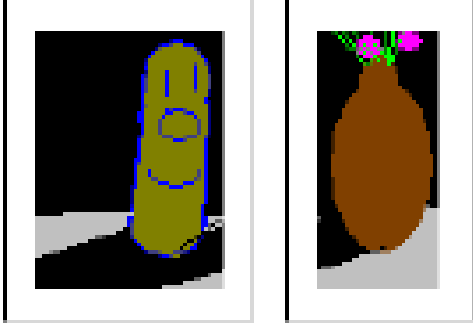
Tables

```
<table border="5">
  <caption>
    COSC 400 Student Grades
  </caption>
  <tr>
    <td>&nbsp;</td><td>&nbsp;</td><th colspan="2">Grades</th>
  </tr>
  <tr>
    <td>&nbsp;</td><th>Student</th><th>Exam 1</th><th>Exam 2</th>
  </tr>
  <tr>
    <th rowspan="2">Undergraduates</th><td>Kim</td><td>100</td><td>89</td>
  </tr>
  <tr>
    <td>Sandy</td><td>78</td><td>92</td>
  </tr>
  <tr>
    <th>Graduates</th><td>Taylor</td><td>83</td><td>73</td>
  </tr>
</table>
```

Table Header



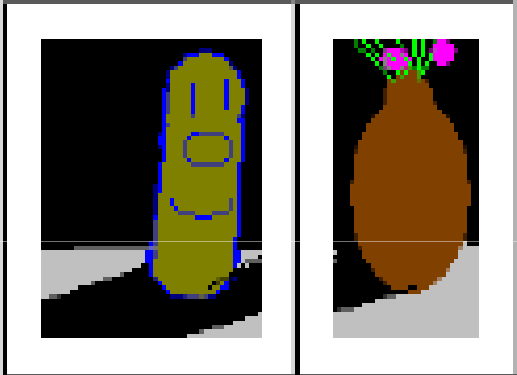
Tables

TableSpacePad.html - Mozilla		
cellspacing	cellpadding	Example
10	10	

```
<table border="1" cellspacing="10" cellpadding="10">
```

