Unit-2
HTML

Outline

1. Introduction to HTML
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   - My First HTML Page
   - HTML Code Formatting
2. Basic HTML Tags
   - Heading
   - Paragraph
   - Color
   - Font
     - List
     - Anchor
     - Image
3. HTML Tables
4. HTML Forms
5. XHTML
6. Introduction to HTML 5

What is a Web Page?

- Web page is text file containing HTML

- HTML – Hyper Text Markup Language
  - A notation for describing
    - document structure (semantic markup)
    - formatting (presentation markup)

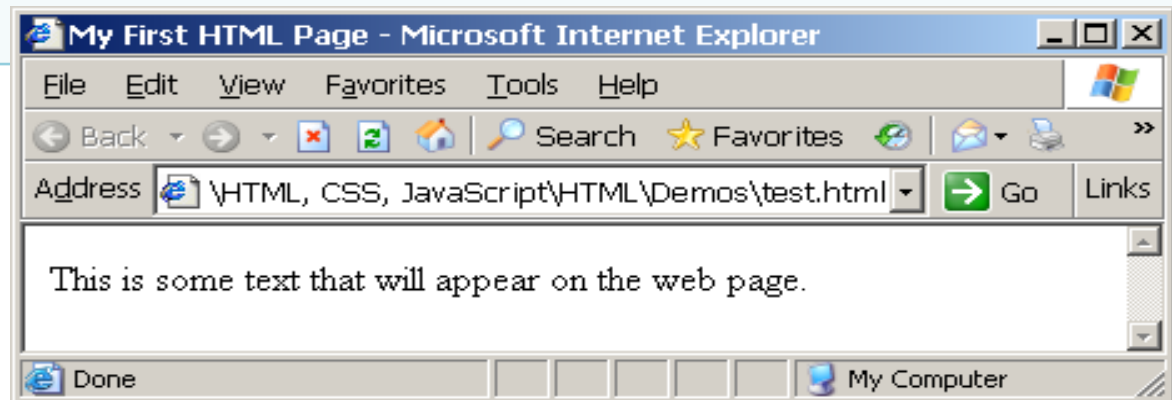- The markup tags provide information about the page content structure

Creating HTML Pages

- An HTML file must have an `.htm` or `.html` file extension

- HTML files can be created with text editors:
  - NotePad, NotePad ++, PSPad

- Or HTML editors (WYSIWYG Editors):
  - Microsoft FrontPage
  - Macromedia Dreamweaver
  - Netscape Composer
  - Visual Studio

First HTML Page

test.html

```html
<html>
  <head>
    <title>My First HTML Page</title>
  </head>
  <body>
    <p>This is some text...</p>
  </body>
</html>
```

My First HTML Page - Microsoft Internet Explorer

File   Edit   View   Favorites   Tools   Help

Back   Search   Favorites

Address \HTML, CSS, JavaScript\HTML\Demos\test.html   Go   Links

This is some text that will appear on the web page.

Done   My Computer

HTML Structure

- "elements" and "tags" are used in HTML
  - Begins with `<html>` and ends with `</html>`
- Elements (tags) are nested one inside another:

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

- Tags have attributes:

  `<img src="logo.jpg" alt="logo" />`

- HTML describes structure using two main sections: `<head>` and `<body>`

HTML Code Formatting

- The HTML source code should be formatted to increase readability and facilitate debugging.
  - Every block element should start on a new line.
  - Every nested (block) element should be indented.
  - Browsers ignore multiple whitespaces in the page source, so formatting is harmless.

- For performance reasons, formatting can be sacrificed

First HTML Page: Tags

```
<!DOCTYPE HTML>
<html>
  <head>
    <title>My First HTML Page</title>
  </head>
  <body>
     <p>This is some text...</p>
  </body>
</html>
```

Opening tag

Closing tag

An HTML element consists of an opening tag, a closing tag and the content inside.

