

MAKING WEB PAGES ALIVE

BRIDGE COURSE



GRADE-8

PRIMARY PREVIEW

- Hyperlinks
- Inserting Lists in HTML5
- Tables in HTML
- Inserting Images in HTML
- Using CSS with Lists
- CSS Properties Used with the <TABLE> Tag
- Adding Audio and Video
- List Styling with Colours



HYPERLINKS

A website is a collection of web pages. These web pages are linked with the help of a feature of HTML called a hyperlink.

An HTML link or hyperlink, contains a URL and lets you jump from one web page to another. It can be text, an image or a button and typically navigates between pages on the same site or to different websites.

In browsers, links appear as underlined blue text when unvisited and purple after being clicked. You can also use the Tab key to focus on a link and Enter to open it. When hovering over it, the mouse pointer turns into a hand. HTML supports two types of links:

- ◆ **Internal linking** connects sections within a web page. For example, a table of contents with links at the top allows readers to jump to sections, bypassing the need to scroll.
- ◆ **External linking** connects your page to another, either on your local disk or the Internet. It directs visitors to additional resources on other sites, useful for sharing sources or references in blogs or research papers.

ANCHOR TAG

The Anchor tag is used to insert hyperlinks in HTML. It is a container tag. You can place images, text, audio, video or buttons between opening and closing tags.

The following table summarises the attributes that can be used along with this tag to create hyperlinks:

Attribute Name	Value	Description
HREF	URL	It is also known as Hypertext Reference. It contains the URL to which the hyperlink points. It can be an external or internal link.

TARGET	_blank, _self, _parent, _top	It is used to define where to open the new web page.
--------	------------------------------	--

The uses of different values of the target attribute:

- ❖ **_blank**: It opens the link in a new window.
- ❖ **_parent**: It opens the linked document in a parent frame.
- ❖ **_self**: It opens the linked web page in the current window or tab. It is the default value for the target attribute.
- ❖ **_top**: It opens the linked document in the window that is on top in all the windows.

The syntax for using the <A> tag is as follows:

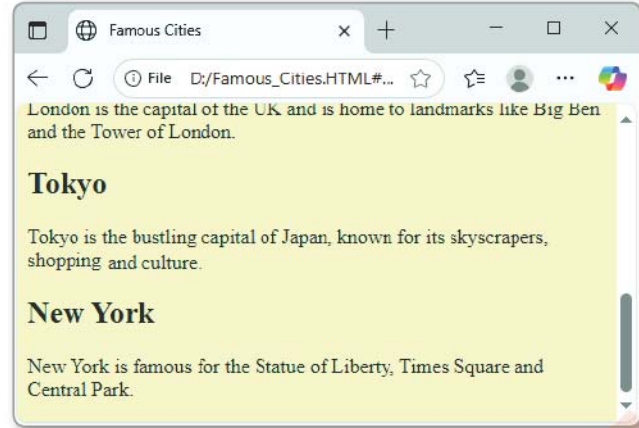
```
<A HREF="URL" TARGET="VALUE">LINK CONTENT</A>
```

Code
1

Write the HTML code to present the given web page using the <A> tag to create an internal hyperlink.

```
<!DOCTYPE HTML>
<HTML>
<HEAD>
<TITLE>Famous Cities</TITLE>
</HEAD>
<BODY STYLE="BACKGROUND-COLOR: #FAFAD2; COLOR: #2F4F4F;">
<H1>Explore Famous Cities Around the World</H1>
<P><A HREF="#paris">Go to Paris</A></P>
<P><A HREF="#london">Go to London</A></P>
<P><A HREF="#tokyo">Go to Tokyo</A></P>
<P><A HREF="#newyork">Go to New York</A></P>
<H2 ID="paris">Paris</H2>
<P>Paris is known as the "City of Light" and is famous for the Eiffel Tower.</P>
<H2 ID="london">London</H2>
<P>London is the capital of the UK and is home to landmarks like Big Ben and the Tower of London.</P>
<H2 ID="tokyo">Tokyo</H2>
<P>Tokyo is the bustling capital of Japan, known for its skyscrapers, shopping and culture.</P>
<H2 ID="newyork">New York</H2>
<P>New York is famous for the Statue of Liberty, Times Square and Central Park.</P>
</BODY>
</HTML>
```

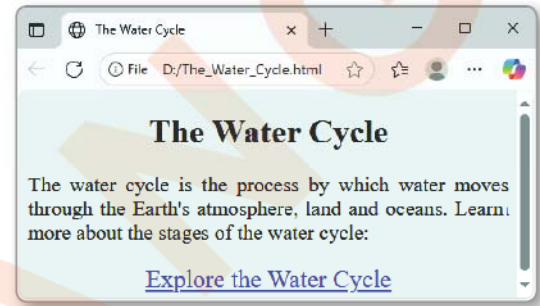
The output of the preceding code is as follows:



When you click on any one of the given internal links, it will take you to the respective section on the same web page.

Code 2 Write the HTML code to present the given web page using the `<A>` tag to create an external hyperlink.

```
<!DOCTYPE HTML>
<HTML>
<HEAD>
<TITLE>The Water Cycle</TITLE>
</HEAD>
<BODY STYLE="BACKGROUND-COLOR: #E0F7FA;
TEXT-ALIGN: CENTER;">
<H1>The Water Cycle</H1>
<P STYLE="FONT-SIZE: 20PX; TEXT-ALIGN: JUSTIFY;">
The water cycle is the process by which water moves through the Earth's
atmosphere, land and oceans. Learn more about the stages of the water
cycle:</P>
<A HREF="https://en.wikipedia.org/wiki/Water_cycle" style="FONT-SIZE:
24PX;">
Explore the Water Cycle
</A>
</BODY>
</HTML>
```



When you click on the given external link, it will take you to the URL specified in the HREF attribute.



PRIVACY PRACTICES

Use HTTPS instead of HTTP in external links if the website supports it.

USING CSS WITH HYPERLINKS

CSS allows you to change the appearance of the link based on its state when a user interacts with it using CSS pseudo-classes:

- ❖ **A:LINK:** It is used to apply styles to non-visited links.
- ❖ **A:VISITED:** It is used to apply styles to visited links.
- ❖ **A:HOVER:** It is used to apply styles when the mouse pointer moves over the link.
- ❖ **A:ACTIVE:** It is used to apply styles to an active link. A link becomes active when the user clicks on it.

Code 3 Write the HTML code to display the given web page using CSS pseudo-classes to style the different states of hyperlinks.

```
<!DOCTYPE HTML>
<HTML>
<HEAD>
<TITLE>The Human Digestive System</TITLE>
<STYLE>
A{FONT-SIZE: 22PX;}
A:LINK {COLOR: MEDIUMVIOLETRED;}
A:VISITED {COLOR: DARKORANGE;}
A:HOVER {COLOR: MEDIUMSEAGREEN;}
A:ACTIVE {COLOR: FIREBRICK;}
</STYLE>
</HEAD>
<BODY STYLE="BACKGROUND-COLOR: LIGHTPINK; COLOR: DARKSLATEGRAY;">
<H1 STYLE="COLOR: DEEPPINK;">The Human Digestive System</H1>
<P STYLE="FONT-SIZE: 18PX;">
The digestive system breaks down food into nutrients that the body uses
for energy, growth and repair. Below is a link to learn more about
different parts of the digestive system:
</P>
<A HREF="https://en.wikipedia.org/wiki/Human_digestive_system" TARGET=
"_BLANK"> Click here to know more</A>
</BODY>
</HTML>
```



