Basics of Web and HTML

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Welcome to possible

Pre-requisite

- What is network?

- What is world wide web?

- Need for world wide web.

- How does the web work?

- Web components

- How does browser fetches web pages fro server?

Objective

- What is HTML?

- Basic Tags in HTML

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HTML

- HTML is a language for describing web pages.

- HTML stands for **H**yper **T**ext **M**arkup **L**anguage

- 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 **forward slash** before the tag name

- Start and end tags are also called **opening tags** and **closing tags**

```
<tagname> content</tagname>
<p>This is a paragraph.</p>
```

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HTML Document Structure

- Every HTML consists of two segments – head and body

```
<html>
<head>
<title> HTML </title>
<head>
<body>
<center><h1> Introduction to HTML </h1></center>
<hr/>
</body>
</html>
```
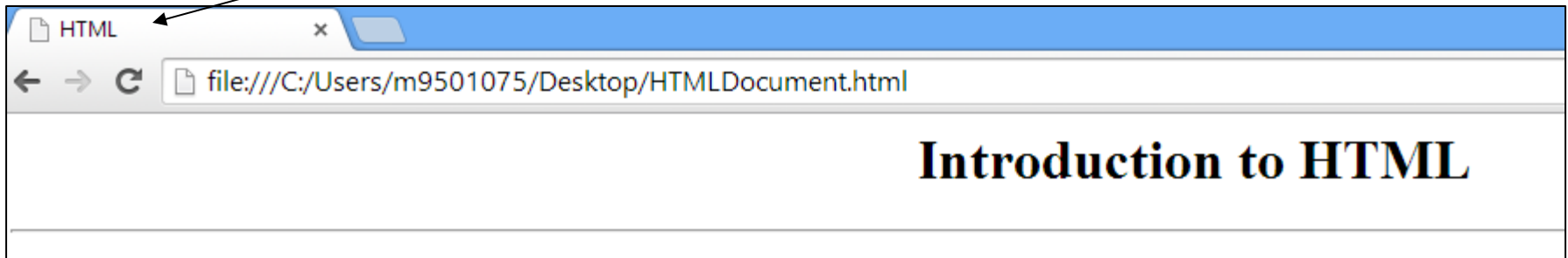
- Head: The <head> element is a container for all the head elements. