

# XHTML

The **eXtensible Hyper-Text Markup Language (XHTML)** is a subset of XML so that it becomes very close to **HTML 4.01**, the language for specifying web pages.

The user-agents, e.g., web browsers, are encouraged to accept XHTML. If this policy becomes widespread, it will enable the following step of using full XML.

See the W3C Recommendations for XHTML and HTML at

<http://www.w3.org/TR/xhtml1/>

<http://www.w3.org/TR/html401/>

## XHTML/Global Structure

All XHTML file containing English should have the following pattern:

```
<?xml version="1.0" encoding="encoding"?>
<!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"
    xml:lang="en" lang="en">
  <head>
    <title>the title of the window</title>
  </head>
  <body>
    ...contents and markup...
  </body>
</html>
```

## XHTML/Headings

Elements h1, h2, ..., h6 allow six kinds of headers, of decreasing font size. Consider the following document:

```
<?xml version="1.0" encoding="UTF-8"?>
<!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"
    xml:lang="en" lang="en">
  <head><title>Comparing heading sizes</title></head>
  <body>
    <h1>The biggest</h1>
    <h2>Just second</h2>
    <h3>Even smaller</h3>
  </body>
</html>
```

## XHTML/Text

- The empty element `<br/>` is interpreted by user-agents as a **line break**;
- element `em` marks text to be **emphasized** (e.g., by using an italic font);
- element `strong` marks text to be emphasized stronger than with `em` (e.g., by using a bold font);
- element `p` delimits a **paragraph**.

## XHTML/Lists

There are three kinds of lists:

1. unordered lists;
2. ordered lists;
3. lists of definitions.

## XHTML/Unordered lists

Unordered lists are the well-known “bullet lists”, where each line is displayed after an indentation followed by a bullet, like the following.

- element `ul` contains an unordered list;
- element `li` (“list item”) contains an item in the list.

## XHTML/Unordered lists/Example

Try

```
<h3>The ingredients:</h3>
```

```
<ul>
```

```
  <li>100 g. flour,</li>
```

```
  <li>10 g. sugar,</li>
```

```
  <li>1 cup of water,</li>
```

```
  <li>2 eggs,</li>
```

```
  <li>salt and pepper.</li>
```

```
</ul>
```

## XHTML/Ordered lists

Ordered lists are lists whose items are introduced by an indentation followed by a number, in increasing order, like the following.

1. element `ol` contains the ordered list,
2. element `li` is the same as in unordered lists.



## XHTML/Ordered lists/Example

Try

```
<h3>Procedure:</h3>
```

```
<ol>
```

```
  <li>Mix dry ingredients thoroughly;</li>
```

```
  <li>Pour in wet ingredients;</li>
```

```
  <li>Mix for 10 minutes;</li>
```

```
  <li>Bake for one hour at 300 degrees.</li>
```

```
</ol>
```

## XHTML/Lists of definitions

A list of definition is a list whose items are introduced by a few words in a bold font followed by the contents of the item itself. Consider

**hacker**

A clever programmer.

**nerd**

**geek**

A technically bright but socially misfit person.

## XHTML/Lists of definitions (cont)

The elements involved are

- dl (“definition list”), which contains the whole list of definitions;
- dt (“definition term”), which contains every term to be defined;
- dd (“definition description”), which contains every definition of a term.

## XHTML/Lists of definitions (cont)

The example before corresponds to

```
<h3>Excerpt:</h3>
<dl>
  <dt><strong>hacker</strong></dt>
    <dd>A clever programmer.</dd>
  <dt><strong>nerd</strong></dt>
  <dt><strong>geek</strong></dt>
    <dd>A technically bright but socially misfit person.</dd>
</dl>
```

## XHTML/Tables

A **table** is a rectangle divided into smaller rectangles, called **cells**, which contain atomic pieces of data.

When read vertically, cells are said to belong to **columns**, whilst horizontally, they belong to **rows**.

A row or a column can have a **header**, i.e., a cell at their beginning containing a name in bold face.

A table can have a **caption**, which is a short text describing the contents of the table and displayed just above it, like a title.

Columns can be divided themselves into sub-columns, when needed.

## XHTML/Tables (cont)

*A test table with merged cells*

	Average		Red eyes
	height	weight	
<b>Males</b>	1.9	0.003	40%
<b>Females</b>	1.7	0.002	43%

**Males** and **Females** are row headers. The column headers are **Average**, **Red eyes**, **height** and **weight**. The column **Average** spans two columns; in other words, it contains two sub-columns, **height** and **weight**.

The caption reads “*A test table with merged cells*”.

## XHTML/Tables (cont)

- Element `table` contains the table; its attribute `border` specifies the width of the table borders, i.e., of the lines separating the cells from the rest.
- Element `caption` contains the caption.
- Element `th` (“table header”) contains a row or column header, i.e., the title of the row or column in bold type.
- Element `td` (“table data”) contains the data of a cell (if not a header).
- Element `tr` (“table row”) contains a row, i.e., a series of `td` elements, perhaps starting with a `th` element.

## XHTML/Tables (cont)

The corresponding HTML code is

```
<table border="1">
  <caption><em>A test table with merged cells</em></caption>
  <tr><th rowspan="2">
    <th colspan="2">Average</th>
    <th rowspan="2">Red<br/>eyes</th>
  </tr>
  <tr><th>height</th><th>weight</th></tr>
  <tr><th>Males</th><td>1.9</td><td>0.003</td><td>40%</td></tr>
  <tr><th>Females</th>
    <td>1.7</td>
    <td>0.002</td>
    <td>43%</td>
  </tr>
</table>
```



## XHTML/Tables (cont)

Notice the attributes **rowspan** and **colspan** of the `th` element.

Attribute `rowspan` allows to specify how many rows the current cell spans. For example, the first row, i.e., the one on the top-left corner, is empty and covers two rows because `<th rowspan="2"/>`.

Attribute `colspan` allows to specify how many columns the current cell spans. For example, the second cell (right next to the first one) contains the text “**Average**” and covers two columns because `<th colspan="2">Average</th>`.

Notice the line break `<br/>` in the third cell (first row, last column) and how **height** and **weight** are automatically at the right place.

## XHTML/Hyperlinks

Hyperlinks in XHTML are specified by the element “a” with its mandatory attribute href.

For example, consider the following hyperlink to the author's web page:

```
<a href="http://konkuk.ac.kr/~rinderkn/">See my web page.</a>
```

## XHTML/Validation

Just like XML documents, XHTML documents can be and should be validated before being published on the web or distributed.

The page <http://validator.w3.org/> allows you to do that.