First HTML Page: Header

```
<!DOCTYPE HTML>
<html>
  <head>
    <title>My First HTML Page</title>
  </head>
  <body>
     <p>This is some text...</p>
  </body>
</html>
```

HTML header

First HTML Page: Body

```
<!DOCTYPE HTML>
<html>
  <head>
    <title>My First HTML Page</title>
  </head>
  <body>
    <p>This is some text...</p>
  </body>
</html>
```
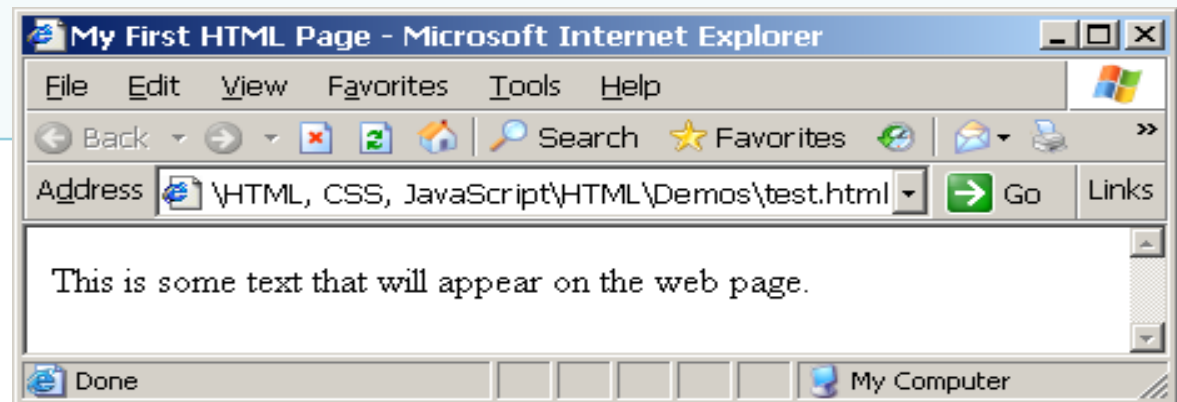
HTML body

First HTML Page

test.html

```html
<!DOCTYPE HTML>
<html>
  <head>
    <title>My First HTML Page</title>
  </head>
  <body>
    <p>This is some text...</p>
  </body>
</html>
```


My First HTML Page - Microsoft Internet Explorer

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This is some text that will appear on the web page.

Done   My Computer

Basic HTML Tags

1. Headings
2. Paragraph
3. Colors
4. Fonts
5. List
6. Anchor Tag
7. Image
8. Table
9. Form

1) Headings

- Headings are important because search engines use the headings to index the structure and content of your web pages.

```
<h1> text </h1> -- largest of the six
<h2> text </h2>
<h3> text </h3>
<h4> text </h4>
<h5> text </h5>
<h6> text </h6> -- smallest of the six
```

align="*position*" --left (default), center or right

2) <p> paragraph

- <p> defines a paragraph
- Add **align**=*"position"* (left, center, right)
- Multiple <p>'s do not create blank lines
- Use <br> for blank line
- Fully-specified text uses <p> and </p>, but </p> is optional

3) Colors

- Values for **bgcolor** and **color**
  - many are predefined (red, blue, green, …)
  - all colors can be specified as a six character hexadecimal value: #RRGGBB
  - #FF0000 – red
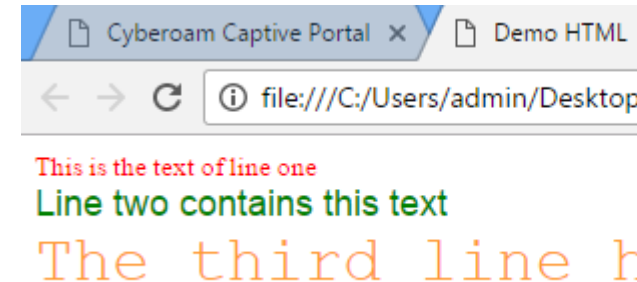 - #888888 – gray
  - #00FF00 –green
  - #000000 – black

4) Fonts

- The tag specifies the font face, font size, and color of text.

- The tag is not supported in HTML5.