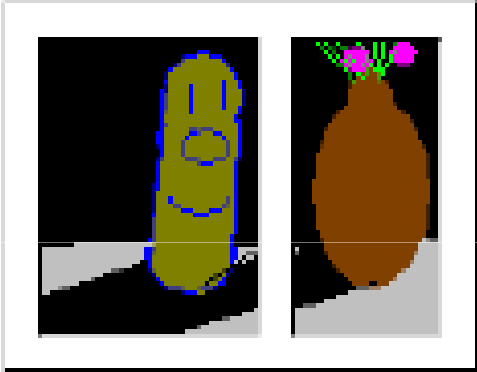
Tables

cellspacing cellpadding

0	10	
---	----	---

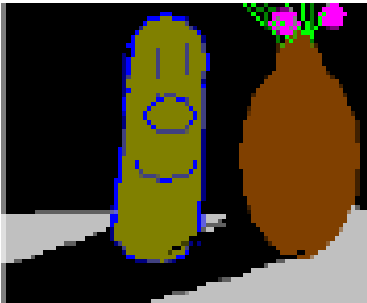
Tables

cellspacing cellpadding

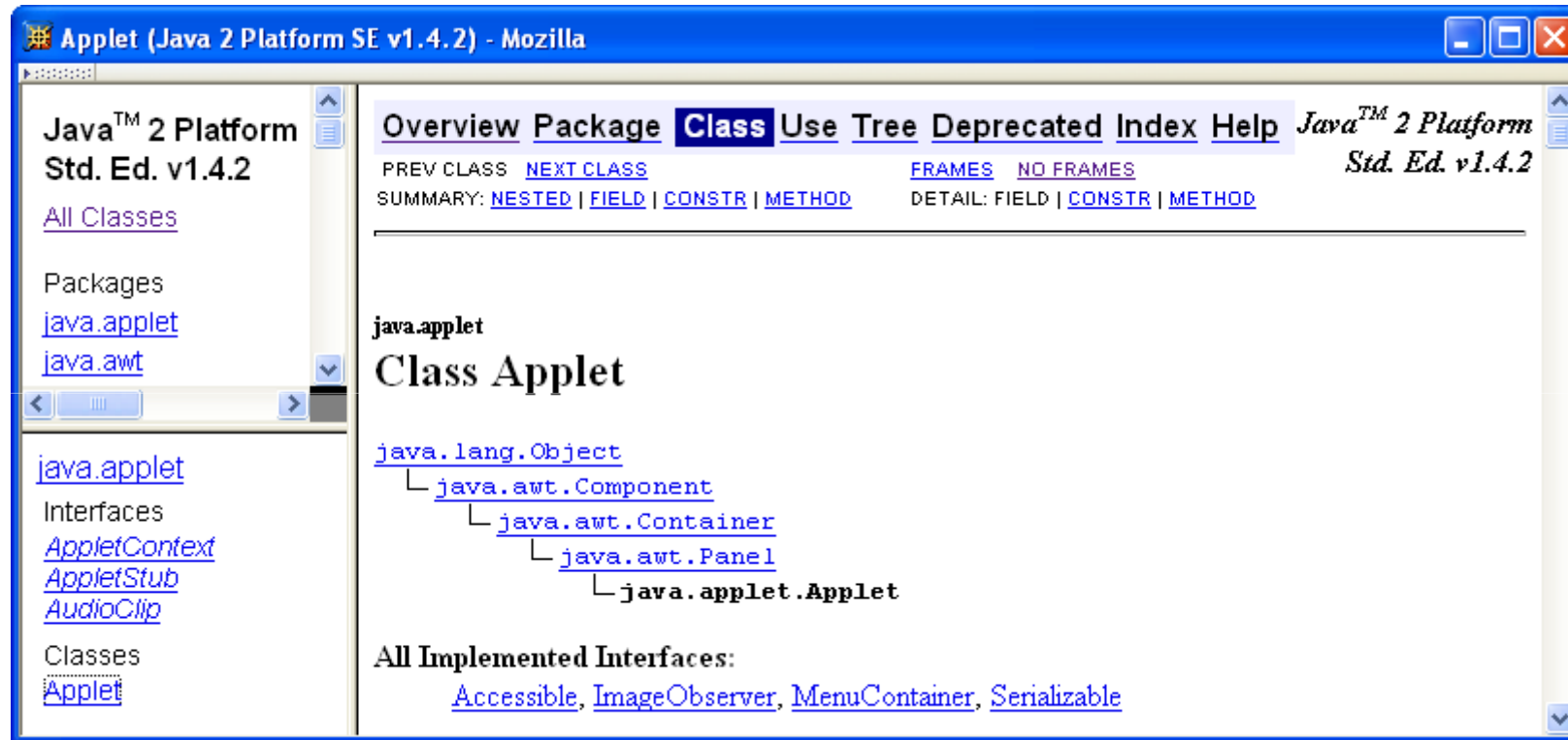
10	0	
----	---	---

Tables

cellspacing cellpadding

0	0	
---	---	---

Frames




Screen shots are reproduced by permission of Sun Microsystems Inc. All rights reserved.

Frames

```
<!DOCTYPE html
  PUBLIC "-//W3C//DTD XHTML 1.0 Frameset//EN"
  "http://www.w3.org/TR/xhtml1/DTD/xhtml1-frameset.dtd">
<html xmlns="http://www.w3.org/1999/xhtml">
  <head>
    <title>Java 2 Platform SE v1.4.2</title>
  </head>
  <frameset cols="20%,80%">
    <frameset rows="1*,2*">
      <frame src="overview-frame.html"
        id="upperLeftFrame" name="upperLeftFrame"></frame>
      <frame src="allclasses-frame.html"
        id="lowerLeftFrame" name="lowerLeftFrame"></frame>
    </frameset>
    <frame src="overview-summary.html"
      id="rightFrame" name="rightFrame"></frame>
  </frameset>
</html>
```

1/3, 2/3 split



Frames

- Hyperlink in one frame can load document in another:

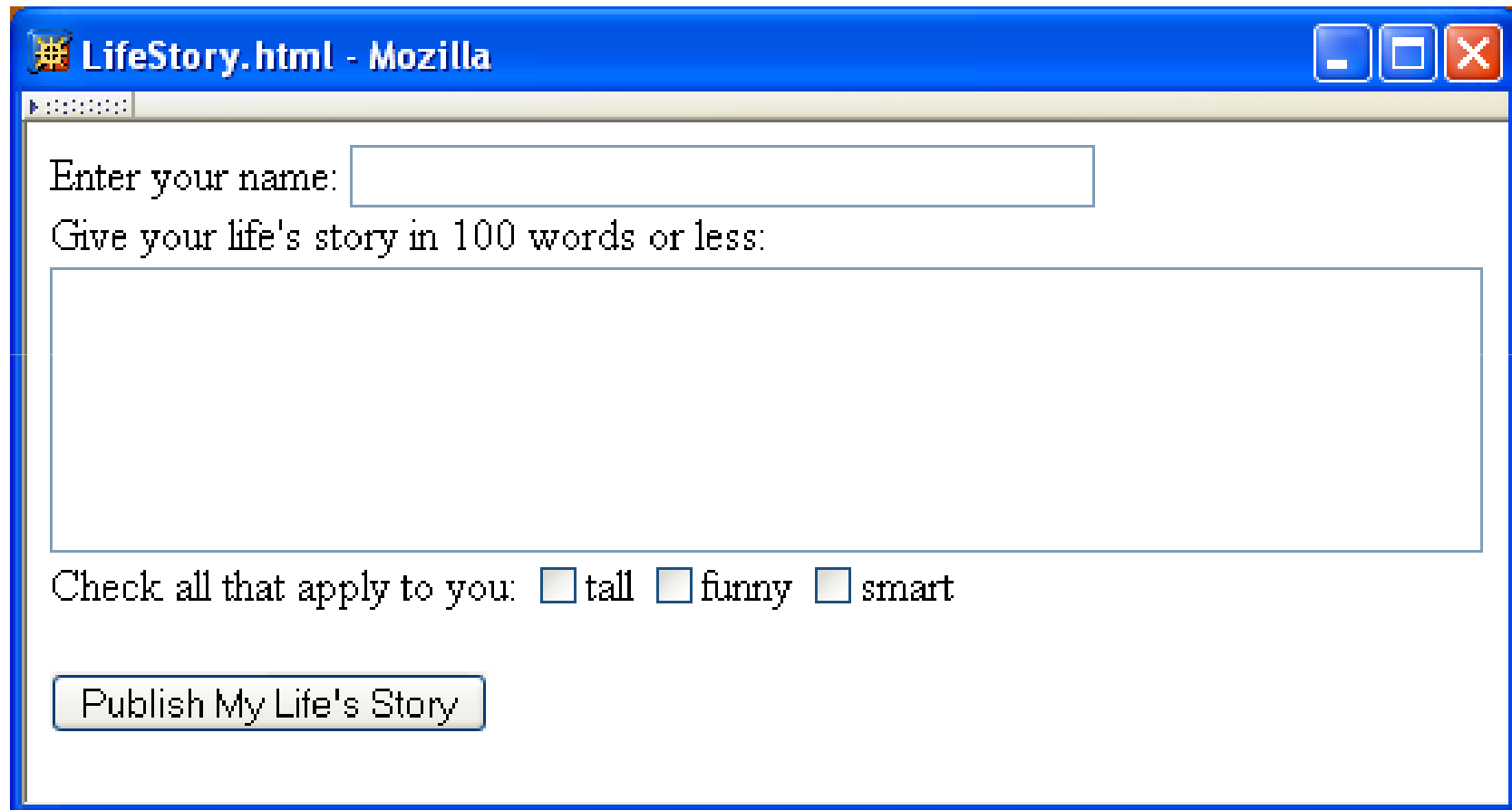
```
<a href=".java/applet/package-frame.html" target="lowerLeftFrame">
```