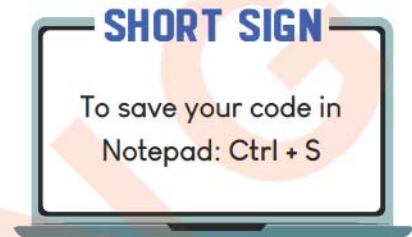
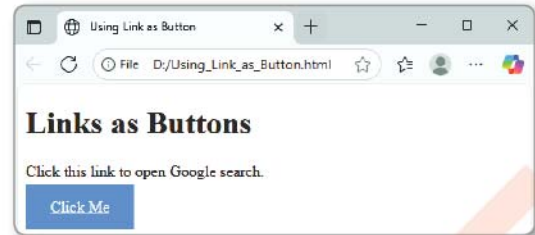
LINKS AS BUTTONS

HTML allows you to use hyperlinks as buttons. The following HTML code uses the <A> tag to create buttons using hyperlinks:

Code
4

Write the HTML code to present the given web page using the <A> tag to create buttons.

```
<!DOCTYPE HTML>
<HTML>
<HEAD>
<TITLE>
Using Link as Button
</TITLE>
<STYLE>
A {BACKGROUND-COLOR: DODGERBLUE;COLOR: WHITE;
PADDING: 14PX 25PX;}
A:HOVER {BACKGROUND-COLOR: ROYALBLUE;}
</STYLE>
</HEAD>
<BODY>
<H1>Links as Buttons</H1>
Click this link to open Google search.
<BR><BR>
<A HREF="HTTPS://WWW.GOOGLE.COM/">Click Me</A>
</BODY>
</HTML>
```



INSERTING IMAGES IN HTML

Images can improve your web design and the appearance of a web page. You can add drawings, charts, paintings, maps or photographs to your web page. In HTML, images can be added to your web page using the tag. It is an empty tag and does not have a closing tag. The tag tells the browser which image to display and how text will be placed around it.

Image file formats that are most commonly used on the web are: Graphics Interchange Format (GIF), Joint Photographic Experts Group (JPEG) and Portable Network Graphics (PNG).

ATTRIBUTES OF THE TAG

The following table summarises the attributes of the tag:

Attribute Name	Value	Description
SRC	URL or file path	The SRC attribute specifies the location or URL of the image to be embedded. You can simply write the name of the file with its extension in the SRC value if the image is saved in the same folder as the HTML file. All tags must include the SRC attribute.
ALT	Text description of image	It provides alternative text for the image, which describes the image. If the image URL is incorrect or image is not present in defined folder, the user will see the alternative text in place of the image.

Syntax:

```
<IMG SRC="Name or path of the image file" ALT="TEXT">
```

If the image file is in the same folder, mention the name of the image with its extension. For example:

```
<IMG SRC="beautiful-flamingos-lake.jpg" ALT="Flamingo Image">
```

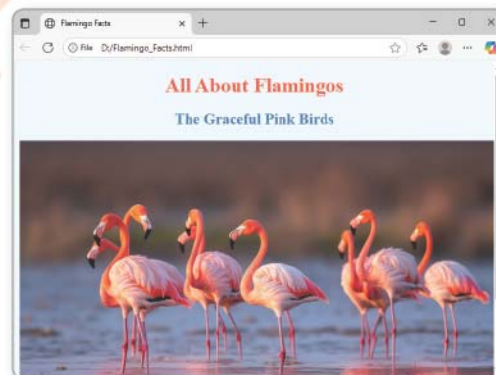
If the image file **beautiful-flamingos-lake.jpg** is in a different folder than the HTML file, you need to mention the complete path of the image file.

```
<IMG SRC="D:\beautiful-flamingos-lake.jpg" ALT="Flamingo Image">
```

Code
5

Write the HTML code to present the given web page using the tag to display an image.

```
<!DOCTYPE HTML>
<HTML>
<HEAD>
<TITLE>Flamingo Facts</TITLE>
</HEAD>
<BODY STYLE="BACKGROUND-COLOR: #F0F8FF;">
<H1 STYLE="COLOR: #FF6347;
TEXT-ALIGN: CENTER;"> All About Flamingos</H1>
<H2 STYLE="COLOR: #4682B4;
TEXT-ALIGN: CENTER;">The Graceful Pink Birds</H2>
<IMG SRC="beautiful-flamingos-lake.jpg" ALT="Flamingo Image">
<P STYLE="COLOR: #2F4F4F; TEXT-ALIGN: CENTER;">
```



Flamingos are tall, wading birds known for their long legs, elegant necks and distinct pink feathers.

</P>

</BODY>

</HTML>

Alternative text will be displayed when:

- ❖ The image is not found due to an incorrect path or name.
- ❖ The image file is missing or does not load.
- ❖ The browser does not support the image file.

Code 6 Write the HTML code to present the given web page using the tag and the ALT attribute.

<!DOCTYPE HTML>

<HTML>

<HEAD>

<TITLE>Flamingo Facts</TITLE>

</HEAD>

<BODY STYLE="BACKGROUND-COLOR: #F0F8FF;">

<H1 STYLE="COLOR: #FF6347; TEXT-ALIGN: CENTER;">All About Flamingos

</H1>

<H2 STYLE="COLOR: #4682B4; TEXT-ALIGN: CENTER;">The Graceful Pink Birds</H2>

<P STYLE="COLOR: #2F4F4F; TEXT-ALIGN: CENTER;">Flamingos are tall, wading birds known for their long legs, elegant necks and distinct pink feathers.

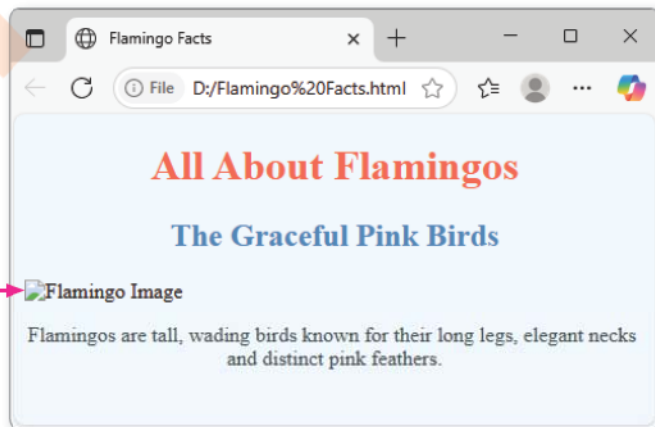
</P>

</BODY>

</HTML>

FACT File
The first web browser to support images was Mosaic, released in 1993.

Alternative text is displayed if the image is not found due to an incorrect name or if the image is missing.



RAPID RECALL

Tick (✓) if you know this.

1. Hover is used to apply styles when the mouse pointer moves over the link.
2. External links connect your active web page to a separate web page.



STYLING OF AN IMAGE USING CSS

CSS allows you to enhance the appearance of images. You can use CSS to adjust the size, add borders and apply special effects like shadows.