This is the text of line one

Line two contains this text

The third line has this additional text

5) List

Ordered List

1. Block-A
2. Block-B
3. Block-C
4. Block-D

a) Block-A
b) Block-B
c) Block-C
d) Block-D

A. Block-A
B. Block-B
C. Block-C
D. Block-D

i. Block-A
ii. Block-B
iii. Block-C
iv. Block-D

I. Block-A
II. Block-B
III. Block-C
IV. Block-D

Unordered List

– Block-A
– Block-B
– Block-C
– Block-D

○ Block-A
○ Block-B
○ Block-C
○ Block-D

▪ Block-A
▪ Block-B
▪ Block-C
▪ Block-D

5.1) Ordered List

```
<ol>
  <li> Item one </li>
  <li> Item two </li>
  <ol type="I" >
    <li> Sublist item one </li>
    <li> Sublist item two </li>
    <ol type="i">
      <li> Sub-sub list item one </li>
      <li> Sub-sub list item two </li>
    </ol>
  </ol>
</ol>
```

Types:

Type = 1 (default)
Type = a
Type = A
Type = I
Type = i

Output

1. Item one
2. Item two
      I. Sublist item one
      II. Sublist item two
            i. Sub-sub list item one
            ii. Sub-sub list item two

5.2) Unordered List

```
<ul>
  <li> One </li>
  <li> Two </li>
  <ul type="circle">
    <li> Three </li>
    <li> Four </li>
    <ul type="square">
      <li> Five </li>
      <li> Six </li>
    </ul>
  </ul>
</ul>
```

Types:

Type = disc (default)
Type = circle
Type = square

Output

- One
- Two
  - Three
  - Four
    - Five
    - Six

6) <a> Anchor Tag (Hyperlinks)

- The <a> tag defines a hyperlink, which is used to link from one page to another.

Link to an absolute URL:
If you get spam, contact
Microsoft to report the problem.

Link to a relative URL:
See these references
concerning our fine products.

Link to a section within a URL:

Reference Section.

7) Images

- Syntax :

- **src** is required

- **alt** will specify the text to display if the Image not found

- **width**, **height** may be in units of pixels or percentage of page or frame
    - width="357"
    - height="50%"

Images (cont.)

 <img src="dolphin.jpg" align="left" width="150" height="150" alt="dolphin jump!">

align=*position*	Image/Text Placement
Left	Image on left edge; text flows to right of image
Right	Image on right edge; text flows to left
Top	Image is left; words align with top of image
Bottom	Image is left; words align with bottom of image
Middle	Words align with middle of image

Image (cont.) => align="bottom"

Image (cont.) => align="right"