- Value of target attribute specification is id/name of a frame

Frames

- User interface issues:
 - What happens when the page is **printed**?
 - What happens when the **Back button** is clicked?
 - How should **assistive technology** “read” the page?
 - How should the information be displayed on a **small display**?
- Recommendation: avoid frames except for applications aimed at “power users”

Forms



The screenshot shows a web browser window with a blue title bar that reads "LifeStory.html - Mozilla". The address bar shows a local file path. The main content area contains a form with the following elements:

- A text input field preceded by the label "Enter your name:".
- A large text area preceded by the label "Give your life's story in 100 words or less:".
- A row of three checkboxes with labels: "tall", "funny", and "smart". The text "Check all that apply to you:" precedes the first checkbox.
- A button labeled "Publish My Life's Story" at the bottom.

Forms

Each form is content of a form element

```
<form action="http://www.example.org" method="get">
  <div>
    <label>
      Enter your name: <input type="text" name="username" size="40" />
    </label>
    <br />
    <label>
      Give your life's story in 100 words or less:
      <br />
      <textarea name="lifestory" rows="5" cols="60"></textarea>
    </label>
    <br />
  </div>
</form>
```

Forms

action specifies URL where form data is sent in an HTTP request

```
<form action="http://www.example.org" method="get">
  <div>
    <label>
      Enter your name: <input type="text" name="username" size="40" />
    </label>
    <br />
    <label>
      Give your life's story in 100 words or less:
      <br />
      <textarea name="lifestory" rows="5" cols="60"></textarea>
    </label>
    <br />
  </div>
</form>
```


Forms

HTTP request method (lower case)

```
<form action="http://www.example.org" method="get">
  <div>
    <label>
      Enter your name: <input type="text" name="username" size="40" />
    </label>
    <br />
    <label>
      Give your life's story in 100 words or less:
      <br />
      <textarea name="lifestory" rows="5" cols="60"></textarea>
    </label>
    <br />
  </div>
</form>
```

Forms

```
<form action="http://www.example.org" method="get">
```

<div> div is the block element analog of span (no-style block element)

```
<label>
```

```
  Enter your name: <input type="text" name="username" size="40" />
```

```
</label>
```

```
<br />
```

```
<label>
```

```
  Give your life's story in 100 words or less:
```

```
  <br />
```

```
  <textarea name="lifestory" rows="5" cols="60"></textarea>
```

```
</label>
```

```
<br />
```

Forms

```
<form action="http://www.example.org" method="get">
```

<div> Form control elements must be content of a block element

```
<label>
```

```
  Enter your name: <input type="text" name="username" size="40" />
```

```
</label>
```

```
<br />
```

```
<label>
```

```
  Give your life's story in 100 words or less:
```

```
  <br />
```

```
  <textarea name="lifestory" rows="5" cols="60"></textarea>
```

```
</label>
```

```
<br />
```

