Getting Started with Website Design

2 – Creating Your Pages

As mentioned in the previous section, file names in websites are case sensitive and often can't use spaces. When we save files, we will avoid spaces and use lowercase letters to keep things simple. The filename used for your homepage is important. Usually, the default file name for the main page in a website is *index.html*. When a web browser goes to an address and the address doesn't include a filename, then your web browser will look for a file at that location called index and load that. E.g.

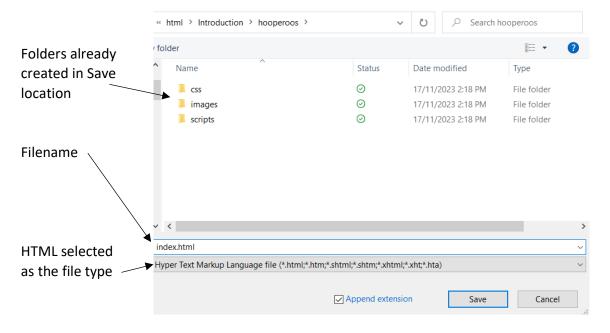
So, calling your main page index means that the address people use to get to your main page doesn't have to be as long.

Exercise 1 – Making your Index Page

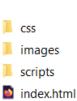
 Open your editor that you will be using to edit your HTML. In the examples shown below, we are using Notepad++.

You should have a completely blank document showing.

- Tip Some editors like Nontepad++ will helpfully colour code what you type based on the language you are using. However, it won't know what language is being used until you save your file. So, when you save a file and choose HTML for the type of file, the editor will know which language is being used and which parts to show in different colours.
- Save the file. In most editors you can use the Save or Save As option from the File menu or use the Ctrl S keyboard shortcut (#S on Apple computers)
- 3. When you are asked to type the name of the file type index.html
- 4. For the file location, select the location where you will be saving your practice files. This should be the same location where you created the folders in the previous section.
- 5. Make sure the file type is **HTML** or Hypertext Markup Language.



You should see your saved file along with your folders. Remember that keeping the files that are part of your website together in the same location is important. Otherwise, links within your site might not work properly.



Head and Body

Web pages consist of 2 main parts. The Head and Body.

The Body section of your web page consists of the page content which will be shown to your site's visitors. The Head section consists of information about the page. The head section could include the following:

- A page title. This is a name for the page. Most web browsers will show the title for each open page in the browser tab. If you search for websites (such as in Google or Bing) then the title of each page in the results will usually be the first thing displayed for each search result. When someone decides to bookmark your page or add it to favourites, the title of the page is often used as the label. So, in short, the title is important and should be about 3-5 words that briefly describe the page.
- A **description** of the page. The head section can be used to provide a description for your page that can help your website to appear in search results.
- **Keywords** that search engines like Google or Bing should use help your page appear better in search results can also be provided in the head section.
- The head section is also used to specify the location of things like CSS and programming files that will be used in a page.

HTML Tags

HTML documents are text documents containing instructions referred to as tags.

Tags are enclosed in less than < and greater than > symbols. In these exercises they will sometimes be referred to as *brackets* for simplicity since they are used in HTML instructions as a type of bracket.

Most (not all tags) have a corresponding closing tag to indicate where that particular bit of HTML should start and finish. Closing tags will have a forward slash / inside the tag. E.g. and

Tags are not case sensitive. They will work in either UPPERCASE, lowercase or a Combination but it is more common to use lowercase for tags.

Tags can include additional information called attributes. Attributes include a name and a value (such as name="value"). Attributes only need to be included in the opening tag and don't need to be repeated inside the closing tag. E.g.

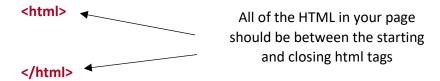
Exercise 2 – Creating an HTML Page Structure

The first tag we will add in your document is a doctype tag. Since most web browsers are capable of reading different languages, this tag tells the web browser that this is an HTML document.

1. Type a doctype tag on your document as follows.

<!doctype html>

Next, we will add an HTML tag as follows. This tag will indicate where the HTML code starts and finishes. Leave one or more blank lines between the opening and closing tag as the rest of our HTML will go in between them.



Note Spacing in HTML is not important. Adding extra spaces or blank lines in your HTML will have no effect on how your page looks in a web browser. You could type all of your HTML in one long continuous line if you wanted and it would work just fine. However, using spaces, blank lines and indents can make your HTML a lot easier to read and edit.

In between your HTML tags we will add tags to create the head section of your document and the body section of your document. We will also add a title tag inside the head tag to provide a title for the page. Add a head tag with a title tag inside it as well as body tags as shown below. The editor you are using might automatically show your tags in a different colour from the rest of the text like the example shown here. A brief explanation for each line is shown to the right.

```
<!doctype html>
                                                       Doctype tag
<html>
                                                       Starting html tag
<head>
                                                       Starting head section tag
<title>Morley Hooperoos Basketball Club</title>
                                                       Page title
</head>
                                                       Closing head section tag
<body>
                                                       Starting body section tag
                                                       Blank line for body content that we will add later
</body>
                                                       Closing body section tag
</html>
                                                       Closing html tag
```

The following example shows how it would look in Notepad++

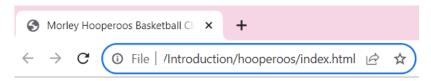
```
index.html
       <!doctype html>
  1
  2
      \equiv<html>
  3
       -<head>
  4
        <title>Morley Hooperoos Basketball Club</title>
  5
       </head>
  6
      ∃<body>
  7
  8
       </body>
```

Exercise 3 – Previewing a Web Page

It is important to check your page while you are working to make sure it looks right. Since people might be looking at your website using different browsers (such as Chrome, Firefox, Safari or Edge) and also looking at your website using different screen sizes (such as desktop computers or smartphones) it is useful to check how it looks in different browsers and screen sizes.

- 1. Make sure you have saved the changes to your index page (Ctrl S or \Re S).
- 2. Go to where your index file is saved and double-click on it. This will open it in your computer's default web browser.

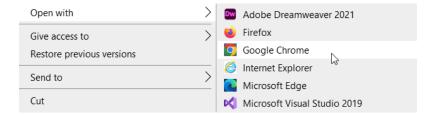
Since we haven't added anything in the body section of the page yet, the page will be blank. The page title, however, will appear in your browser's page tab.



Tip Keep the page open in your web browser. That way, any time you save changes to your page, you can switch back to your browser window and refresh the page to see the changes (**F5** in most browsers).

If you have more than one web browser on your computer and you want to check your web page in one of the other ones you can do it in a couple of ways.

- Open a different web browser and then use the File Open option (Ctrl O) to open the page.
- You might also be able to right click on your file from where it is saved and then select the browser you want to open it in.



• Many editors also have a built-in option to preview your page either within the editor, or by sending it to an external web browser.

Exercise 4 – Adding Body Content

Type the welcome text in the following example, after the opening <body> tag and before the closing </body> tag as shown.

<body>

Welcome to the Website of the Morley Hooperoos Basketball Club. If you live in the Morley area, love basketball and like to have fun you've come to the right place. We run regular basketball games for a wide range of age groups. All skill levels welcome. Whether you like to play, coach, referee or just watch, there's something for you at the Hooperoos.

</body>

- 2. Save the changes to your page once you have typed the welcome text (Ctrl S or \mathbb{H} S).
- 3. Go to your web browser and refresh the page (F5) to see the changes (or open the page in your browser if it is not still open. Since this text is in the body section, it will appear in the main browser window.

Welcome to the Website of the Morley Hooperoos Basketball Club. If you live in the Morley area, love basketball and like to have fun you've come to the right place. We run regular basketball games for a wide range of age groups. All skill levels welcome. Whether you like to play, coach, referee or just watch, there's something for you at the Hooperoos.

Body Sections

The content of you page can be divided into logical sections using tags that can be used to designate parts of your page as <u>header</u> areas, <u>content</u> areas, <u>navigation</u>, <u>footers</u> and more. It is not essential to use tags such as these to structure your page but there are some advantages to doing so. These are referred to as *Semantic tags* as they define the meaning of their contents. E.g. using the semantic header html tag for the part of your page that is intended to contain the header parts of your page. Semantic tags don't change the way your page looks but they do have the following benefits:

- It makes it a lot easier to define how your page looks using CSS as we will do later on. E.g. you can use CSS to apply certain formatting to all of the parts of your page that are within the footer section.
- It makes your page more accessible. I.e. if a visually impaired visitor to your site is using a text to speech browser, structural tags will help their browser to present the page to them in a more logical way.
- Semantic tags can help search engines like Google and Bing to index your page better which helps them to provide better results in searches. This in turn can help people to find your page in web searches.

Adding Comments in HTML

You can add comments to your HTML that will not appear in your web page but will be visible to you or anyone else who views the HTML. HTML comments begin with <!-- and end with -->. Anything typed inside a comment will not be displayed on your page. Most editors will show comments in a different colour to make them easier to see.

<!-- this is an example of an HTML comment -->

Exercise 5 – Add Body Sections

1. Add additional tags to divide the body of your page into sections as shown below.

Note that in the example, indentation has been used to show that these sections are inside the body tag and an extra indentation space has been used to show that the introduction text is now inside the <section> tag. Using indentation is not essential but is commonly used to make HTML easier to read and edit. Comments have been added after each tag. It isn't necessary for you to include them but using comments in your HTML is a good habit to get in to.

<body>

```
<header> </header> <!-- page header contents will go in this section -->
<nav> </nav> <!-- page navigation buttons will be in this section -->
<main> <!-- start of the page's main content -->
<section> <!-- section tags are often used to logically group parts of a page -->
```

Welcome to the Website of the Morley Hooperoos Basketball Club. If you live in the Morley area, love basketball and like to have fun you've come to the right place. We run regular basketball games for a wide range of age groups. All skill levels welcome. Whether you like to play, coach, referee or just watch, there's something for you at the Hooperoos.

Note You won't see any difference if you preview the page in your web browser as the tags we have added are semantic tags for the purpose of dividing the page in to logical sections. We will use these sections to specify how different parts of the page appear later on. E.g. we can use CSS to specify a background colour for the footer section.

Exercise 6 – Extra Text

1. Add some extra text to your page as shown below. Press Enter to start a new paragraph in the places marked by a red dot (don't type the dot).

New text Welcome Hooperoos •

Welcome to the Website of the Morley Hooperoos Basketball Club. If you live in the Morley area, love basketball and like to have fun you've come to the right place. We run regular basketball games for a wide range of age groups. All skill levels welcome. Whether you like to play, coach, referee or just watch, there's something for you at

the Hooperoos. •

New text Our Club's Mission •

New text To provide a friendly and relaxed place for people to enjoy basketball. We understand

that people play sport for many reasons. Whether it's to improve fitness, have fun, make friends or provide a challenge, we aim to provide for those needs with our casual

basketball leagues.

2. Save the page and preview it in your web browser.

Welcome Hooperoos Welcome to the Website of the Morley Hooperoos Basketball Club. If you live in the Morley area, love basketball and like to have fun you've come to the right place. We run regular basketball games for a wide range of age groups. All skill levels welcome. Whether you like to play, coach, referee or just watch, there's something for you at the Hooperoos. Our Club's Mission To provide a friendly and relaxed place for people to enjoy basketball. We understand that people play sport for many reasons. Whether it's to improve fitness, have fun, make friends or provide a challenge, we aim to provide for those needs with our casual basketball leagues.

Although you pressed Enter to create a new line after each paragraph, your web browser shows all of the text without those new lines. HTML does not recognise blank spaces or line breaks unless we use HTML to specify blocks for our text to be grouped in to.

Block Tags

HTML tags can be used to create a block of text such as a paragraph. Different block tags will be treated differently by a web browser. E.g. there are specific tags for creating regular paragraphs, headings and lists. We will use some of the more common block tags in our website.

Paragraph Tags

The most basic block tag is the paragraph tag. This simply specifies that a block of text should be shown as a paragraph. To specify that a block of text is a paragraph you begin with a tag and then finish the block of text with a closing tag.

Heading Tags

Heading tags create a block of text that is designated as a heading. HTML allows for <u>6 levels</u> of heading, where the main headings in your document would use a level 1 heading tag <h1> </h1>, subheadings would use a level 2 heading <h2> </h2> and so on if your document is divided into smaller sections. Web browsers will typically display headings as larger and more prominent depending on which level of heading it is. Like most HTML tags, headings don't specify exactly how a heading will look but CSS can be used later to do that.

Exercise 7 – Adding Block Tags

1. Add block tags to your text as follows.

<h1>Welcome Hooperoos</h1>

velcome to the Website of the Morley Hooperoos Basketball Club. If you live in the Morley area, love basketball and like to have fun you've come to the right place. We run regular basketball games for a wide range of age groups. All skill levels welcome. Whether you like to play, coach, referee or just watch, there's something for you at the Hooperoos.

<h2>Our Club's Mission</h2>

To provide a friendly and relaxed place for people to enjoy basketball. We understand that people play sport for many reasons. Whether it's to improve fitness, have fun, make friends or provide a challenge, we aim to provide for those needs with our casual basketball leagues.

This will specify that your first line will be a level 1 heading and you will also have a level 2 heading. The other 2 blocks of text will be regular paragraphs.

2. Save and preview the changes in your web browser.

Welcome Hooperoos

Welcome to the Website of the Morley Hooperoos Basketball Club. If you live in the Morley area, love basketball and like to have fun you've come to the right place. We run regular basketball games for a wide range of age groups. All skill levels welcome. Whether you like to play, coach, referee or just watch, there's something for you at the Hooperoos.

Our Club's Mission

To provide a friendly and relaxed place for people to enjoy basketball. We understand that people play sport for many reasons. Whether it's to improve fitness, have fun, make friends or provide a challenge, we aim to provide for those needs with our casual basketball leagues.

Both of your headings will display as larger than the paragraph text. At the moment, you might not see much difference between a level 1 and level 2 heading but later we can use CSS to specify how each will look. Typically browsers show lower levels of heading (such as <h3> or <h4>) with smaller text to show they are subheadings instead of main headings.

Tip If you don't close one of the tags properly it will often be easy to spot the mistake when you preview the page. E.g. in the first heading if the closing </h1> tag was missing or not typed correctly, then all of you text after that would still show as if it was heading text.

Note Parts of your page defined by tags are often referred to as **elements**. E.g. **body**, **h1** and **section** are all page elements.

HTML Lists

There are 3 types of lists in HTML. Each consists of block tags that are usually displayed in a list format.

Ordered Lists

This type of list, often referred to elsewhere as a <u>numbered list</u>, will display list items with numbers indicating their order. An ordered list consists of 2 tags.

and
 specifies the start and end of an ordered list.

and specifies the start and end of each item (list item) within the list.

Example

HTML Result in a web browser Shooting a Basketball Shooting a Basketball Foot Stance and Gripping. 1. Foot Stance and Gripping. Position and Ball in Your Shot Pocket. 2. Position and Ball in Your Shot Pocket. 3. Gripping the Ball Correctly. Gripping the Ball Correctly. 4. Taking the Shot. Taking the Shot. 5. Straighten Your Knees and Jump. Straighten Your Knees and Jump. 6. Release the Ball. Release the Ball.

Unordered Lists

Unordered lists are often referred to as **bullet lists**. These lists typically display as list items with a dot point next to each one. An unordered list consists of 2 tags.

and </sepecifies the start and end of an ordered list.

and specifies the start and end of each item (list item) within the list.

Example

HTML Result in a web browser Sasketball Positions Guard Forward Centre Hasketball Positions Guard Forward Centre

Definition Lists

Definition lists <dl> consist of terms <dt> and descriptions <dd>.

```
HTML
                                             Result in a web browser
Team Members
                                             Team Members
<dl>
  <dt>Amy</dt>
                                             Amy
  <dd>Guard</dd>
                                                  Guard
  <dt>Chloe</dt>
                                             Chloe
  <dd>Forward</dd>
                                                  Forward
  <dt>Kelley</dt>
                                             Kelley
  <dd>Centre</dd>
                                                  Centre
</dl>
```

Exercise 8 – Adding an Unordered List

We will add a heading, a new paragraph and an **unordered list
 with list items in the article section that we created earlier.**

1. Add the HTML shown below.

```
<article>
<h2>Sponsors</h2>
Thank you to the following businesses for supporting our club.

Danny's Cafe
Walter Road Cleaning
Star Real Estate
Sportswear Plus
</article>
</article>
```

Note See how indentation is used in the example above. The list will look the same in your browser without using indentation, but it is a good practice to use indentation for readability. Many editors will automatically indent parts of your code for you when you create certain tags or start new lines.

2. Save the page and preview the changes in your browser.

Our Club's Mission

To provide a friendly and relaxed place for people to enjoy basketball. We understand that people play sport for many reasons. Whether it's to improve fitness, have fun, make friends or provide a challenge, we aim to provide for those needs with our casual basketball leagues.

Sponsors

Thank you to the following businesses for supporting our club.

- · Danny's Cafe
- Walter Road Cleaning
- Star Real Estate
- · Sportswear Plus

Tip Using CSS as we will later, gives you a lot of control over how lists look. For instance, you could have your ordered list showing with letters or roman numerals instead of numbers. You could also have your unordered lists showing with symbols other than regular bullet points.

Text Formatting

Some parts of your text will need to be marked as being significant in some way and there are HTML tags provided for such purposes. It is important to remember that HTML specifies the way a page is structured, while it is left up to CSS to determine exactly how the page will look. So, text formatting tags specify what type of text we place on the page, not how it will actually look. Here are some of the more commonly used formatting elements.

