

#### What is HTML?

HTML is a language for describing web pages.

- HTML stands for Hyper Text Markup Language
- HTML is a markup language
- A markup language is a set of markup tags
- The tags **describe** document content
- HTML documents contain HTML tags and plain text
- HTML documents are also called web pages

#### HTML Tags

HTML markup tags are usually called HTML tags.

- HTML tags are keywords (tag names) surrounded by angle brackets like <html>
- HTML tags normally **come in pairs** like and
- The first tag in a pair is the start tag, the second tag is the end tag
- The end tag is written like the start tag, with a slash before the tag name
- Start and end tags are also called opening tags and closing tags

## <tagname>content</tagname

#### **HTML Elements**

In HTML, most elements are written with a start tag (e.g. ) and an end tag (e.g. ), with the content in between:

This is a paragraph.

### **Creating HTML Document:**

Creating an HTML document is easy. To begin coding HTML you need only two things: a simple-text editor and a web browser. Notepad is the most basic of simpletext editors and you will probably code a fair amount of HTML with it.

#### Web Browsers

The purpose of a web browser (such as Google Chrome, Internet Explorer, Firefox, Safari) is to read HTML documents and display them as web pages. The browser does



not display the HTML tags, but uses the tags to determine how the content of the HTML page is to be presented /displayed to the user:

#### **HTML Versions**

Since the early days of the web, there have been many versions of HTML:

#### **Version Year**

HTML	1991	HTML 3.2 1997
HTML+	1993	HTML 4.01 1999
HTML 2.0	1995	XHTML 2000

#### The <!DOCTYPE> Declaration

The <!DOCTYPE> declaration helps the browser to display a web page correctly.

There are many different documents on the web, and a browser can only display an HTML page 100% correctly if it knows the HTML version and type used.

Common Declarations

HTML5

<!DOCTYPE html>

HTML 4.01

<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN" "http://www.w3.org/TR/html4/loose.dtd">

HTML Headings

HTML headings are defined with the <h1> to <h6> tags.

### Example

```
<h1>This is a heading</h1>
```

<h2>This is a heading</h2>

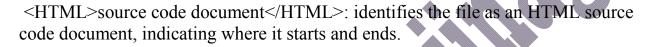
<h3>This is a heading</h3>

## **HTML Page Structure**

HTML5



```
<HTML>
<HEAD>
    <TITLE>JSPIDERS</TITLE>
<BASE>
<META>
</HEAD>
<BODY>
Text, Hyperlinks, Graphics, Animations, etc.
</BODY>
</HTML>
```



<HEAD>source code document header
/HEAD>: identifies the start and end of the header section of an HTML source code document.

<TITLE>source code document title</TITLE>: denotes the name displayed in the title bar of the web browser

<BODY>source code document body</BODY>: identifies the start and end of the body section of an HTML source code document.

## Structuring Tags

<!-- comment --> ("comment" tag): allows the author to type a comment which helps clarify something within an HTML source code document. This comment will not appear in the marked up web document on the browser.

<BR> ("break" tag): forces a line break at that point, causing the text after the break to be displaced down one line.

<HR> ("horizontal rule" tag): creates an engraved, shaded horizontal line at that location.

The <HR> tag may contain within it further parameters as part of the command:



WIDTH= defines the horizontal width can be expressed as a percentage %

SIZE= defines the vertical height on the page.

ALIGN="LEFT"|"CENTER"|"RIGHT": positions the line at a specific location on the page.

NOSHADE="NOSHADE": changes the engraved line into a solid line or strip.

COLOR="COLOR"|"#COLOR CODE": indicates the color of a horizontal rule.

< <u>BODY&gt; &amp; </u>	ALINK
	VLINK
TEXT	BGCOLOR
LINK	BACKGROUND

The <BODY> tag may contain within it further parameters as part of the command, each designating the particular colors of various elements of a web document

TEXT="COLOR"|"#COLOR CODE": indicates the color of the text of a web document (the default text color is black).

LINK="COLOR"|"#COLOR CODE": indicates the initial color of the "unvisited" hyperlinks in a web document (the default unvisited link color is blue).

ALINK="COLOR"|"#COLOR CODE": optional; indicates the color of a hyperlink for the moment or so after it has been "activated" (there is no default activated link color).

VLINK="COLOR" | "#COLOR CODE": indicates the color of the previously activated hyperlinks in a web document, showing which other web pages or sites have been "visited" or called up (the default visited link color is purple or, on some browsers, olive).