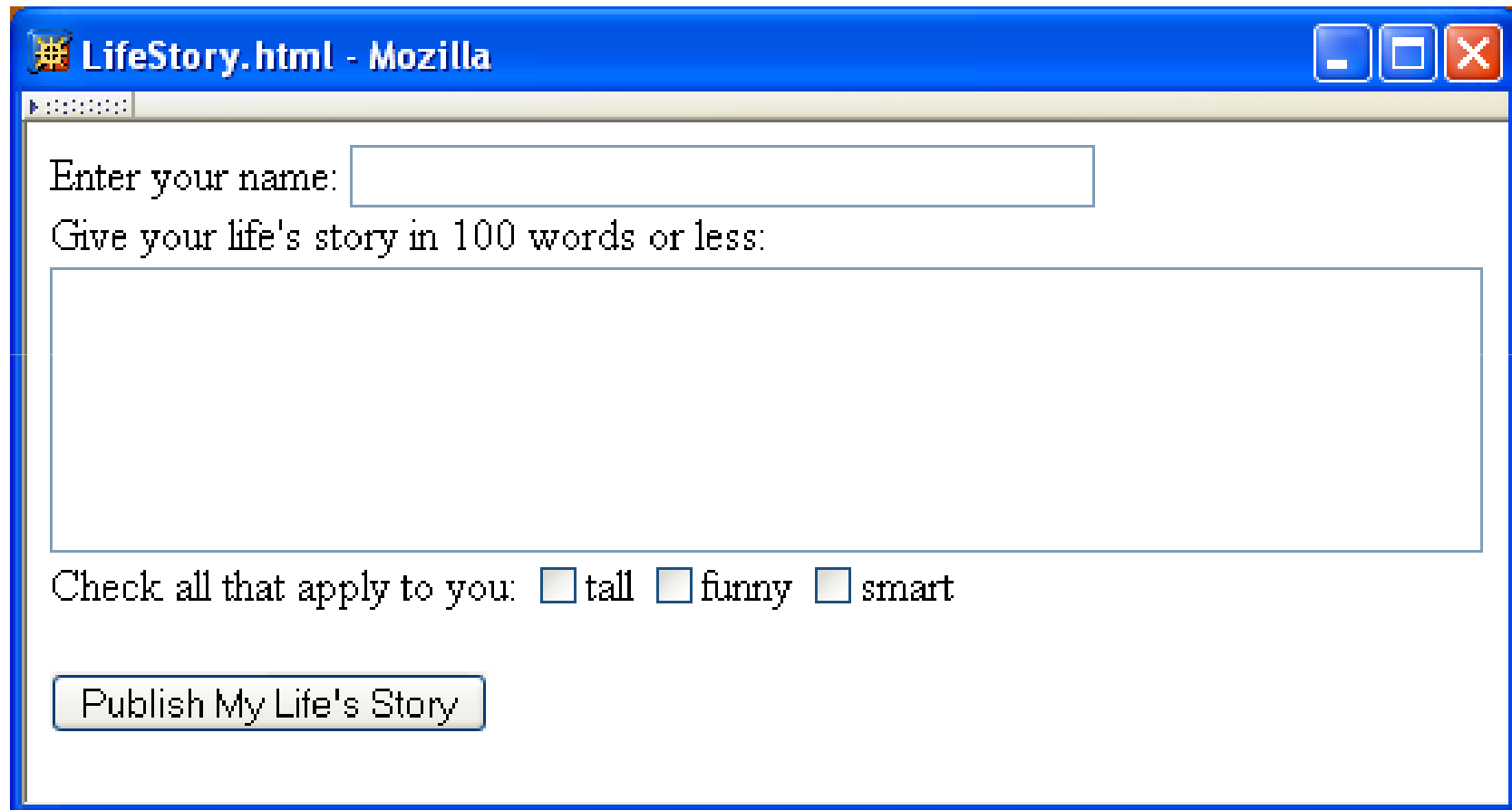
Forms

```
<form action="http://www.example.org" method="get">
  <div>
    <label>      Text field control (form user-interface element)
      Enter your name: <input type="text" name="username" size="40" />
    </label>
    <br />
    <label>
      Give your life's story in 100 words or less:
      <br />
      <textarea name="lifestory" rows="5" cols="60"></textarea>
    </label>
    <br />
  </div>
</form>
```

Forms

```
<form action="http://www.example.org" method="get">
  <div>
    <label>      Text field used for one-line inputs
      Enter your name: <input type="text" name="username" size="40" />
    </label>
    <br />
    <label>
      Give your life's story in 100 words or less:
      <br />
      <textarea name="lifestory" rows="5" cols="60"></textarea>
    </label>
    <br />
  </div>
</form>
```

Forms



The screenshot shows a web browser window with a blue title bar that reads "LifeStory.html - Mozilla". The address bar shows a local file path. The main content area contains a form with the following elements:

- A text input field preceded by the label "Enter your name:".
- A large text area preceded by the label "Give your life's story in 100 words or less:".
- A row of three checkboxes with labels: "tall", "funny", and "smart". The text "Check all that apply to you:" precedes the first checkbox.
- A button labeled "Publish My Life's Story" at the bottom.