Emphasis

The tag and closing is used to specify that a certain segment of text should be emphasised. Most browsers will display this text in *italics*. Text to speech browsers might read this text in a certain way that adds emphasis to the way the words sound.

Strong

The **** tag and closing **** tag are used to specify that a certain segment of text has increased importance. Most browsers will represent this text as **bold**.

Note Earlier versions of HTML used an italic tag <i> to specify that text should be displayed in italics or a tag to specify that text should be bold. Use of these tags is now discouraged and using and instead is recommended. This is in keeping with the recommendation to limit HTML to specifying the structure of a page and leave the appearance or presentation up to CSS.

Superscript and Subscript

The **^{** tag and closing **}** tag will mark text to be presented as superscript such as the "st" in 1st or the "nd" in 2nd.

The _{tag and closing} tag will mark text to be presented as subscript such as the 2 in H₂O.

Exercise 9 – Strong and EM Tags

1. Add strong and em tags to your original welcome paragraph as follows.

Welcome to the Website of the Morley Hooperoos Basketball Club. If you live in the Morley area, love basketball and like to have fun you've come to the right place. We run regular basketball games for a wide range of age groups. All skill levels welcome. Whether you like to play, coach, referee or just watch, there's something for you at the Hooperoos.

2. Save the page and preview in your browser.

Welcome Hooperoos

Welcome to the Website of the **Morley Hooperoos Basketball Club**. If you live in the Morley area, love basketball and like to have fun you've come to the right place. We run regular basketball games for a wide range of age groups. *All skill levels welcome*. Whether you like to play, coach, referee or just watch, there's something for you at the Hooperoos.

Images

As mentioned in the Introduction section, images are usually an important part of a website. Images are placed in a website using the tag. Unlike most HTML tags, the image tag does not need a closing tag. It does, however, require attributes to provide additional information about the image that will be displayed. Some of the attributes that are used with the image tag are described below.

src The source file to be used to display the image. If you are using an image that is located

elsewhere on the web you need to provide the whole address. If it is an image in your own website, you only need to provide the filename as well as the name of subfolder the image is in. (A common mistake is typing scr instead of src – remember it's short for

source)

alt This attribute provides alternate text for an image. This is normally used to provide a short

description of the image. It is important to include this in case the image doesn't load. It is also used by text-based browsers such as a browser for a visually impaired user who can't see the actual image. Alt text is also used by search engines to index your page more

effectively.

title This attribute can provide a small popup tip when the

user's mouse moves over the image. Often the title is set

to be the same as the alt text.

Height and Height and width attributes can be used to specify the size of an image in pixel width measurements. If you don't specify the size, then while the page is loading there may be

a distracting flickering effect as the browser determines how much space to provide for

each image. Note that height and width can also be specified using CSS.

Example

This example displays a JPG image called *photo.jpg*. If the image isn't able to be displayed, then the alternate text *a photo of me* will be used. The last attributes specify the size the image will display at. The following example displays the same image, only in this case the image is in a sub folder called *images*.

When a tag includes attributes, the attributes consist of a name followed by a value. The value is usually placed inside quotes. Single quotes or double quotes will both work. Be careful to make sure that quotes on the start of a value have a matching quote on the end.

If there is more than one attribute, the order the attributes are written in is not important. In the case of an image tag, it is more logical to place the more important **src** attribute first like the examples above, but it is not essential.

Note In older versions of HTML there were additional attributes such as alignment and border to add information about how the image will appear. Now it is recommended that CSS is used instead.

Exercise 10 – Adding an Image

We are going to add a copy of the club logo at the beginning of our welcome text paragraph. For now, that will mean the image will push the text further down the page. Later we will use CSS to position the image so that it is on the right of the page with text wrapping around it. The image we will be using has the filename *main_logo.png* and should be in the images sub folder of your working files.

1. Add an image tag like the example below.

Welcome to the Website of the Morley Hooperoos Basketball Club. If you live in the Morley area, love basketball and like to have fun you've come to the right place. We run regular basketball games for a wide range of age groups. All skill levels welcome. Whether you like to play, coach, referee or just watch, there's something for you at the Hooperoos.

2. Save and preview changes to the page.

We will now add 2 images to the header section of the page. One will be another copy of the logo displayed at a smaller size. The second one will be a vector image showing a stylised version of the club's name.