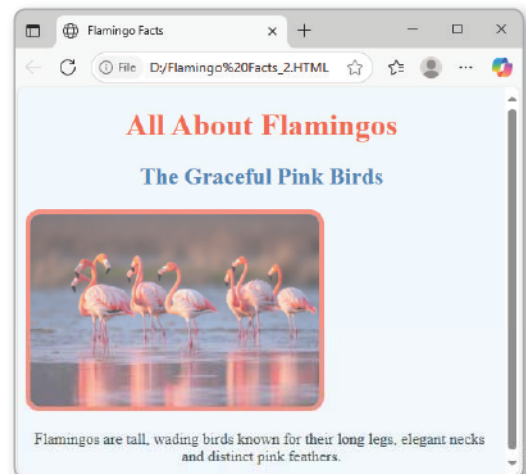
The following table lists all CSS properties, their values and descriptions used with the tag:

Property Name	Value	Description
WIDTH	Any numeric value in px or percentage	It sets the width of the image.
HEIGHT	Any numeric value in px or percentage	It sets the height of the image.
BORDER	SOLID, DASHED, DOUBLE	It sets the style, width and colour of the border of the image.
BORDER-RADIUS	Any numeric value in px or percentage	It sets the corners of the image to round.
OPACITY	A value between 0 and 1	It sets the transparency of an image.

Code
7

Write the HTML code to present the given web page using CSS properties to add a border, rounded edges and opacity around the image.

```
<!DOCTYPE HTML>
<HTML>
<HEAD>
<TITLE>Flamingo Facts</TITLE>
</HEAD>
<BODY STYLE="BACKGROUND-COLOR: #F0F8FF;">
<H1 STYLE="COLOR: #FF6347;
TEXT-ALIGN: CENTER;">All About Flamingos
</H1>
<H2 STYLE="COLOR: #4682B4; TEXT-ALIGN:
CENTER;">The Graceful Pink Birds</H2>
```



```

<IMG STYLE="BORDER: 5PX solid #FF6347; BORDER-RADIUS: 15PX; OPACITY:
0.7; WIDTH: 300PX;"
SRC="beautiful-flamingos-lake.jpg" ALT="Flamingo Image" >
<P STYLE="COLOR: #2F4F4F; TEXT-ALIGN: CENTER;">Flamingos are tall,
wading birds known for their long legs, elegant necks and distinct pink
feathers.
</P>
</BODY>
</HTML>

```

WRAPPING TEXT AROUND AN IMAGE

The float property allows you to position an image and allows text to wrap around it. The following table lists the CSS FLOAT property and values used with the tag:

Property Name	Value	Description
FLOAT	LEFT, RIGHT, inline-start, inline-end	It specifies where the image should be positioned.

Code 8 Write the HTML code to present the given web page using the float property to wrap text around the image.

```

<!DOCTYPE HTML>
<HTML>
<HEAD>
<TITLE>Flamingo Facts</TITLE>
</HEAD>
<BODY STYLE="BACKGROUND-COLOR: #F0F8FF;">
<H1 STYLE="COLOR: #FF6347;
TEXT-ALIGN: CENTER;">All About Flamingos
</H1>
<H2 STYLE="COLOR: #4682B4; TEXT-ALIGN: CENTER;">The Graceful Pink
Birds</H2>
<IMG STYLE="FLOAT: RIGHT; WIDTH: 300PX; HEIGHT: 200PX;"
SRC="beautiful-flamingos-lake.jpg" ALT="Flamingo Image">
<P STYLE="COLOR: #2F4F4F; TEXT-ALIGN: CENTER;">Flamingos are tall,
wading birds known for their long legs, elegant necks and distinct pink
feathers.</P>

```



```
</BODY>
```

```
</HTML>
```

ADDING IMAGES AS LINKS

You can use an image as a hyperlink by simply adding the `` tag between the `<A>` and `` tags.

Code
9

Write the HTML code to present the given web page using the `` tag between the `<A>` and `` tags to add images as links.

```
<!DOCTYPE HTML>
```

```
<HTML>
```

```
<HEAD>
```

```
<TITLE> Image Hyperlink </TITLE>
```

```
</HEAD>
```

```
<BODY>
```

```
<A HREF="new.html">
```

```
<IMG SRC="Click_here.jpg"
```

```
STYLE="WIDTH:100PX; HEIGHT:500PX;">
```

```
</A>
```

```
</BODY>
```

```
</HTML>
```



INTERDISCIPLINARY LEARNING

21st
Century
Skills

#Creativity
#Technology Literacy

Create a web page about various Indian Classical dance forms. Follow the instructions below:

- Use this heading for the web page: "Indian Classical Dance Forms".
- Search the Internet for images of Indian classical dance forms.
- Use the `` tag to embed images.

MUSIC AND DANCE | LAB ACTIVITY

HINTS & HACKS

The `BORDER` property is shorthand for `BORDER-WIDTH`, `BORDER-STYLE`, `BORDER-COLOR` properties.

FACT File

The default `BORDER-RADIUS` is `0`, resulting in sharp, square corners.



ADDING AUDIO AND VIDEO

Adding **audio** and **video** makes the web page more engaging and allows people to communicate quickly and effectively. The following formats are supported by all browsers. To add music or audio to your web page, you need an audio/video file in one of the following formats:

Format	File extension	Description
WAV	.wav	Waveform Audio File Format (WAV) is an audio format. It was developed by IBM and Microsoft. Files in this format play well on Windows, Macintosh and Linux operating systems.
OGG	.ogg	Ogg Vorbis (OGG) was developed by the Xiph.Org Foundation. It is an audio format.
MP3	.mp3	MPEG Audio Layer 3 (MP3) is an audio format supported by all web browsers. It is an audio format. These are small files with high quality.
MP4	.mp4	MPEG-4 Part 14 (MP4) is a video format, but can also be used for audio.
WEBM	.webm	It is a video format supported by all browsers.
AVI	.avi	It is a proprietary video format introduced by Microsoft.

The HTML tag, used for adding audio files to a web page, is `<AUDIO>` and for adding video is `<VIDEO>`. The `<AUDIO>` and `<VIDEO>` tags can play all the supported audio and video formats listed in the table above.

The attributes used with these tags are:

Attribute Name	Value	Description
SRC	URL or path of the file	It specifies the path or URL of the file.
CONTROLS	None	It specifies whether the controls are shown along with audio or video.
LOOP	None	It is used to play the video in a loop continuously.
AUTOPLAY	None	It is used to play the video automatically as the page loads. Since this attribute is not supported by browsers like Chrome, Opera and Microsoft Edge, you need to add the word MUTED after AUTOPLAY.
WIDTH, HEIGHT	Pixel value	These attributes are used to adjust the height and width of the video window.

HTML5 has introduced the <SOURCE> tag to specify the source of the audio or video file. It is an empty tag.

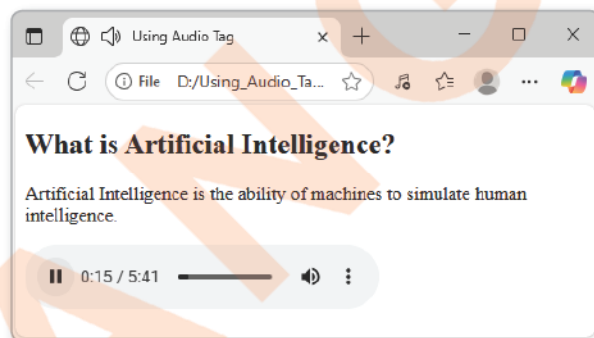
The attributes to be used with the <SOURCE> tag are:

Attribute Name	Value	Description
SRC	URL or path of the file	It specifies the path to the audio or video to be inserted.
TYPE	File type	It specifies the Multipurpose Internet Mail Extensions (MIME) type of the file to be played.

Note that the SRC attribute can be used with the AUDIO and VIDEO tag directly also. Using it with a nested <SOURCE> tag allows you to specify multiple media resources for media elements, such as <VIDEO> and <AUDIO>, which the browser may choose from, based on browser support or viewport width. The browser will choose the first <SOURCE> it supports.