Forms

```
<form action="http://www.example.org" method="get">
  <div>
    <label>    Name associated with this control's data in HTTP request
      Enter your name: <input type="text" name="username" size="40" />
    </label>
    <br />
    <label>
      Give your life's story in 100 words or less:
      <br />
      <textarea name="lifestory" rows="5" cols="60"></textarea>
    </label>
    <br />
  </div>
</form>
```

Forms

```
<form action="http://www.example.org" method="get">
  <div>
    <label>
      Enter your name: <input type="text" name="username" size="40" />
    </label>
    <br />
    <label>
      Give your life's story in 100 words or less:
      <br />
      <textarea name="lifestory" rows="5" cols="60"></textarea>
    </label>
    <br />
  </div>
</form>
```

Width (number of characters) of text field

Forms

```
<form action="http://www.example.org" method="get">
```

```
  <div>
```

```
    <label>
```

```
      Enter your name: <input type="text" name="username" size="40" />
```

```
    </label>
```

```
    <br />
```

```
    <label>
```

```
      Give your life's story in 100 words or less:
```

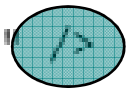
```
    <br />
```

```
    <textarea name="lifestory" rows="5" cols="60"></textarea>
```

```
  </label>
```

```
  <br />
```

input is an empty element



Forms

```
<form action="http://www.example.org" method="get">
```

```
<div>
```

```
<label>
```

Use label to associate text with a control

```
  Enter your name: <input type="text" name="username" size="40" />
```

```
</label>
```

```
<br />
```

```
<label>
```

```
  Give your life's story in 100 words or less:
```

```
  <br />
```

```
  <textarea name="lifestory" rows="5" cols="60"></textarea>
```

```
</label>
```

```
<br />
```

Forms

```
<form action="http://www.example.org" method="get">
  <div>
    <label>
      Enter your name: <input type="text" name="username" size="40" />
    </label>
    <br />
    <label>
      Give your life's story in 100 words or less:
      <br />
      <textarea name="lifestory" rows="5" cols="60"></textarea>
    </label>
    <br />
```

Form controls are inline elements

Forms

```
<form action="http://www.example.org" method="get">
  <div>
    <label>
      Enter your name: <input type="text" name="username" size="40" />
    </label>
    <br />
    <label>
      Give your life's story in 100 words or less:
      <br /> textarea control used for multi-line input
      <textarea name="lifestory" rows="5" cols="60"></textarea>
    </label>
    <br />
  </div>
</form>
```

Forms

```
<form action="http://www.example.org" method="get">
  <div>
    <label>
      Enter your name: <input type="text" name="username" size="40" />
    </label>
    <br />
    <label>
      Give your life's story in 100 words or less:
      <br />
      <textarea name="lifestory" rows="5" cols="60"></textarea>
    </label>
    <br />
```