3. Add 2 image tags between the opening and closing header tags as shown below.

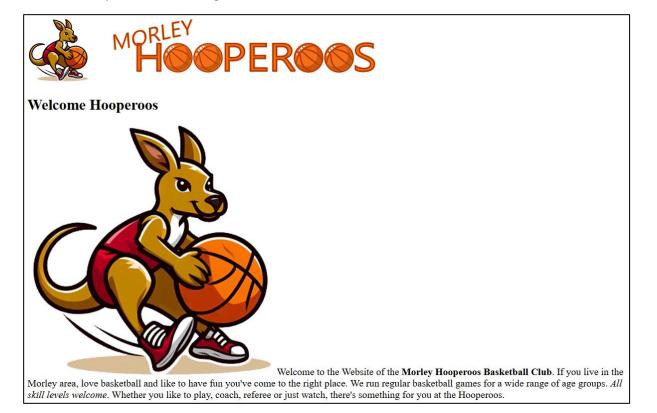
<header>

<img src="images/main_logo.png" alt="Morley Hooperoos Logo" title="Morley Hooperoos
Logo" width="100" height="100">

<img src="images/hooperoos-heading.svg" alt="Morley Hooperoos Basketball Club" title="
Morley Hooperoos Basketball Club " width="490" height="100">

</header>

4. Save and preview the changes.



Hyperlinks

In the worldwide web, links to other pages are referred to as hyperlinks and documents that user hyperlinks are referred to as **hypertext** documents. That is where the "H" and "T" in "HTTP" and "HTML" comes from. The location that links point to is referred to as an anchor and links in HTML are created using the anchor <a> tag. The anchor tag also requires a hyperlink reference (href) attribute to be in the opening anchor tag. This provides the location where the link needs to point to.

Examples

Our products

In this example, the text <u>Our products</u> will be a link that points to a file called *products.html* which is in the same location as the page this link is on.

Link to another website

The text Link to another website will be a link that points to the address http://www.webaddress.com.

Note When you type the address or **URL** (uniform resource locator) into a web browser, you don't need to type the http:// part on the start of the address. When you refer to the URL of another website in your HTML however, you do need to provide the whole address including that part.

In this example, instead of text being a link, an image will be a link. Notice that the image tag is referring to an image that is on the web by providing its full address rather than a locally stored image. When a user clicks the image, it will act as a link and go to the location in the a tag. You could test these lines of html in your own page, but you might want to remove them you've tried them.

Be careful to include the closing tag in your links. Otherwise, everything until the end of the page will be part of the link.

Exercise 11 – Creating Hyperlinks

We will add a new paragraph after our Club Mission paragraph which will contain links to 3 different websites.

1. Add the HTML shown below after the club mission paragraph and before the sponsors heading.

To provide a friendly and relaxed place for people to enjoy basketball. We understand that people play sport for many reasons. Whether it's to improve fitness, have fun, make friends or provide a challenge, we aim to provide for those needs with our casual basketball leagues.

```
Keep an eye out for our regular contests. <br>
Featuring prizes that include tickets to
<a href="https://nbl.com.au/">NBL</a>,
<a href="https://wnbl.basketball/">WNBL</a> and
<a href="https://nbl1.com.au/west/">NBL1 West</a> games.
</section>
```

Note the

br> tag adds a line break within a paragraph.

- 2. Save and preview the page.
- 3. Click the links to test them.

Our Club's Mission

To provide a friendly and relaxed place for people to enjoy basketball. We understand that people play sport for many reasons. Whether it's to improve fitness, have fun, make friends or provide a challenge, we aim to provide for those needs with our casual basketball leagues.

Keep an eye out for our regular contests.

Featuring prizes that include tickets to \underline{NBL} , \underline{WNBL} and $\underline{NBL1}$ West games.

Fix the Mistakes

Correct the errors in the following lines of HTML by writing the corrected version below each one. Yo	u
can check which ones you got right by viewing the answers on the next page.	

Microsoft Word Exercises

<h1>Main page heading<h1>

Really important text

<-- web page comment here -->

Mistakes Answers

The src attribute was mistyped. Also the image tag does not need a closing tag.

Microsoft Word Exercises

The address of the website had " at the start of the address but not at the end.

<h1>Main page heading</h1>

The closing tag needs to have a / inside it.

<!-- web page comment here -->

The starting part of a comment was missing the!

Really important text

When you have nested tag (tags inside other tags), take care of the order you close them. In this example, a paragraph begins, then a strong tag begins and an emphasis tag begins. They should go from the inside out. Or to put it another way, the last tag started should be the first one closed.