Code 10 Write the HTML code to present the given web page using the <AUDIO> tag to embed audio.

```
<!DOCTYPE HTML>
<HTML>
<HEAD>
<TITLE>Using Audio Tag</TITLE>
</HEAD>
<BODY>
<H2>What is Artificial Intelligence?
</H2>
<P>Artificial Intelligence is the ability of machines to simulate human intelligence.</P>
<AUDIO CONTROLS AUTOPLAY LOOP>
<SOURCE SRC="Artificial_Intelligence.mp3" TYPE="AUDIO/MPEG">
Your browser does not support the audio element.
</AUDIO>
</BODY>
</HTML>
```



HTML provides the structural skeleton of a web page, similar to how natural formations like mountains and valleys define the landscape of an environment.

NATURAL FACT

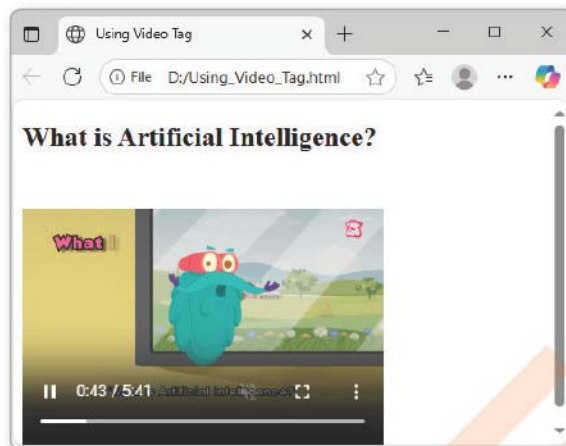
SHORT SIGN

To quickly switch between applications:
Alt + Tab

Code
11

Write the HTML code to present the given web page using the <VIDEO> tag to embed video on a web page.

```
<!DOCTYPE HTML>
<HTML>
<HEAD>
<TITLE>Using video tag</TITLE>
</HEAD>
<BODY>
<H2>What is Artificial Intelligence?
</H2>
<VIDEO WIDTH="320PX" HEIGHT="240PX"
CONTROLS AUTOPLAY>
<SOURCE
SRC="Artificial_Intelligence.mp4"
TYPE="VIDEO/MP4">
</VIDEO>
</BODY>
</HTML>
```



LIVE (O) LEARNING

Design a small website with 3 pages: Home, About and Services. Use internal links (<a>) in the navigation menu to link between each page.



Construct an HTML document that combines a hyperlink, an image and an audio file.

+ | Study



RAPID RECALL

Tick (✓) if you know this.

1. Adding audio and video makes the web page more engaging.
2. The float property allows you to position an image and allows text to wrap around it.



TECH TERMS

- **Source (SRC):** The attribute used to specify the location of a media file like an image, audio or video.
- **Uniform Resource Locator (URL):** The address used to locate a resource on the web.
- **Alternative Text (ALT):** Text used as a substitute for an image when the image cannot be displayed.

REWIND RUN

- A website is a collection of web pages. These web pages are linked with the help of a feature of HTML called a hyperlink.
- The Anchor tag is used to insert hyperlinks in HTML.
- You can place images, text, audio, video or buttons between opening and closing tags.
- Images can improve your web design and the appearance of a web page.
- You can use CSS to adjust the size, add borders and apply special effects like shadows.
- The float property allows you to position an image and allows text to wrap around it.



INSERTING LISTS IN HTML5

A list is a collection of related items shown in bulleted or numbered form. In HTML, lists present data in an organised and readable way. There are three types:

- ❖ **Ordered list:** Items are numbered in sequence.
- ❖ **Unordered list:** Items use bullets or symbols.
- ❖ **Description list:** Shows terms with their descriptions (also called a definition list).

The lists look like the table below on a web page:

Ordered	Unordered	Definition
An ordered list: 1. First item 2. Second item 3. Third item 4. Fourth item	An unordered list: • First item • Second item • Third item • Fourth item	A definition list: Term1 Definition 1 Term2 Definition 2

FACT File

In HTML5, there are 5 types to declare ordered lists.

ORDERED LIST

An ordered list in HTML uses the `` tag with `` items, displaying them in numbers or letters. It's used for steps, instructions or rankings where order matters.

You can change the numbering style and starting point of a list using the `TYPE` and `START` attributes.

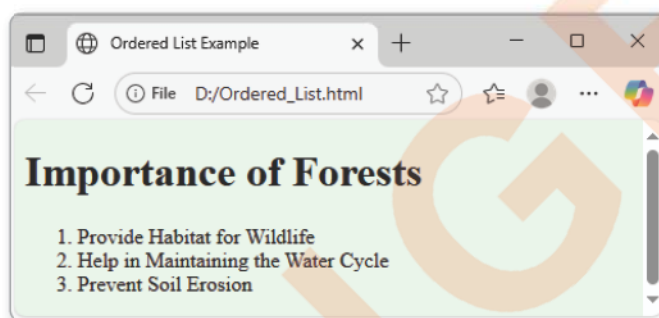
The table below shows the attributes of the tag:

Attribute Name	Value	Description
TYPE	1, a, A, i and I	It is used to choose the kind of numbering for the list items.
START	Natural number	It is used to set the beginning value for the first list item in an ordered list. The value must always be an integer.
REVERSED	None	It is used to start the list in a descending order.

Code
1

Write the HTML code to present the given web page using the tag to create an ordered list.

```
<!DOCTYPE HTML>
<HTML>
<HEAD>
<TITLE>Ordered List Example
</TITLE>
</HEAD>
<BODY
STYLE="BACKGROUND-COLOR: #d5ecd7;">
<H1>Importance of Forests</H1>
<OL>
<LI>Provide Habitat for Wildlife</LI>
<LI>Help in Maintaining the Water Cycle</LI>
<LI>Prevent Soil Erosion</LI>
</OL>
</BODY>
</HTML>
```



In the above code, the list starts at 1 because the TYPE and START attributes are missing. You can customise the default numbering and beginning point for the ordered list.

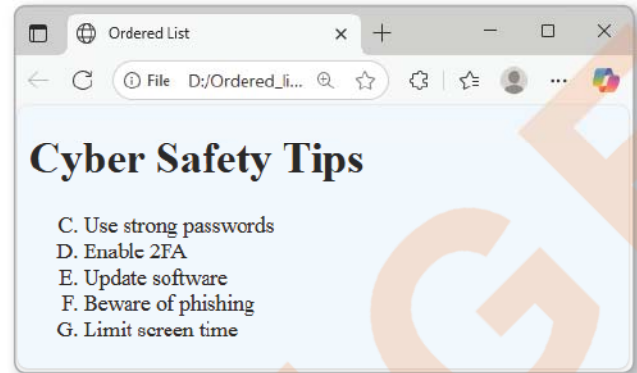
By using the TYPE attribute, you can create:

- ❖ Numbers: 1, 2, 3, 4. (If no value for type is specified, then this format will be displayed.)
- ❖ Roman numerals (uppercase and lowercase): I, II, III, IV, i, ii, iii, iv
- ❖ Letters of the alphabet (uppercase and lowercase): A, B, C, D, a, b, c, d

Code
2

Write the HTML code to present the given web page using the tag with the START and TYPE attributes to create an ordered list.

```
<!DOCTYPE HTML>
<HTML>
<HEAD>
<TITLE>Ordered List</TITLE>
</HEAD>
<BODY STYLE="BACKGROUND-COLOR: #F0F8FF;">
<H1>Cyber Safety Tips</H1>
<OL START="3" TYPE="A">
<LI>Use strong passwords</LI>
<LI>Enable 2FA</LI>
<LI>Update software</LI>
<LI>Beware of phishing</LI>
<LI>Limit screen time</LI>
</OL>
</BODY>
</HTML>
```



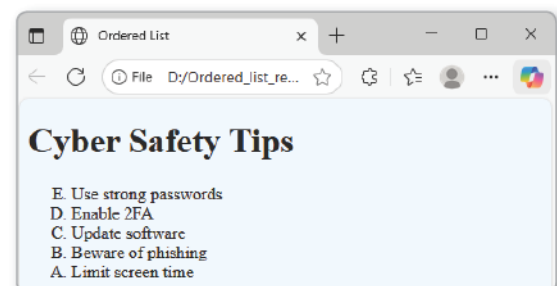
The code displays an ordered list starting from C (START="3") with uppercase letters (TYPE="A"). The start attribute accepts only integer values, whether the list uses numbers, Roman numerals or letters.