8) Table

```
<table border=1>
 <caption>Table Caption</caption>
 <tr>
          <th>Heading1</th>
      <th>Heading2</th>
 </tr>
 <tr>
          <td>Row1 Col1 Data</td>
          <td>Row1 Col2 Data</td>
 </tr>
 <tr>
          <td>Row2 Col1 Data</td>
          <td>Row2 Col2 Data</td>
 </tr>
</table>
```
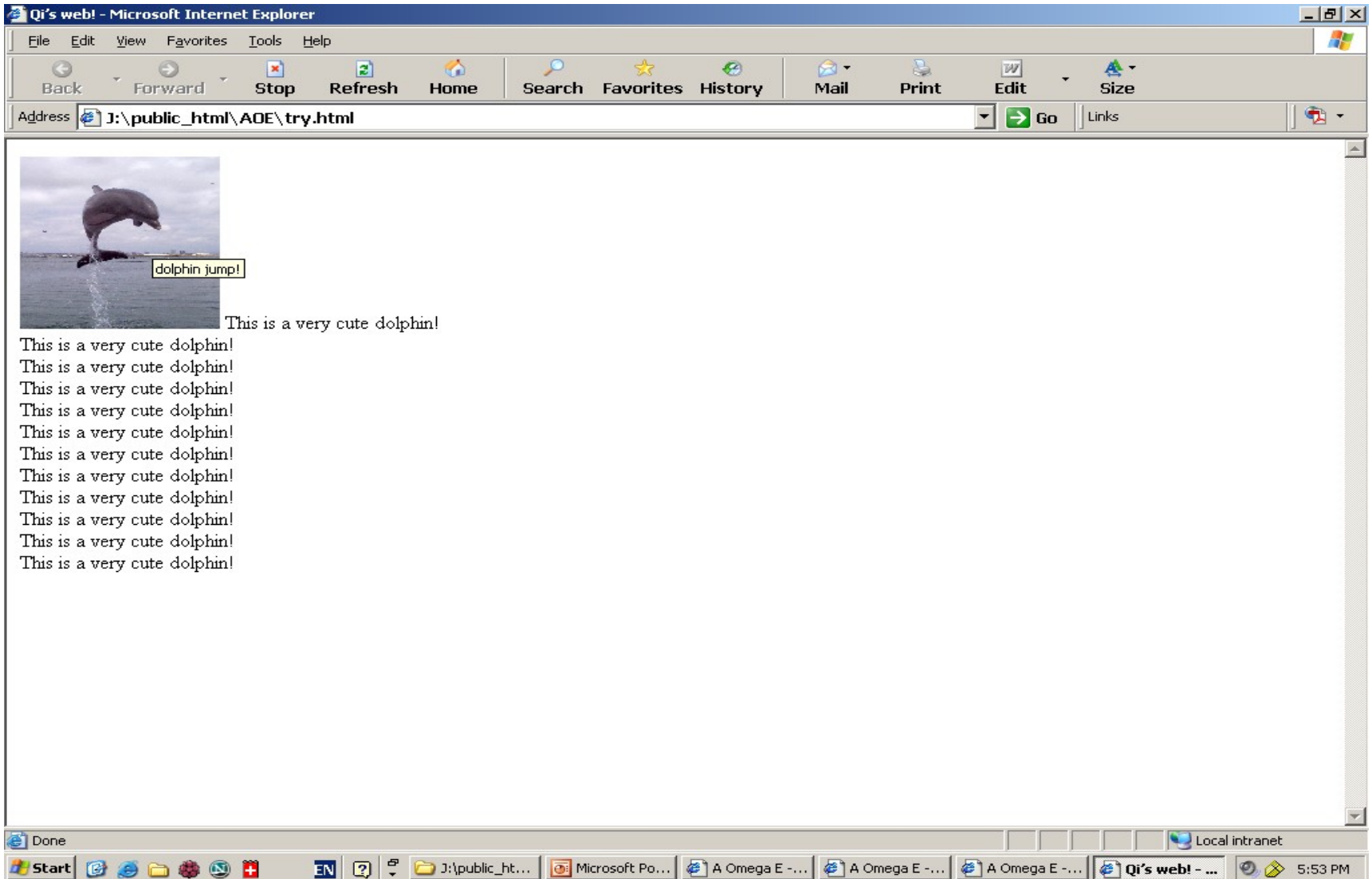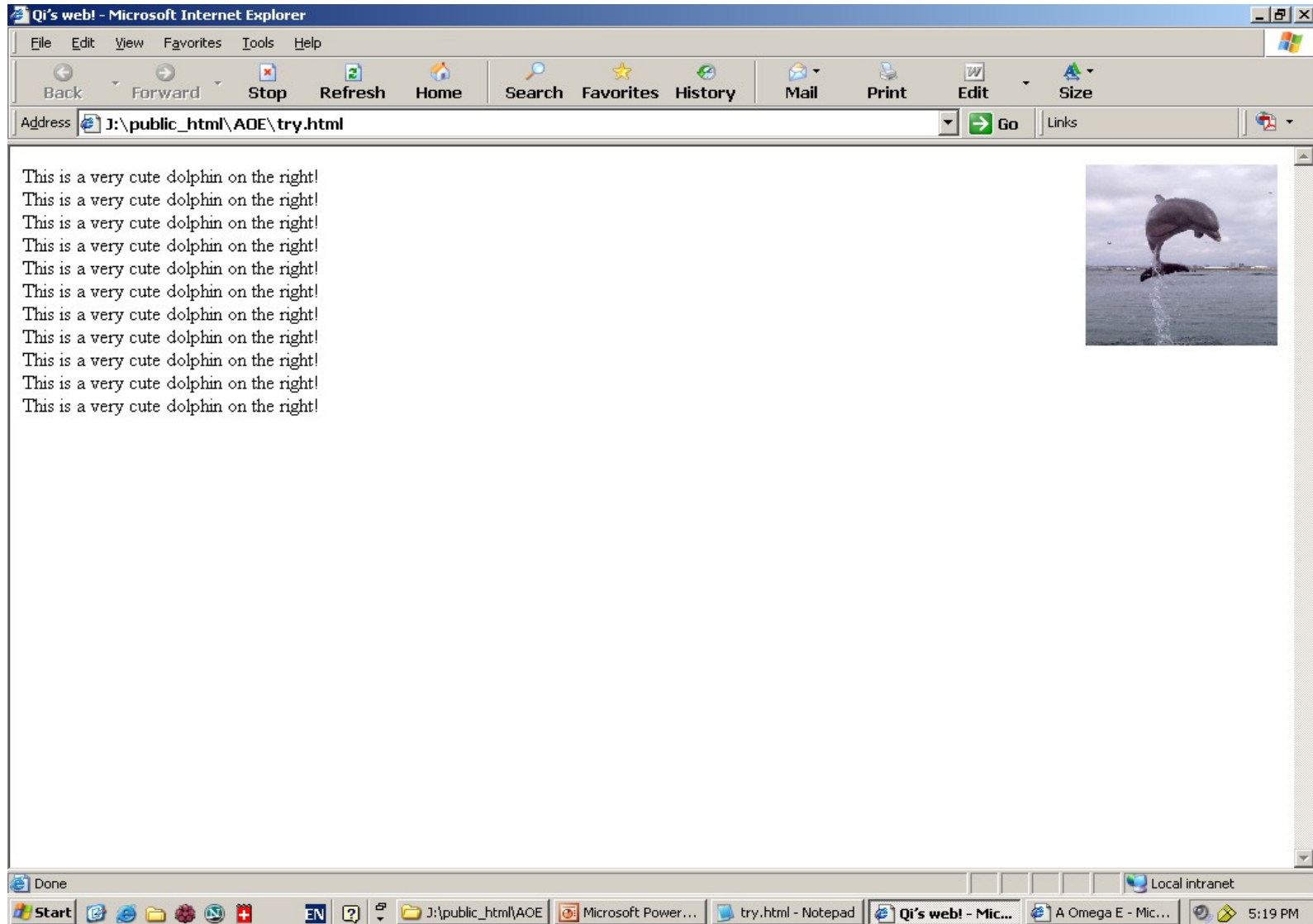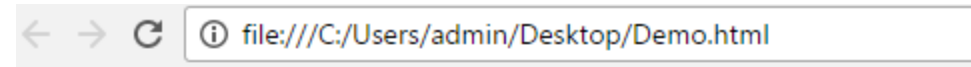
<table>	table tag
<caption>	optional table title
<tr>	table row
<th>	table column header
<td>	table data element