BGCOLOR="COLOR"|"#COLOR CODE": indicates the uniform background color of a web document (the default background color is white or, on some browsers, gray).

BACKGROUND="backgrnd.gif or .jpg": indicates the background design of a web document. The design is taken from a graphic file, such as backgrnd.gif or backgrnd.jpg.

BGPROPERTIES="FIXED": causes the BACKGROUND on the page to remain fixed (nonmoving) while scrolling up or down the page.



#### ALIGNMENT

ALIGN="LEFT"|"CENTER"|"RIGHT": positions the heading at a specific location on the page.

<CENTER> & </CENTER>

"LEFT" (the default) aligns the heading with the left margin of the page.

"CENTER" centers the heading horizontally on the page.

"RIGHT" aligns the heading with the right margin of the page.

Note: Some browsers do not recognize the ALIGN parameter for headings

Text Modification Characters & Tags

inserts a single, non-breaking space where there otherwise would not be a space.

<P>paragraph</P>: defines the boundaries of a paragraph. A line break automatically is inserted before and after a paragraph.

<DIV>section of text</DIV>: defines the boundaries of a section of text and divides or separates that section from the rest of the text.

tag may contain within it an alignment parameter as part of the command:

ALIGN="LEFT"|"CENTER"|"RIGHT"|"JUSTIFY":

wish to create subscripts and superscripts in the text. To do this, "subscript" and "superscript" tags may be used:

<SUB>number or character</SUB>: lowers a number or a character slightly below the midline level and reduces its font size by 1 degree.

<SUP>number or character</SUP>: elevates a number or a character slightly above the midline level and reduces its font size by 1 degree.

(H<SUB>2</SUB>SO<SUB>4</SUB>)<SUP>§</SUP>

 $(H_2SO_4)$ 

<PRE>text</PRE>: pre formats text, preserving the spacing between the words and characters as typed in the source code.



<BLOCKQUOTE>text</BLOCKQUOTE>: sets blocks of text apart from the main body of text. The blocked text is indented on the right and on the left.

Style Tags

Most important method for transforming the text in an HTML source code document is by the use of "font" tags:

<FONT>text
/FONT>: changes the face (type), size, and/or color of ordinary text.

A <FONT> tag may contain within it any or all of the 3 parameters used to transform text:

FACE="TYPE": sets or changes the face (type) of font script. The default font type for most browsers is "Times New Roman"

A few font types are Arial, Brush Script, Century Comic Sans MS, Impact, Gothic, Lucida Handwriting, Lydian, Verdana.

.SIZE="1"|"2"

COLOR="COLOR"|"#COLOR CODE"

Another common way to add emphasis to text, or to change its size, is by using "italic" tags, "emphasis" tags, "bold" tags, "strong emphasis" tags, "underline" tags, "strike-through" tags, "big" tags, and "small" tags:

<I>text</I>: causes text to be italicized.

<EM>text</EM>: emphasizes text by causing it to be italicized (like <I> & </I> above).

<B>text</B>: causes text to be bold.

<STRONG>text</STRONG>: strongly emphasizes text by causing it to be bold (like <B> & </B> above).

<U>text</U>: causes text to be underlined.

<S>text: causes text to be stricken through with a horizontal line. ─text

<TT>text</TT>: causes text to appear as though it had been typed on a standard typewriter,

**MARQUEE** 



An interesting effect can be obtained by making print move on a page, using "marquee" tags:

<MARQUEE>text
/MARQUEE>: creates an area in which moving text will advance across all or a portion of a page, just as it does on some marquee signs.

A <MARQUEE> tag may contain within it other parameters as part of the command:

DIRECTION="LEFT"|"RIGHT": indicates the direction marquee text will move.

BGCOLOR="COLOR"|"#COLOR CODE": colors the background of a marquee.

BEHAVIOR="SCROLL"|"SLIDE"|"ALTERNATE": specifies how marquee text will behave as it moves horizontally on a browser screen.

LOOP="N"|"INFINITE": specifies how many times "N" the text in a marquee will perform a BEHAVIOR function. "N" must be a positive whole number. The loop default is "INFINITE";

WIDTH= defines the horizontal width of a marquee on a page, as a percentage "W%"

HEIGHT=defines the vertical height of a marquee on a page. "H" can be expressed as a percentage "H%"

ALIGN="TOP"|"MIDDLE"|"BOTTOM"

HSPACE="H": inserts a horizontal space of width

VSPACE="V": inserts a vertical space of height

SCROLLAMOUNT="10" specifies the number of pixels of space

SCROLLDELAY="2"specifies the number of milliseconds "D" between each successive reprinting (appearance) of marquee text.

### HTML Blocks

HTML **elements** can be grouped together with <div> and <span>.

## **HTML Block Elements**



Most HTML elements are defined as **block level** elements or as **inline** elements.

Block level elements normally start (and end) with a new line when displayed in a browser.

**Examples**: <h1>, , <u1>,

### **HTML Inline Elements**

Inline elements are normally displayed without starting a new line.

Examples: <b>, , <a>, <img>



The HTML <div> element is a block level element that can be used as a container for grouping other HTML elements.

When used together with CSS, the <div> element can be used to set style attributes to large blocks of content.

Another common use of the <div> element, is for document layout. It replaces the "old way" of defining layout using tables. Using <a href="table">table</a> elements for layout is not the correct use of . The purpose of the element is to display tabular data.

## The HTML <span> Element

The HTML <span> element is an inline element that can be used as a container for text.

The <span> element has no special meaning.

When used together with CSS, the <span> element can be used to set style attributes to parts of the text.

## What is empty tags in html?

HTML elements with no content are called empty elements.<br/>br> is an empty element without a closing tag (the <br/>br> tag defines a line break)



## **List Tags**

The most common HTML lists are ordered and unordered lists:

#### **List Tags**

<li></li>	<ol> &amp; </ol>	VALUE (of <li>)</li>
<ul> &amp; </ul>		
	TYPE	<dl> &amp; </dl>
TYPE		<dl compact=""> &amp; </dl>
	"I"	
"DISC"	"A"	<dt></dt>
"SQUARE"	"1"	<dd></dd>
"CIRCLE"	"a"	
	"i"	<dir> &amp; </dir>

#### An ordered list:

#### An unordered

- 1. The first list item
- 2. The second list item
- 3. The third list item

- List item
- List item
- List item

#### **HTML Unordered Lists**

An unordered list starts with the tag. Each list item starts with the tag.

The list items are marked with bullets (typically small black circles).

### **HTML Ordered Lists**

An ordered list starts with the tag. Each list item starts with the tag.

The list items are marked with numbers.

## **HTML Description Lists**

A description list is a list of terms/names, with a description of each term/name.

The <dl> tag defines a description list.

The <dl> tag is used in conjunction with <dt> (defines terms/names) and <dd> (describes each term/name)



#### **HTML Tables**

**Tables** are defined with the tag.

A table is divided into rows with the tag. (tr stands for table row)

A row is divided into data cells with the tag. (td stands for table data)

A row can also be divided into **headings** with the tag. (th stands for table heading)

The elements are the data containers in the table.

The elements can contain all sorts of HTML elements like text, images, lists, other tables, etc.

## **Tables**

<table> &amp; </table>	BGCOLOR	BGCOLOR	
	ALIGN	ALIGN	
BORDER	VALIGN	VALIGN	
BORDERCOLOR	WIDTH		
BGCOLOR	HEIGHT	<td> &amp; </td>	&
ALIGN	COLSPAN		
WIDTH	ROWSPAN	BGCOLOR	
HEIGHT		ALIGN	
CELLSPACING		_	
CELLPADDING		VALIGN	
		WIDTH	
		HEIGHT	
		COLSPAN	
	<tr> &amp; </tr>	ROWSPAN	
<th> &amp; </th>	&		

BORDER="B": creates a border (rim), of width "B" in pixels, around the edge of a table.

BORDERCOLOR="COLOR" | "#COLOR CODE": colors the borders around and within a table

BGCOLOR="COLOR" | "#COLOR CODE": colors the background of an entire table.



ALIGN="LEFT" | "RIGHT": positions a table at a specific location on the page.

WIDTH="W": defines the horizontal width "W" of an entire table on the page.

HEIGHT="H": defines the vertical height "H" of a table.

CELLSPACING="S": causes the non-colored portion of the border around a table and between adjacent cells of the table to be "S" pixels in width.

CELLPADDING="P": creates a minimum distance of "P" pixels between the contents of each table cell and the closest border of the cell.

COLSPAN="C": specifies how many columns "C" of a table a heading cell will span.

