## note

### XML declarations

The XHTML standard requires you to add a *DOCTYPE* 'declaration' to your code. This is also known as a *Document Type Definition* or *DTD*.

This is a special line of code that states what kind of document this code should be treated as.

You won't see declarations like this elsewhere in HTML code, but they are used in some XML documents to define the structure of the document.

## note

### The XMLNS attribute

If you look at the code of some older HTML documents you might notice that the *<html>* tag looks a little different to yours and looks something like this:

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

*xmlns* stands for "XML Namespace". In this example it is saying that the document conforms to the XHTML standard.

In earlier versions of XHTML it was necessary to include the *xmlns* attribute, but it is no longer required in the latest version. You do not need to include the *xmlns* attribute for your HTML to be considered valid XHTML.

# Lesson 5: Understand HTML and XHTML

In *Lesson 1: Create a very simple web page*, you learned that HTML is a form of XML. For XML to be valid all of its tags must either have a separate closing tag or must be self-closing (as you saw with the *<br />* tag in *Lesson 3: Work with paragraphs and line breaks*).

Despite this, most web browsers will accept HTML code that is not valid XML and will try their best to render a page from it even if there are some mistakes. For example, *<br>* will be treated exactly the same way as *<br />*, even though *<br>* is incorrect XML.

If your code does not strictly follow the rules of XML it is still considered to be HTML but is not valid *XHTML*.

*XHTML* is HTML code that strictly follows the rules of the XML standard and also follows a few additional rules. The rules of XHTML are as follows:

1.  **A DOCTYPE declaration must appear at the top of the page.**

2.  **The page must begin with an** *<html>* **tag.**

3.  **There must not be any other tags before or after the** *<html>* **tag.**

4.  **The** *<html>* **tag must contain the** *<head>* **and** *<body>* **tags.**

5.  **There must be a** *<title>* **tag inside the** *<head>* **tag.**

6.  **HTML tags must always be written in lower case.**

7.  **HTML tags must always either have separate closing tags or contain a forward slash to indicate that they are self-closing.**

8.  **Attributes within tags must be written in lower case.**

9.  **Attribute values must be enclosed in quote marks.**

10. **The full names of attributes must be used.**

In this lesson you are going to create a valid XHTML document and validate it using the W3C's validation tool (see sidebar on facing page for more about the W3C).

1.  Open a new Notepad document.

2.  Save the new document as: **Lesson5.html**

3.  Add a DOCTYPE declaration.

    The first rule of XHTML is that the document must begin with a *DOCTYPE* declaration, stating that this is an HTML document.

    Add the following code:

    **`<!DOCTYPE html>`**

4.  Add *<html>*, *<head>* and *<body>* tags.

    You learned how to do this in: *Lesson 1: Create a very simple web page.*

5.  Inside the *<body>* tag, add the text:
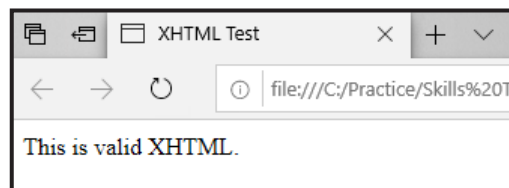
**This is valid XHTML.**

6.  Add a *<title>* tag inside the *<head>* tag, containing the text: **XHTML Test**

    The text inside the *<title>* tag is displayed in browser tabs and search engine results.

    Your code should now look like this:

    ```
    <!DOCTYPE html>
    <html>
        <head>
            <title>XHTML Test</title>
        </head>
        <body>
            <p>This is valid XHTML.</p>
        </body>
    </html>
    ```

7.  Save your changes and view *Lesson5.html* in your web browser.

    

    Notice that the contents of the *<title>* tag are shown in the tab at the top of the web browser window.

## important

### The lang attribute

Although the HTML code that you created in this lesson is valid XHTML, you might find that the validator suggests including a *lang* property in your *<html>* tag.

The *lang* attribute defines the language that the page is written in, which can be useful to search engines and translation programs.

The *lang* attribute uses two character ISO 639-1 language codes. To define that the page is written in English, you could use this code:

```
<html lang="en">
```

The *lang* attribute is optional but you may wish to include it, especially if your site contains pages in multiple languages.

8.  Use the W3C validation tool to confirm that your code is valid XHTML.

    1.  Use your web browser to navigate to: **https://validator.w3.org/**

        Since this page is located on the internet, it is possible that it will have been changed or removed by the time you read this book. If this is the case you should be able to find it by using a search engine to search for *XHTML validator*.

    2.  Click the *Validate by Direct Input* tab on the web page,

    3.  Copy and paste your HTML code into the text box and click *Check*.

        

    The validator confirms that your code is valid XHTML.