← → C ⓘ file:///C:/Users/admin/Desktop/Demo.html

Heading 1	Headin
Row1 Col1 Data	Row1 Col2
Row2 Col1 Data	Row2 Col2

Table Element Attributes

- **align=*position*** -- left, center, right for table

- **border=*number*** -- width in pixels of border (default 0)

- **cellspacing=*number*** -- spacing in pixels between cells, default about 3

- **cellpadding=*number*** -- space in pixels between cell border and table element, default about 1

- **width=*number*[%]**-- width in pixels or percentage of page/frame width

cellspacing=10

1	2
3	4

cellpadding=10

1	2
3	4

Table Row <tr> Attributes

Valid for the table row:
align -- left, center, right
valign -- top, middle, bottom
bgcolor -- background color

```
<table align="center" width="300" height="200">
      <tr align="left" valign="top" bgcolor="red">
            <td>One</td>
            <td>Two</td>
      </tr>
      <tr align="center" valign="middle" bgcolor="lightblue">
            <td>Three</td>
            <td>Four</td>
      </tr>
      <tr align="right" valign="bottom" bgcolor="yellow">
            <td>Five</td>
            <td>Six</td>
      </tr>
</table>
```

One	Two
Three	Four
Five	Six

Irregular Table

Valid for the table cell:
colspan
- how many columns this cell occupies
rowspan
- how many rows this cell occupies


```
<table align="center" width="300" height="200" border="1">
<tr>
        <td colspan="1" rowspan="2">a</td>
        <td colspan="1" rowspan="1">b</td>
        <td colspan="1"  rowspan="1" >c</td>
</tr>
<tr>
        <td colspan="2"  rowspan="1">d</td>
</tr>
</table>
```

9) HTML Form

Text
Passwo...
Dropd...
Check...
Radio
Submi...