ROWSPAN="R": specifies how many rows "R" of a table a heading cell will span.

# **Graphic Images**

<img/>	"TEXTTOP"	WIDTH
	"MIDDLE"	HEIGHT
SRC	"ABSMIDDLE"	BORDER
ALIGN	"BASELINE"	<b>HSPACE</b>
	"BOTTOM"	<b>VSPACE</b>
"LEFT"	"ABSBOTTOM"	
"RIGHT"		
"TOP"		

**<IMG>:** indicates that an image—such as a photograph, icon, animation, cartoon, or other graphic—is to be displayed at that location

SRC="URL/graphic.gif or .jpg": contains the URL (Uniform Resource Locator or web address)

ALIGN="LEFT" | "RIGHT" | "TOP" | "TEXTTOP" | "MIDDLE"

"ABSMIDDLE" | "BASELINE" | "BOTTOM" | "ABSBOTTOM": places the graphic image at a specified position



- **WIDTH="W"**: defines the width "W" of the image in pixels.
- **HEIGHT="H"**: defines the height "H" of the image in pixels.

**BORDER="B"**: creates a border around the image, with a uniform width of "B" in pixels.

**HSPACE="H"**: creates a space, with width "H" in pixels, between the image and any text immediately to the right and/or left of it.

**VSPACE="V"**: creates a space, with height "V" in pixels, between the image and any text immediately above and/or below it. (VSPACE means "vertical space.")

**ALT="alternate description"**: supplies a description of the image, which will be displayed instead of the image on nongraphical browsers.

•

# Hyperlinks

<a href> & </a>
TARGET
<a name> & </a>
<a name> & </a>
<a href> <img src> </a>

Most often, a hyperlink will jump to the beginning of another document. To do this, a pair of "anchor" (A) tags is required

<A HREF="URL">text or graphic image</A>: defines an "anchored hypertext reference" (commonly known as a hyperlink),



**TARGET="\_blank"**: opens up the linked page, specified by the URL, into a *new* browser window. (Without the TARGET="\_blank" parameter, the new page will replace the existing page in the same browser window.)

#### <MARQUEE> & </MARQUEE>

DIRECTION "ALTERNAT HSPACE

BGCOLOR E" VSPACE

BEHAVIOR

LOOP

"SCROLL"

WIDTH

"SLIDE"

HEIGHT

ALIGN

<MARQUEE>text</marquee>: creates an area in which
moving text will advance across all or a portion of a page

**DIRECTION="LEFT" | "RIGHT":** indicates the direction marquee text will move.

**BGCOLOR" | "#COLOR CODE"**: colors the background of a marquee.

**BEHAVIOR="SCROLL" | "SLIDE" | "ALTERNATE"**: specifies how marquee text will behave as it moves horizontally on a browser screen.

**LOOP="N" | "INFINITE"**: specifies how many times "N" the text in a marquee will perform a BEHAVIOR function.

**SCROLLAMOUNT="A"**: specifies the number of pixels of space "A" the text in a marquee skips each time it is reprinted (appears) while moving along.



**SCROLLDELAY="D"**: specifies the number of milliseconds "D" between each successive reprinting (appearance) of marquee text.



**<FORM>form</FORM>**: creates a form which is used to request and gather information from a web site visitor. Forms *cannot* be nested inside of other forms.



- **METHOD="POST"**: states that the method of dealing with the completed information in the form is to post it.
- ACTION="mailto:your email address": indicates that the completed information is to be supplied or mailed to your email address.

**<INPUT>**: indicates that a certain type of form element is to follow, such as a text box, radio button, checkbox, submit button, or reset button. This tag does *not* require an ending (</INPUT>) tag

- **TYPE="TEXT"**: creates a simple, one-row text box in which a single line of information may be typed and then emailed to the person requesting the information.
- NAME="name": designates a name for the text box, such as "Name" or "Address" or "Email Address" or anything else.

SIZE="S": defines the number of characters "S" that will appear in the text box.

**MAXLENGTH="M"**: optional; specifies the maximum number of characters "M" which can be typed into the text box.

**VALUE="text"**: optional; inserts fixed text into the text box.

CHECKED: automatically checks (places a dot in) that item's radio button, making it become the *default* selection.

• **<SELECT><OPTION>tags</SELECT>**: creates a pop-up box. In a pop-up box, where one **<OPTION SELECTED>** item is



showing, the remainder of the <OPTION> items will "pop up" into view after clicking on the first item.