You can add the REVERSED attribute to display the list in descending order.

Code
3

Write the HTML code to present the given web page using the REVERSED attribute to display numbering in descending order.

```
<!DOCTYPE HTML>
<HTML>
<HEAD>
<TITLE>Ordered List</TITLE>
</HEAD>
<BODY STYLE="BACKGROUND-COLOR: #F0F8FF;">
<H1>Cyber Safety Tips</H1>
<OL START="5" TYPE="A" REVERSED>
<LI>Use strong passwords</LI>
<LI>Enable 2FA</LI>
<LI>Update software</LI>
```



```
<LI>Beware of phishing</LI>
<LI>Limit screen time</LI>
</OL>
</BODY>
</HTML>
```

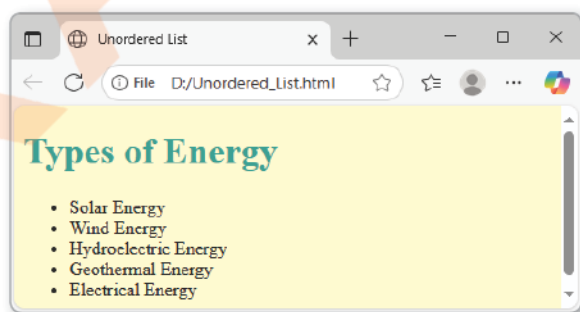
The above code will create an ordered list with numbering starting in descending order because the reversed attribute is used.

UNORDERED LIST

An unordered list is also known as a bulleted list created with the tag and closed with . Items are added using tags and the default marker is a round black bullet. It is used when the items do not need to be in a particular sequence.

Code 4 Write the HTML code to present the given web page using the tag to display an unordered list.

```
<!DOCTYPE HTML>
<HTML>
<HEAD>
<TITLE>Unordered List</TITLE>
</HEAD>
<BODY STYLE="BACKGROUND-COLOR: #FFFACD;">
<H1 STYLE="COLOR: #2A9D8F;">Types of Energy</H1>
<UL>
<LI>Solar Energy</LI>
<LI>Wind Energy</LI>
<LI>Hydroelectric Energy</LI>
<LI>Geothermal Energy</LI>
<LI>Electrical Energy</LI>
</UL>
</BODY>
</HTML>
```



INTERDISCIPLINARY LEARNING

Write the HTML code to create an unordered list of class rules using the tag.

21st
Century
Skills

#Critical Thinking
#Technology Literacy

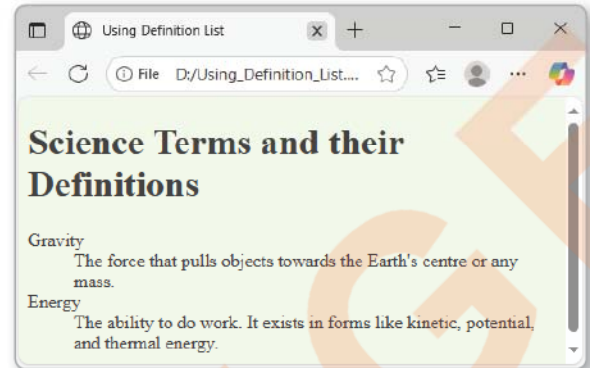
MORAL SCIENCE | LAB ACTIVITY

DESCRIPTION LISTS

A description list is a list of terms, with a description of each term. The description or definition list is defined using the <DL> tag. This is a container tag which needs to be closed with </DL>. In between, you have to include one or more pairs of <DT> (defines terms/names) and <DD> (describes each term/name) tags.

Code 5 Write the HTML code to present the given web page using the <DL> tag to create a description list.

```
<!DOCTYPE HTML>
<HTML>
<HEAD>
<TITLE> Using Definition List</TITLE>
</HEAD>
<BODY
STYLE="BACKGROUND-COLOR: #F1F8E9;
COLOR: #333333;">
<H1>
Science Terms and their Definitions
</H1>
<DL>
<DT>Gravity</DT>
<DD>The force that pulls objects towards the Earth's centre or any mass.
</DD>
<DT>Energy</DT>
<DD>The ability to do work. It exists in forms like kinetic, potential,
and thermal energy. </DD>
</DL>
</BODY>
</HTML>
```



USING CSS WITH LISTS

You can customise list markers, use images as markers or change list indentation with CSS properties such as list-style-type, list-style-image, list-style-position and list-style. The table below summarises them.

Property Name	Value	Description
LIST-STYLE-TYPE	For : DECIMAL, DECIMAL-LEADING-ZERO, LOWER-ROMAN, UPPER-ROMAN, LOWER-ALPHA and UPPER-ALPHA For : ., DISC, CIRCLE and SQUARE.	It specifies the type of list item marker.
LIST-STYLE-IMAGE	None or URL(path)	It specifies an image as the list-item marker.
LIST-STYLE-POSITION	OUTSIDE or INSIDE	It specifies the position of the list-item markers (bullet points). Outside is the default value for LIST-STYLE-POSITION.
LIST-STYLE	LIST-STYLE-TYPE LIST-STYLE-POSITION LIST-STYLE-IMAGE	It is a shorthand property for three CSS properties: LIST-STYLE-TYPE, LIST-STYLE-POSITION and LIST-STYLE-IMAGE

Code
6

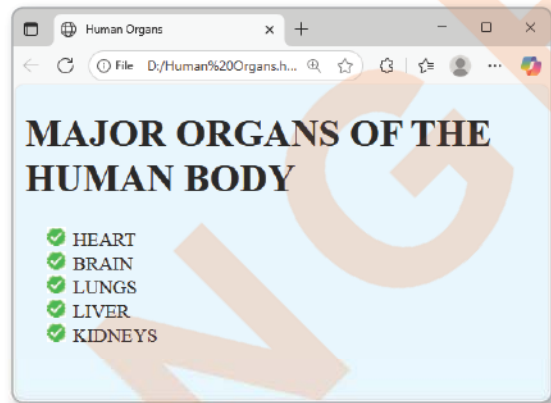
Write the HTML code to present the given web page using the CSS property LIST-STYLE-TYPE to change the style of list marker.

```
<!DOCTYPE HTML>
<HTML>
<HEAD>
<TITLE>Important Robots</TITLE>
</HEAD>
<BODY
STYLE="BACKGROUND-COLOR: #f5f5dc;">
<H1>Important robots</H1>
<UL STYLE="LIST-STYLE-TYPE: SQUARE;">
<LI>Asimo</LI>
<LI>Sophia</LI>
<LI>Robonaut</LI>
</UL>
</BODY>
</HTML>
```