- **<form>** is just another kind of HTML tag
- HTML forms are used to create GUIs on Web pages
  - Usually the purpose is to ask the user for information
  - The information is then sent back to the server
- A **form** is an area that can contain **form elements**
  - The syntax is: **<form *parameters*> *...form elements...* </form>**
  - Form elements include: buttons, checkboxes, text fields, radio buttons, drop-down menus, etc
  - Other kinds of HTML tags can be mixed in with the form elements
  - A form usually contains a **Submit** button to send the information in the form elements to the server
  - The form's ***parameters*** tell browser how to send the information to the server (there are two different ways it could be sent)

The <form> Tag

- The <form *arguments*> ... </form> tag encloses form elements (and probably other HTML as well)
- The arguments to form tell what to do with the user input
  - **action="*url*"   (required)**
    - Specifies where to send the data when the Submit button is clicked
  - **method="get"   (default)**
    - Form data is sent as a URL with ?form_data info appended to the end
    - Can be used *only* if data is all ASCII and not more than 100 characters
  - **method="post"**
    - Form data is sent in the body of the URL request
    - Cannot be bookmarked by most browsers
  - **target="*target*"**
    - Tells where to open the page sent as a result of the request
    - *target*= _blank means open in a new window
    - *target*= _top means use the same window

Input tags

- Text field
  - Example: <input type="text" name="inputname"/> `darshan`
- Password field
  - Example: <input type="password" name="inputnam `•••••••`
- Radio buttons
  - Example:

    <input type="radio" name="gender"> Male

    <input type="radio" name="gender"> Female

  ⦿ Male ◯ Female
- Check boxes

  ☐ Roll No 1
  ☐ Roll No 2
  ☐ Roll No 3
  - Example:

    <input type="checkbox" name="Roll1"> Roll No 1

    <input type="checkbox" name="Roll2"> Roll No 2

    <input type="checkbox" name="Roll3"> Roll No 3

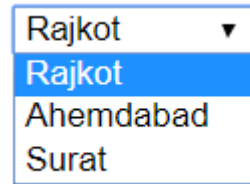# Input tags (cont.)

- Dropdown list
  - <select> tag is used to create a drop-down list in HTML.
  - <option> tags inside the <select> tag define the available options in the list.
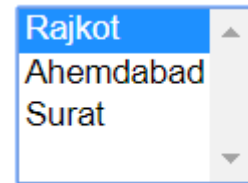 - Example:

    <select>
      <option value="1">Rajkot</option>
      <option value="2">Ahemdabad</option>
      <option value="3">Surat</option>
    </select>

  - Example (multiple select):

    <select multiple="multiple">
      <option value="1">Rajkot</option>
      <option value="2">Ahemdabad</option>
      <option value="3">Surat</option>
    </select>

Input tags (cont.)

- Text area
  - <textarea> tag defines a multi-line text input control.
  - Example :

    <textarea rows="8" cols="30">

    This is text area with multiple line.

    </textarea>

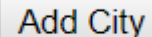- Submit Button
  - Submit button is used to submit the data to the form action url.
    - Example :