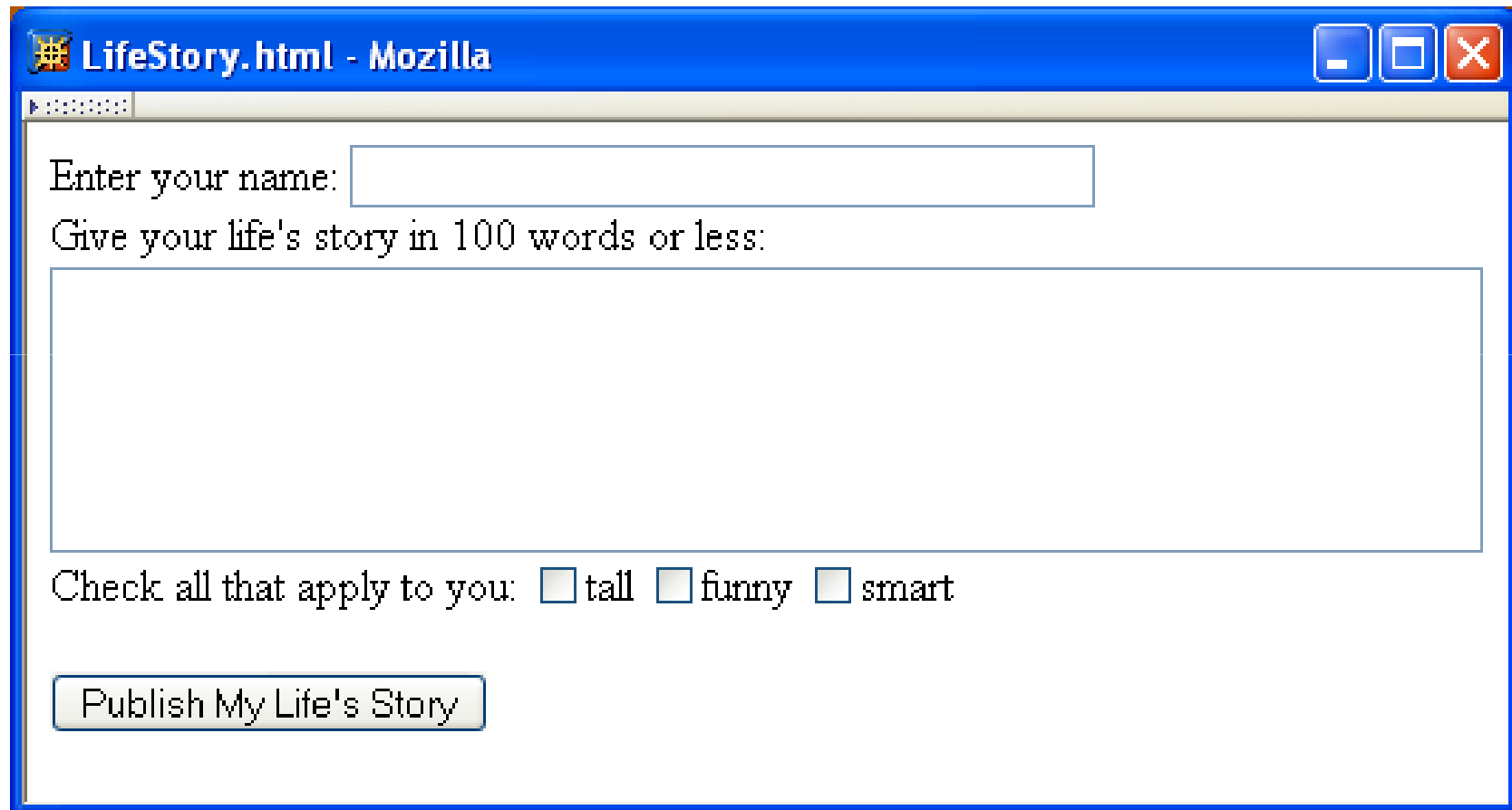
Height and width in characters

Forms

```
<form action="http://www.example.org" method="get">
  <div>
    <label>
      Enter your name: <input type="text" name="username" size="40" />
    </label>
    <br />
    <label>
      Give your life's story in 100 words or less:
      <br />
      <textarea name="lifestory" rows="5" cols="60"></textarea>
    </label>
    <br />
```

textarea is not an empty element; any content is displayed

Forms



The screenshot shows a web browser window with a blue title bar that reads "LifeStory.html - Mozilla". The address bar shows a local file path. The form contains the following elements:

- A text input field preceded by the label "Enter your name:".
- A large text area preceded by the label "Give your life's story in 100 words or less:".
- A row of three checkboxes with labels: "tall", "funny", and "smart". The text "Check all that apply to you:" precedes the first checkbox.
- A button labeled "Publish My Life's Story" at the bottom.

Forms

Check all that apply to you:

<label> Checkbox control

<input type="checkbox" name="boxgroup1" value="tall" />tall
</label>

<label>

<input type="checkbox" name="boxgroup1" value="funny" />funny
</label>

<label>

<input type="checkbox" name="boxgroup1" value="smart" />smart
</label>

<input type="submit" name="doit" value="Publish My Life's Story" />

</div>

</form>

Forms

Check all that apply to you:

Value sent in HTTP request if box is checked

```
<label>
  <input type="checkbox" name="boxgroup1" value="tall" />tall
</label>
<label>
  <input type="checkbox" name="boxgroup1" value="funny" />funny
</label>
<label>
  <input type="checkbox" name="boxgroup1" value="smart" />smart
</label>
<br /><br />
<input type="submit" name="doit" value="Publish My Life's Story" />
</div>
</form>
```

Forms

Controls can share a common name

```
Check all that apply to you:
<label>
  <input type="checkbox" name="boxgroup1" value="tall" />tall
</label>
<label>
  <input type="checkbox" name="boxgroup1" value="funny" />funny
</label>
<label>
  <input type="checkbox" name="boxgroup1" value="smart" />smart
</label>
<br /><br />
<input type="submit" name="doit" value="Publish My Life's Story" />
</div>
</form>
```

Forms

Check all that apply to you:

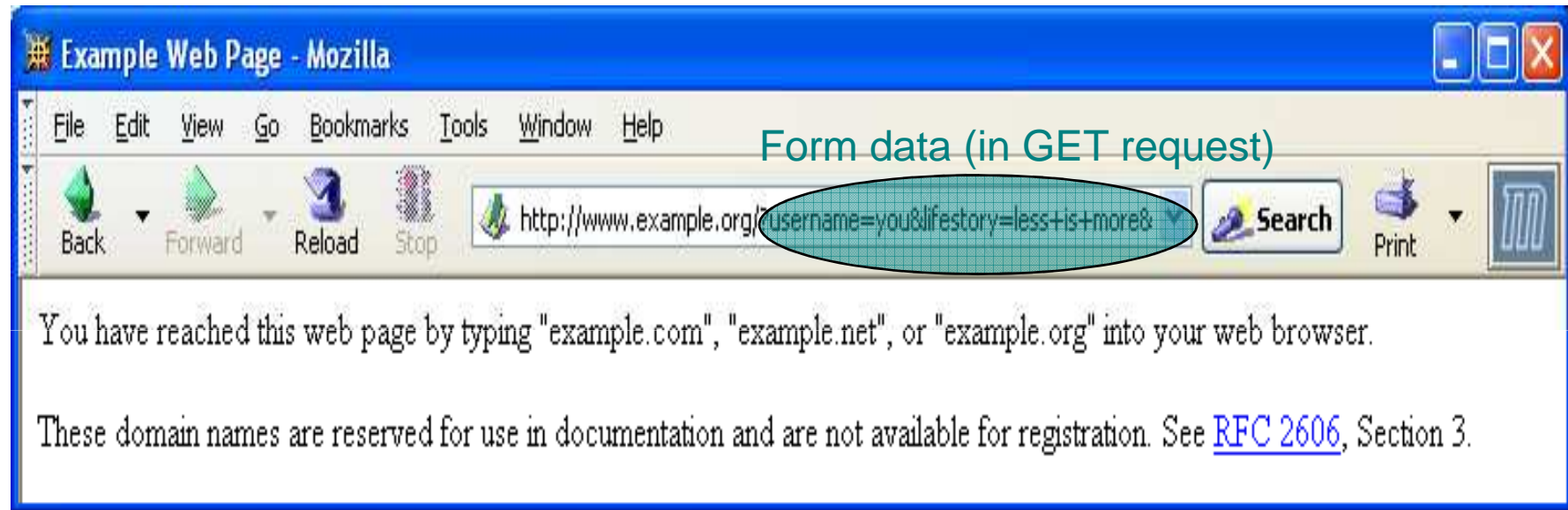
```
<label>
  <input type="checkbox" name="boxgroup1" value="tall" />tall
</label>
<label>
  <input type="checkbox" name="boxgroup1" value="funny" />funny
</label>
<label>
  <input type="checkbox" name="boxgroup1" value="smart" />smart
</label>
<br /><br />
<input type="submit" name="doit" value="Publish My Life's Story" />
</div>
</form>
```