Code
7

Write the HTML code to present the given web page using the LIST-STYLE-IMAGE property to specify an image as the list item marker.

```
<!DOCTYPE HTML>
<HTML>
<HEAD>
<TITLE>Human Organs</TITLE>
</HEAD>
<BODY STYLE="BACKGROUND-COLOR: #e6f7ff;">
<H1>MAJOR ORGANS OF THE HUMAN BODY</H1>
<UL STYLE="LIST-STYLE-IMAGE: URL('green-check-mark-icon.png');">
<LI>HEART</LI>
<LI>BRAIN</LI>
<LI>LUNGS</LI>
<LI>LIVER</LI>
<LI>KIDNEYS</LI>
</UL>
</BODY>
</HTML>
```

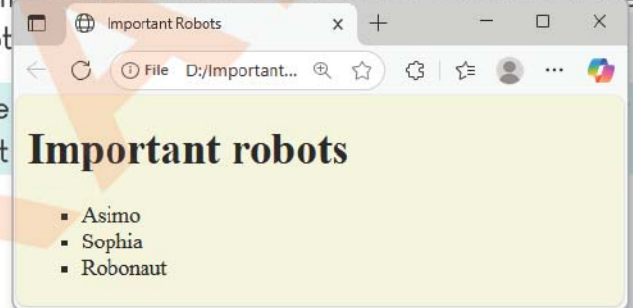


In the preceding code, you should keep an image file named green-check-mark-icon.png in the same folder as the HTML code. Otherwise, it will not

Code
8

Write the HTML code to present the LIST-STYLE-POSITION to position the list

```
<!DOCTYPE HTML>
<HTML>
<HEAD>
<TITLE>Using LIST-STYLE-POSITION property</TITLE>
</HEAD>
<BODY STYLE="BACKGROUND-COLOR: #e6f7ff;">
<H1>MAJOR ORGANS OF THE HUMAN BODY</H1>
<H2>Internal Organs</H2>
<UL STYLE="LIST-STYLE-IMAGE: URL('green-check-mark-icon.png');
LIST-STYLE-POSITION: INSIDE;">
```



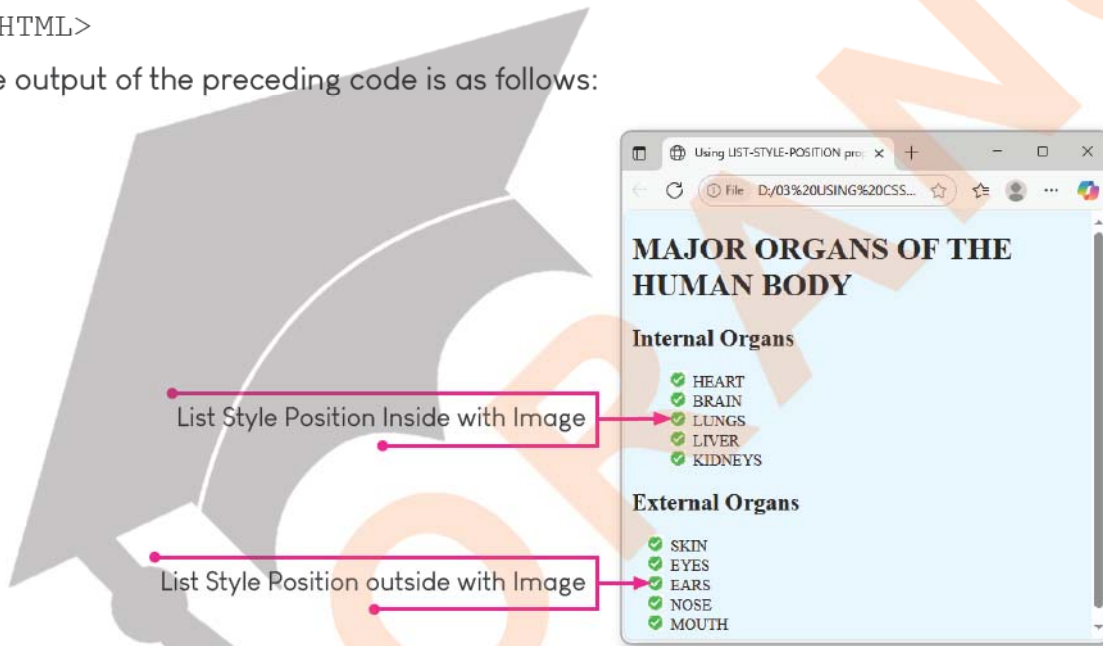
HINTS & HACKS

If a value is not specified for a CSS property, the default value of that property is used.

Whenever you are using LIST-STYLE-IMAGE, use a small size for images. Otherwise, it may not appear in the list item marker.

```
<LI>HEART</LI>
<LI>BRAIN</LI>
<LI>LUNGS</LI>
<LI>LIVER</LI>
<LI>KIDNEYS</LI>
</UL>
<H2>External Organs</H2>
<UL STYLE="LIST-STYLE-IMAGE: URL('green-check-mark-icon.png');">
<LI>SKIN</LI>
<LI>EYES</LI>
<LI>EARS</LI>
<LI>NOSE</LI>
<LI>MOUTH</LI>
</UL>
</BODY>
</HTML>
```

The output of the preceding code is as follows:



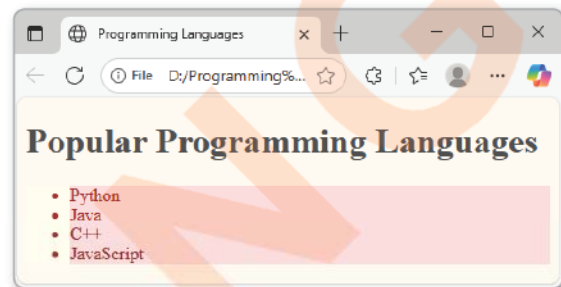
LIST STYLING WITH COLOURS

You can also style lists with colours, to make them look a little more interesting. Anything added to the or tag affects the entire list, while properties added to the tag will affect the individual list items.

Code
9

Write the HTML code to present the given web page using CSS properties to style the background, text and lists.

```
<!DOCTYPE HTML>
<HTML>
<HEAD>
<TITLE>Programming Languages</TITLE>
<STYLE>
LI{COLOR:#990000; BACKGROUND-COLOR:#ffdddd;}
</STYLE>
</HEAD>
<BODY STYLE="BACKGROUND-COLOR:#fffaf0;">
<H1 STYLE="COLOR:#444;">Popular Programming Languages</H1>
<UL STYLE="BACKGROUND-COLOR:#ffe;">
<LI>Python</LI>
<LI>Java</LI>
<LI>C++</LI>
<LI>JavaScript</LI>
</UL>
</BODY>
</HTML>
```



RAPID RECALL

Tick (✓) if you know this.

1. The description or definition list is defined using the <DL> tag.
2. An unordered list is a bulleted list created with the tag and closed with .



TABLES IN HTML

Another way to arrange data in HTML is with a table using the <TABLE> tag, which organises information in rows and columns.

The following are the advantages of using tables:

- ◆ Tables allow you to summarise content in one of the easiest ways.
- ◆ Tables enable you to present data in a tabular format rather than in the default paragraph style.
- ◆ Tables help you easily compare different sets of data by placing them side by side.