      <input type="submit" value="Add City">
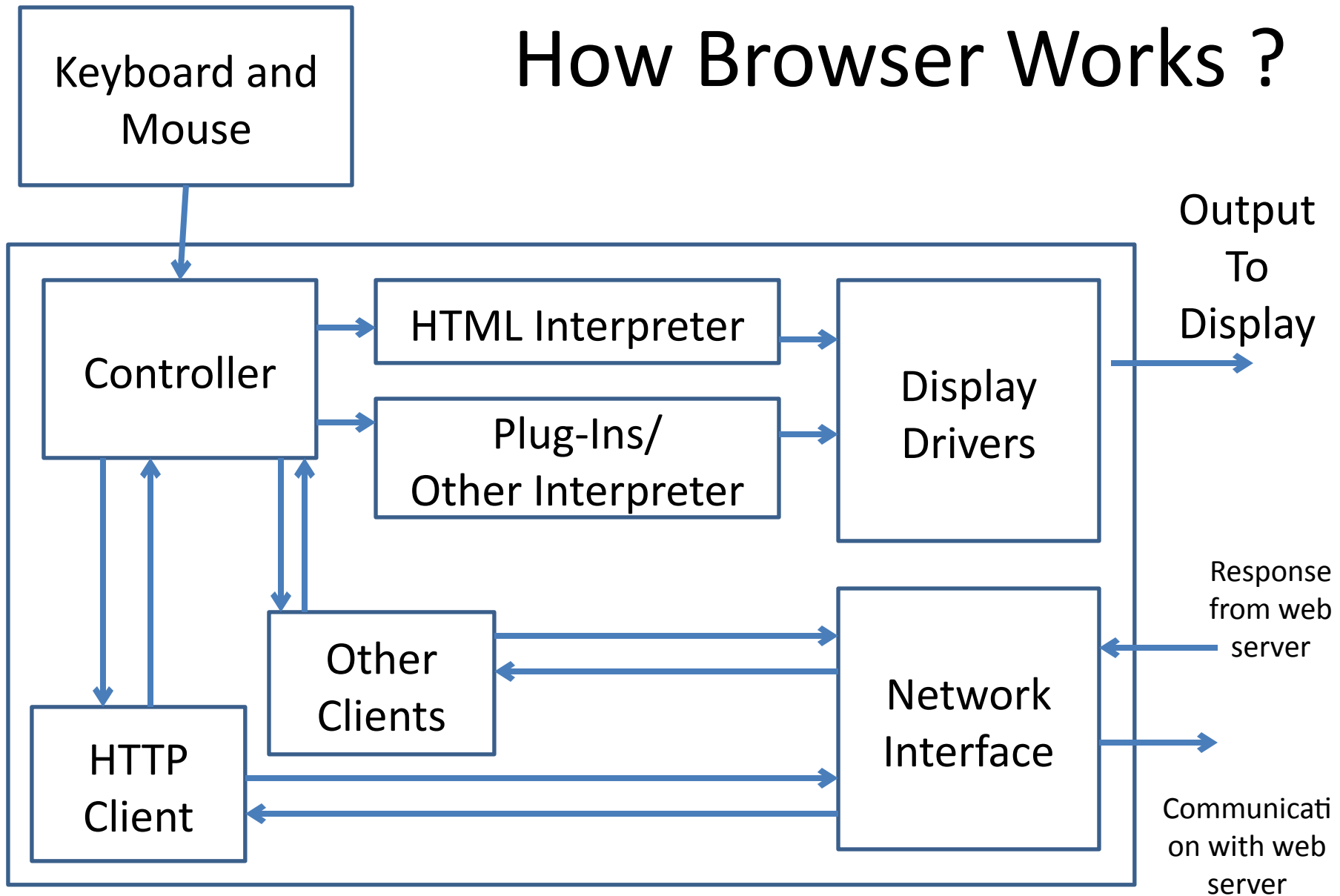
      Add City

Meta Tag Attributes

Attribute	Value	Description

Character Entities

- Character entities are used to display reserved characters in HTML.
- Characters that are not present on your keyboard can also be replaced by entities.

Character	Character Entity	Description

How Browser Works ?

Keyboard and Mouse

Controller

HTML Interpreter

Plug-Ins/ Other Interpreter

Display Drivers

Output To Display

Other Clients

Network Interface

Response from web server

HTTP Client

Communication with web server

Introduction to HTML 5

- The DOCTYPE declaration for HTML5 is very simple:

      <!DOCTYPE html>

- The character encoding (charset) declaration is also very simple:

      <meta charset="UTF-8">

- New HTML5 Elements:
  - New semantic elements like <header>, <footer>, <article>, and <section>.
  - New form control attributes like number, date, time, calendar, and range.
  - New graphic elements: <svg> and <canvas>.
  - New multimedia elements: <audio> and <video>.
  - Some Elements Removed in HTML5

Introduction to HTML 5 (cont.)

- The following HTML4 elements have been

HTML 4	HTML 5
<acronym>	<abbr>
<applet>	<object>
<center>	CSS
<dir>	
<font>	CSS

HTML 4	HTML 5
<strike>	CSS
<tt>	CSS
<basefont>	CSS
<big>	CSS