Submit button: form data sent to action URL if button is clicked

Forms



Forms



Forms

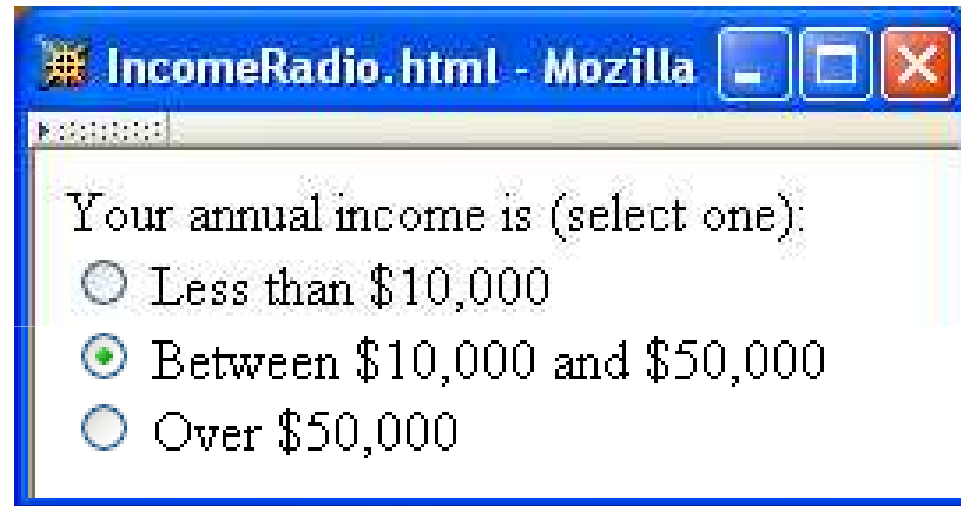
Check all that apply to you:

```
<label>
  <input type="checkbox" name="boxgroup1" value="tall" />tall
</label>
<label>
  <input type="checkbox" name="boxgroup1" value="funny" />funny
</label>
<label>
  <input type="checkbox" name="boxgroup1" value="smart" />smart
</label>
<br /><br />
<input type="submit" name="doit" value="Publish My Life's Story" />
</div>
</form>
```

Displayed on button and sent to server if button clicked

Forms

Radio buttons: at most one can be selected at a time.



The screenshot shows a web browser window with the title "IncomeRadio.html - Mozilla". The address bar is empty. The main content area displays the text "Your annual income is (select one):" followed by three radio button options:

- ☐ Less than \$10,000
- ☒ Between \$10,000 and \$50,000
- ☐ Over \$50,000

Forms

```
Your annual income is (select one):<br />
<label>                                Radio button control
    <input type="radio" name="radgroup1" value="0-10" />
        Less than $10,000
</label><br />
<label>
    <input type="radio" name="radgroup1" value="10-50"
        checked="checked" />
        Between $10,000 and $50,000
</label><br />
<label>
    <input type="radio" name="radgroup1" value=">50" />
        Over $50,000
</label>
```


Forms

Your annual income is (select one):

<label>

<input type="radio" name="radgroup1" value="0-10" />

Less than \$10,000

</label>

<label>

<input type="radio" name="radgroup1" value="10-50"

checked="checked" />

Between \$10,000 and \$50,000

</label>

<label>

<input type="radio" name="radgroup1" value=">50" />

Over \$50,000

</label>

All radio buttons with the same name form a *button set*

Forms

Your annual income is (select one):

<label>

☐

Less than \$10,000

</label>

<label>

☐

checked="checked" />

Between \$10,000 and \$50,000

</label>

<label>

☐

Over \$50,000

</label>

Only one button of a set can be selected at a time

Forms

Your annual income is (select one):

<label>

<input type="radio" name="radgroup1" value="0-10" />

Less than \$10,000

</label>

<label>

<input type="radio" name="radgroup1" value="10-50"

checked="checked" /> This button is initially selected

Between \$10,000 and \$50,000 (checked attribute also applies
to check boxes)