The following are the components of an HTML table:

Roll Number	Name	Grade	Gender
1	Aryan	A	Male
2	Ananya	B	Female
3	Arjun	A	Male
4	Sneha	B	Female

The diagram shows a table with a caption 'Student Information' above it. The first row is the table header with columns 'Roll Number', 'Name', 'Grade', and 'Gender'. There are four data rows. Labels with arrows point to various parts: 'Caption' points to the title above the table; 'Table header' points to the first row; 'Column' points to the first column; 'Row' points to the first data row; and 'Cell' points to the 'Male' cell in the third row.

- ❖ **Row:** A row is a horizontal line of cells in a table.
- ❖ **Cell:** A cell is a box formed by the intersection of a row and a column in a table.
- ❖ **Caption:** A caption is a brief description about the table at the top or bottom of the table.
- ❖ **Column:** A column is a vertical line of cells in a table.
- ❖ **Heading:** A table heading is the first row of the table, which describes the column or row.

To create a table in HTML, you can use five basic tags:

- ❖ **<TABLE>:** The <TABLE> tag is used to create a table for displaying data in rows and columns.
- ❖ **<TR>:** The <TR> tag stands for Table Row. It is used for marking the start and end of a row.
- ❖ **<TD>:** The <TD> (Table Data) tag defines the content of a cell, which can be text, an image, video or any data.
- ❖ **<CAPTION>:** The <CAPTION> tag is used to provide a description or title of the table.
- ❖ **<TH>:** The <TH> tag stands for a table header in an HTML table. A table header is used to specify a column heading.

Code
10

Write the HTML code to present the given web page using the <TABLE> tag and related tags to create an HTML table.

```
<!DOCTYPE HTML>
<HTML>
<HEAD>
<TITLE>Student Information Table</TITLE>
</HEAD>
<BODY>
<TABLE>
<CAPTION>Student Information</CAPTION>
<TR>
<TH>Roll Number</TH>
```

SHORT SIGN

To Focus on the URL
bar: Ctrl + L

```

<TH>Name</TH>
<TH>Grade</TH>
<TH>Gender</TH>
</TR>
<TR>
<TD>1</TD>
<TD>Aryan</TD>
<TD>A</TD>
<TD>Male</TD>
</TR>
<TR>
<TD>2</TD>
<TD>Ananya</TD>
<TD>B</TD>
<TD>Female</TD>
</TR>
<TR>
<TD>3</TD>
<TD>Arjun</TD>
<TD>A</TD>
<TD>Male</TD>
</TR>
</TABLE>
</BODY>
</HTML>

```

HINTS & HACKS

In earlier versions of HTML, you can change the style of unordered list by using the TYPE attribute.

Student Information			
Roll Number	Name	Grade	Gender
1	Aryan	A	Male
2	Ananya	B	Female
3	Arjun	A	Male

FACT File

Tables were first introduced in HTML 3.2 (1997).



CSS PROPERTIES USED WITH THE <TABLE> TAG

CSS provides several properties to style the appearance of a table. These include BORDER, BORDER-STYLE, BORDER-COLOR, BORDER-SPACING, BORDER-COLLAPSE, WIDTH, PADDING, BACKGROUND-COLOR and COLOR. Since these are global CSS properties, they can be applied not only to tables but also to other HTML elements.

The following table summarises the CSS properties that can be used to style the <TABLE> element:

Property Name	Value	Description
BORDER	BORDER-WIDTH, BORDER-STYLE, BORDER-COLOR	Shorthand property to set the border's width, style and colour in one declaration.
BORDER-WIDTH	Length in pixels (px)	Specifies the width of the table border.
BORDER-STYLE	DOTTED, DASHED, SOLID, DOUBLE, GROOVE, RIDGE, INSET, OUTSET, NONE and HIDDEN	Used to apply the outline style of the border of the table or any other element.
BORDER-COLOR	Colour Name, Hexadecimal value or RGB value	Allows you to apply a colour to the border.

Syntax: BORDER: BORDER-WIDTH BORDER-STYLE BORDER-COLOR;

When the same CSS style is needed for different elements, selectors can be grouped. By separating selector names with commas, a single CSS rule can style multiple elements at once.

Syntax for defining a common style for more than one HTML tag:

```
Tag1_name, Tag2_name, Tag3_name, ...
```

```
{
Property1_name: value;
.....
PropertyN_name: value;
}
```

For example:

```
TABLE, TH, TD {
BORDER: 2PX SOLID #3498db;
}
```

The above code groups TABLE, TH and TD to apply the same CSS styling to all three elements.

Code
11

Write the HTML code to present the given web page using CSS properties to style an HTML table.

```
<!DOCTYPE HTML>
<HTML>
<HEAD>
```

```

<TITLE>States of Matter</TITLE>
<STYLE>
TABLE, TH, TD {
BORDER: 2PX SOLID #3498db;
}
</STYLE>
</HEAD>
<BODY>
<TABLE>
<CAPTION>States of Matter</CAPTION>
<TR>
<TH>State</TH>
<TH>Movement of Particles</TH>
<TH>Shape</TH>
<TH>Volume</TH>
</TR>
<TR>
<TD>Solid</TD>
<TD>Vibrate in place</TD>
<TD>Fixed</TD>
<TD>Fixed</TD>
</TR>
<TR>
<TD>Liquid</TD>
<TD>Flow around each other</TD>
<TD>Variable</TD>
<TD>Fixed</TD>
</TR>
<TR>
<TD>Gas</TD>
<TD>Moves quickly in all directions</TD>
<TD>Variable</TD>

```

State	Movement of Particles	Shape	Volume
Solid	Vibrate in place	Fixed	Fixed
Liquid	Flow around each other	Variable	Fixed
Gas	Moves quickly in all directions	Variable	Variable

```

<TD>Variable</TD>
</TR>
</TABLE>
</BODY>
</HTML>

```

USING THE BACKGROUND-COLOR AND COLOR PROPERTY

By default, the background colour of an HTML element is transparent. This means it has no background colour, but you can set a colour using the BACKGROUND-COLOR property. You can use the COLOR property to set the text colour.

USING THE BORDER-COLLAPSE AND BORDER-SPACING PROPERTY

Generally, table cells share a common border, but you can set the cells to have separate borders. When cells are separated by borders using BORDER-COLLAPSE, the distance between adjacent cells is determined by BORDER-SPACING. The BORDER-COLLAPSE property has a predefined value of collapse, but you can set it to separate.

The following table summarises the CSS properties COLOR, BACKGROUND-COLOR, BORDER-COLLAPSE and BORDER-SPACING that can be used to style the <TABLE> element:

Property Name	Value	Description
COLOR	Colour Name, Hexadecimal value or RGB value	This property specifies the text colour.
BACKGROUND-COLOR	Colour Name, Hexadecimal value or RGB value	This property specifies the colour for the background in a table on the web page. You can apply colour to a cell, row or the entire table.
BORDER-COLLAPSE	collapse, separate	It defines whether table borders should be collapsed into one or separated.
BORDER-SPACING	Length in pixels (px)	This property specifies the space between the borders of adjacent cells.