- **<OPTION SELECTED>**: denotes which item will be shown initially in the pop-up box when only one selection is permitted, *or* which items within the box will be highlighted when multiple selections are permitted.
- **<OPTION>**: denotes each item which will appear when the popup box is activated.

<TEXTAREA> (optional text) creates a
box in which information may be typed and then emailed to the
person requesting the information

**ROWS="R"**: defines the number of rows (lines) "R" of text that are visible in the text box.

COLS="C": defines the number of characters "C" that can be typed in each row (line) of text before a new line is begun

**TYPE="SUBMIT"**: submits the form to the email address specified in the ACTION parameter.

**TYPE="RESET"**: resets the entire form, clearing all entries and enabling the responder to begin

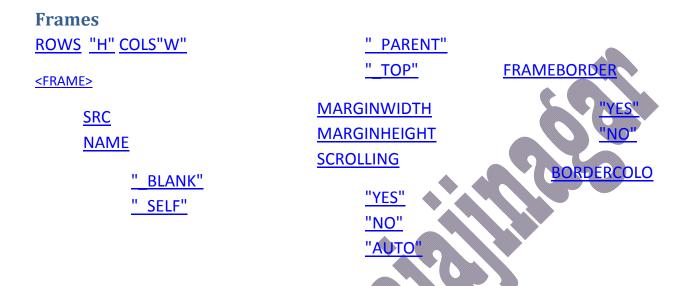
The <a href="https://doi.org/10.2016/j.june-10.2016/">https://doi.org/10.2016/j.june-10.2016/j.j

The <legend> tag defines a caption for the <fieldset> element.

Placeholder Attribute. A guide to using the attribute, and support it for older browsers. Placeholder. Placeholder text is a short



example or hint text that is shown in a form field when the field is unfocused and has no input from the user.



HTML frames allow authors to present documents in multiple views, which may be independent windows or subwindows

**ROWS="H"**: includes a list of values separated by commas, with each value defining the height "H" of a frame (row).

COLS="W": includes a list of values separated by commas, with each value defining the width "W" of a frame (column).

**SRC="URL"**: causes the *source* file at the specified URL (Uniform Resource Locator or web address) to be displayed inside a frame initially.



| Tag  | Description                                      | <pre><comment></comment></pre>   | Puts a comment in the document                            |
|--|--|----------------------------------|---|
|  | Specifies a comment                              | Tag                              | Description   |
|  | Specifies the document type                      | <u><dd></dd></u>                 | Specifies a definition description                        |
| <u><a></a></u>                                   | Specifies an anchor                              | <u><del></del></u>               | Specifies deleted text                                    |
| <u><abbr></abbr></u>                             | Specifies an abbreviation                        | <dfn></dfn>                      | Specifies a definition term                               |
| <acronym></acronym>                              | Specifies an acronym                             | <dir></dir>                      | Deprecated. Specifies a directory list                    |
| <address></address>                              | Specifies an address element                     | <div></div>                      | Specifies a section in a document                         |
| <applet></applet>                                | Deprecated. Specifies an applet                  | <u><dl></dl></u>                 | Specifies a definition list                               |
| <area/>  | Specifies an area inside an image map            | <u><dt></dt></u>                 | Specifies a definition term                               |
| <u><b></b></u>                                   | Specifies bold text                              | <em></em>                        | Specifies emphasized text                                 |
| <br>base>  | Specifies a base URL for all the links in a page | embed>                           | Deprecated. Embeds an application in a document           |
| <pre><basefont/></pre>                           | Deprecated. Specifies a base font                | < <u>fieldset&gt;</u>            | Specifies a fieldset                                      |
| <bdo></bdo>                                      | Specifies the direction of text display          | <font></font>                    | Deprecated. Specifies text font, size, and color          |
| <br>bgsound>                                     | Specifies the background music                   |                                  |   |
| <br>big>   | Specifies big text                               | <frame/>                         | Specifies a form  Specifies a gub window (a frame)        |
| <u><bli>k&gt;</bli></u>                          | Specifies a text which blinks                    |                                  | Specifies a sub window (a frame)                          |
| <br>blockquote>                                  | Specifies a long quotation                       | <pre><frameset></frameset></pre> | Specifies a set of frames  Specifies header 1 to header 6 |
| <br>body>  | Specifies the body element                       | <h1> to <h6></h6></h1>           | Specifies header 1 to header 6                            |
| <u><br/>br&gt;</u>                               | Inserts a single line break                      | <head></head>                    | Specifies information about the document                  |
| <button></button>                                | Specifies a push button                          | <u><hr/></u>                     | Specifies a horizontal rule                               |
| <a href="mailto:square;"><caption></caption></a> | Specifies a table caption                        | <html></html>                    | Specifies an html document                                |
| <center></center>                                | Deprecated. Specifies centered text              | <u><i>&gt;</i></u>               | Specifies italic text                                     |
| <cite></cite>                                    | Specifies a citation                             | <iframe></iframe>                | Specifies an inline sub window                            |
| <code></code>                                    | Specifies computer code text                     |                                  | (frame)   |
| <u><col/></u>                                    | Specifies attributes for table columns           | <il>ilayer&gt;</il>              | Specifies an inline layer                                 |
| <colgroup></colgroup>                            | Specifies groups of table columns                | <img/>                           | Specifies an image  |
|  |  | <input/>                         | Specifies an input field                                  |