</label>

<label>

<input type="radio" name="radgroup1" value=">50" />

Over \$50,000

</label>

Forms

```
Your annual income is (select one):<br />
<label>
  <input type="radio" name="radgroup1" value="0-10" />
    Less than $10,000
</label><br />
<label>
  <input type="radio" name="radgroup1" value="10-50"
    checked="checked" /> Between $10,000 and $50,000
</label><br />
<label>
  <input type="radio" name="radgroup1" value=">50" />
    Over $50,000
</label>
```

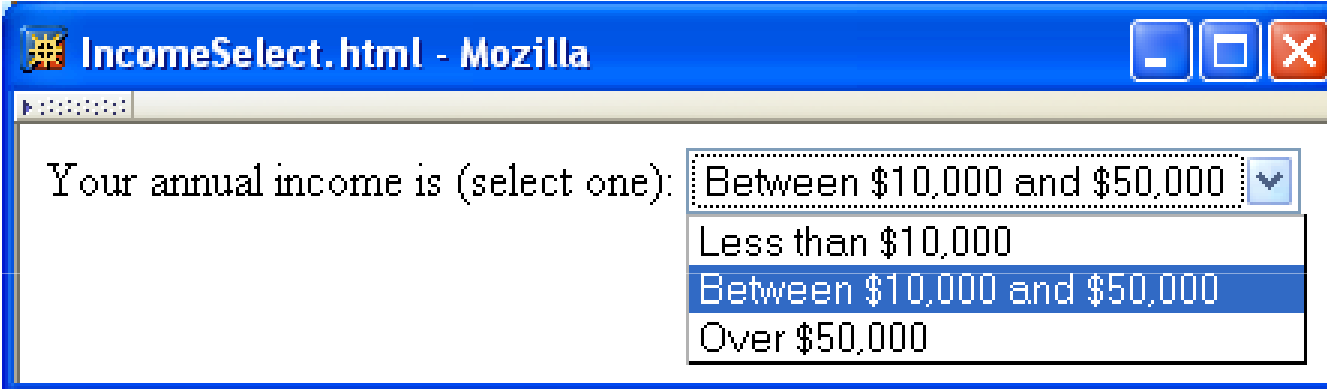
Boolean attribute: default false, set true by specifying name as value

Forms

```
Your annual income is (select one):<br />
<label>
  <input type="radio" name="radgroup1" value="0-10" />
  Less than $10,000
</label><br />
<label>
  <input type="radio" name="radgroup1" value="10-50"
    checked="checked" />
  Between $10,000 and $50,000
</label><br />
<label>
  <input type="radio" name="radgroup1" value="&gt;50" />
  Over $50,000
</label>
```

Represents string: >50

Forms



The screenshot shows a web browser window with a blue title bar that reads "IncomeSelect.html - Mozilla". Inside the window, there is a form with the text "Your annual income is (select one):" followed by a dropdown menu. The dropdown menu is currently open, showing four options: "Between \$10,000 and \$50,000" (which is the selected option), "Less than \$10,000", "Between \$10,000 and \$50,000", and "Over \$50,000".

} Menu

Forms

Your annual income is (select one):

```
<select name="income"> Menu control; name given once
  <option value="0-10">Less than $10,000</option>
  <option value="10-50" selected="selected">
    Between $10,000 and $50,000
  </option>
  <option value=">50">Over $50,000</option>
</select>
```

Forms

Your annual income is (select one):

```
<select name="income">Each menu item has its own value
  <option value="0-10">Less than $10,000</option>
  <option value="10-50" selected="selected">
    Between $10,000 and $50,000
  </option>
  <option value=">50">Over $50,000</option>
</select>
```


Forms

Your annual income is (select one):

```
<select name="income">
```

```
  <option value="0-10">Less than $10,000</option>
```

```
  <option value="10-50" selected="selected">
```

Between \$10,000 and \$50,000

Item initially displayed in menu control

```
  <option value=">50">Over $50,000</option>
```

```
</select>
```


Forms

- Other form controls:
 - Fieldset (grouping)
 - Password
 - Clickable image
 - Non-submit buttons
 - Hidden (embed data)
 - File upload
 - Hierarchical menus

MoreControls.html - Mozilla

Example of a fieldset


input type=password:

input type=image: 

input type=button:

input type=hidden:

input type=file:

button type=button: 

Hierarchical menu

select with optgroup:

Make a selection ▼

Make a selection

Group1

1.1

1.2

Group2

2.1

2.2

Forms

TABLE 2.5: HTML 4.01/XHTML 1.0 non-deprecated form controls.

Element	type Attribute	Control
input	text	Text input
input	password	Password input
input	checkbox	Checkbox
input	radio	Radio button
input	submit	Submit button
input	image	Graphical submit button
input	reset	Reset button (form clear)
input	button	Push button (for use with scripts)
input	hidden	Non-displayed control (stores server-supplied information)
input	file	File select
button	submit	Submit button with content (not an empty element)
button	reset	Cancel button with content (not an empty element)
button	button	Button with content but no predefined action
select	N/A	Menu
option	N/A	Menu item
optgroup	N/A	Heading in a hierarchical menu
textarea	N/A	Multi-line text input
label	N/A	Associate label with control(s)
fieldset	N/A	Groups controls
legend	N/A	Add caption to a fieldset