Code
12

Write the HTML code to present the given web page using the BORDER-COLLAPSE and BORDER-SPACING properties to control the borders and spacing.

```

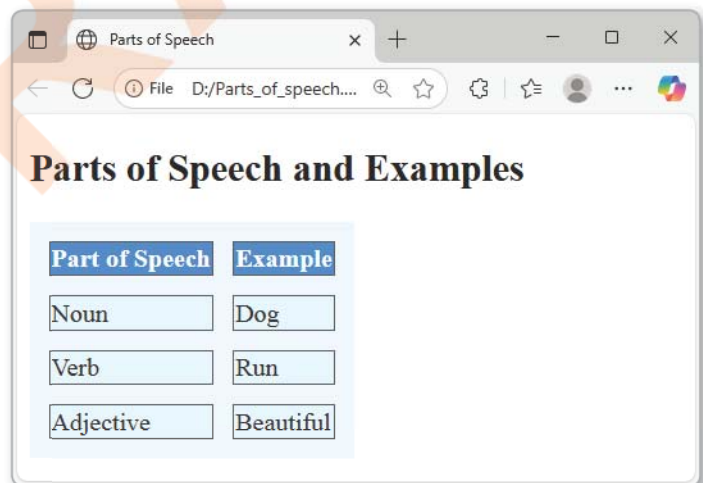
<!DOCTYPE HTML>
<HTML>
<HEAD>
<TITLE>Parts of Speech</TITLE>
<STYLE>

```

```

TABLE {
BORDER-COLLAPSE: SEPARATE;
BORDER-SPACING: 12PX;
COLOR: #222;
BACKGROUND-COLOR: #f0f8ff;
}
TH, TD {
BORDER: 1PX SOLID #555;
BACKGROUND-COLOR: #e6f7ff;
}
TH {
BACKGROUND-COLOR: #1e90ff;
COLOR: WHITE;
}
</STYLE>
</HEAD>
<BODY>
<H2>Parts of Speech and Examples</H2>
<TABLE>
<TR>
<TH>Part of Speech</TH>
<TH>Example</TH>
</TR>
<TR>
<TD>Noun</TD>
<TD>Dog</TD>
</TR>
<TR>
<TD>Verb</TD>
<TD>Run</TD>
</TR>
<TR>
<TD>Adjective</TD>
<TD>Beautiful</TD>
</TR>
</TABLE>

```



```
</BODY>
```

```
</HTML>
```

In the preceding code, the BACKGROUND-COLOR and COLOR properties are used to set the background colour and text colour.



Design a table in HTML that includes a header row and apply CSS to style the header.

+ | Study



USING THE PADDING PROPERTY

Padding is the space inside an element's border. The PADDING property sets space on all four sides in one declaration, using units like pixels or percentages. By default, padding is set to 0.

Syntax: PADDING: PADDING-TOP PADDING-RIGHT PADDING-BOTTOM PADDING-LEFT;

If less than four values are given in the PADDING property, then the rest are assumed on the basis of the given values.

For example:

```
PADDING: 20PX 20PX 20PX;
```

This sets the padding as follows: Top to 20px, Right and Left to 20px and Bottom to 20px.

```
PADDING: 20PX 20PX;
```

This sets the padding as follows: Top and Bottom to 20px and Right and Left to 20px.

```
PADDING: 20PX;
```

This sets the padding to 20px on all four sides – Top, Right, Bottom and Left.

USING THE CAPTION-SIDE PROPERTY

The CAPTION-SIDE property states the position of the table caption. It can be at the top or bottom.

Syntax: CAPTION-SIDE: VALUE;

For example:

```
CAPTION-SIDE: BOTTOM;
```

The preceding code will position the caption of the table below the table.

USING THE WIDTH PROPERTY

The CSS WIDTH property specifies the width of the element's content area.

Syntax: WIDTH: value;

For example:

WIDTH: 70%;

The preceding code sets the width of the element to 70% of its parent element.

RAPID RECALL

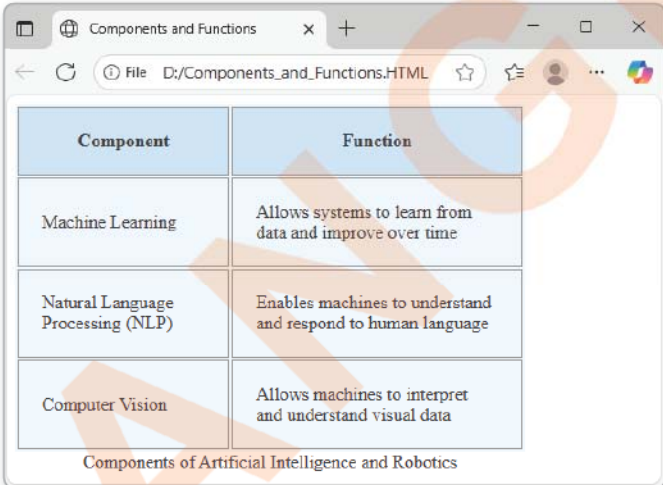
Tick (✓) if you know this.

1. The padding property sets space on all four sides in one declaration, using units like pixels or percentages.
2. The background-color property is used to specify the colour for the background in a table on the web page.

Code
13

Write the HTML code to present the given web page using CSS properties to style the <TABLE> tag.

```
<!DOCTYPE HTML>
<HTML>
<HEAD>
<TITLE>Components and Functions
</TITLE>
<STYLE>
TH, TD {
BORDER: 1PX solid #999;
PADDING: 20PX 20PX;
}
</STYLE>
</HEAD>
<BODY>
<TABLE STYLE="WIDTH: 80%; BACKGROUND-COLOR: #F0F8FF; COLOR: #333;">
<CAPTION STYLE="CAPTION-SIDE: BOTTOM;">Components of Artificial
Intelligence and Robotics</CAPTION>
<TR>
<TH STYLE="BACKGROUND-COLOR: #CCE5FF;">Component</TH>
<TH STYLE="BACKGROUND-COLOR: #CCE5FF;">Function</TH>
</TR>
<TR>
<TD>Machine Learning</TD>
<TD>Allows systems to learn from data and improve over time</TD>
```



The screenshot shows a web browser window titled "Components and Functions" displaying a table with the following content:

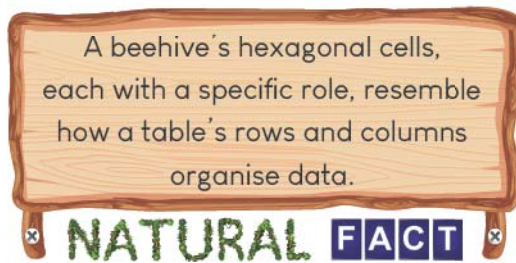
Component	Function
Machine Learning	Allows systems to learn from data and improve over time
Natural Language Processing (NLP)	Enables machines to understand and respond to human language
Computer Vision	Allows machines to interpret and understand visual data

Below the table, the caption reads: "Components of Artificial Intelligence and Robotics".

```

</TR>
<TR>
<TD>Natural Language Processing (NLP)</TD>
<TD>Enables machines to understand and respond to human language
</TD>
</TR>
<TR>
<TD>Computer Vision</TD>
<TD>Allows machines to interpret and understand visual data</TD>
</TR>
</TABLE>
</BODY>
</HTML>

```



HINTS & HACKS

CELLPADDING and CELLSPACING attributes are deprecated. You should avoid using them. Instead, use the PADDING and BORDER-SPACING CSS properties.

TECH TERMS

- **List marker:** The symbol (such as a bullet, number or image) that precedes each item in a list.

- **Padding:** The space between the content of a table cell and its border.

- **Border spacing:** The space between adjacent table cells.

- **Caption:** A short description or title, usually placed at the top or bottom of the element.

REWIND RUN

- A list is a collection of related items shown in bulleted or numbered form.
- An ordered list in HTML uses the tag with items, displaying them in numbers or letters.
- An unordered list is also known as a bulleted list created with the tag and closed with .
- A description list is a list of terms, with a description of each term.
- The <TABLE> tag is used to create a table for displaying data in rows and columns.
- CSS provides several properties to style the appearance of a table such as BORDER, PADDING, COLOR, BACKGROUND-COLOR, etc.