<ins></ins>	Specifies inserted text	< <u>s&gt;</u>	Deprecated. Specifies strikethrough
<isindex/>	Deprecated. Specifies a single-line input field		text
<kbd></kbd>	Specifies keyboard text	<samp></samp>	Specifies sample computer code
	-	<script></td><td>Specifies a script</td></tr><tr><td><keygen></td><td>Generate key information in a form</td><td><select></td><td>Specifies a selectable list</td></tr><tr><td><u><label></u></td><td>Specifies a label for a form control</td><td><pre><spacer></pre></td><td>Specifies a white space</td></tr><tr><td><layer></td><td>Specifies a layer</td><td><small></td><td>Specifies small text</td></tr><tr><td><legend></td><td>Specifies a title in a fieldset</td><td><span></td><td>Specifies a section in a document</td></tr><tr><td><u><li>≤li></u></td><td>Specifies a list item</td><td><strike></td><td>Deprecated. Specifies strikethrough</td></tr><tr><td><li>link></td><td>Specifies a resource reference</td><td>SUIKC</td><td>text</td></tr><tr><td><map></td><td>Specifies an image map</td><td><strong></td><td>Specifies strong text</td></tr><tr><td><marquee></td><td>Create a scrolling-text marquee</td><td><style></td><td>Specifies a style definition</td></tr><tr><td><menu></td><td>Deprecated. Specifies a menu list</td><td><sub></td><td>Specifies subscripted text</td></tr><tr><td><multicol></td><td>Specifies a multicolumn text flow</td><td><sup></td><td>Specifies superscripted text</td></tr><tr><td><var></td><td>Specifies a variable</td><td></td><td>Specifies a table</td></tr><tr><td><noembed></td><td rowspan=2>Specifies content to be presented by browsers that do not support the <embed> tag</td><td><u> </u></td><td>Specifies a table body</td></tr><tr><td></td><td><u></u>></td><td>Specifies a table cell</td></tr><tr><td><object></td><td>Specifies an embedded object</td><td><textarea></td><td>Specifies a text area</td></tr><tr><td><u><0 ></u></td><td>Specifies an ordered list</td><td><tfoot></td><td>Specifies a table footer</td></tr><tr><td><optgroup></td><td>Specifies an option group</td><td><u>></u></td><td>Specifies a table header</td></tr><tr><td><option></td><td>Specifies an option in a drop-down list</td><td><thead></td><td>Specifies a table header</td></tr><tr><td><u></u></td><td>Specifies a paragraph</td><td><title></td><td>Specifies the document title</td></tr><tr><td><pre><param></pre></td><td>Specifies a parameter for an object</td><td><u></u></td><td>Specifies a table row</td></tr><tr><td rowspan=2><pre><plaintext></pre></td><td rowspan=2>Deprecated. Render the raminder of the document as preformatted plain text</td><td><u><tt></u></td><td>Specifies teletype text</td></tr><tr><td><u><u></u></td><td>Deprecated. Specifies underlined text</td></tr><tr><td><pre><pre></pre></td><td>Specifies preformatted text</td><td><u><ul></u></td><td>Specifies an unordered list</td></tr><tr><td><u><q></u></td><td>Specifies a short quotation</td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td></tr></tbody></table></script>	



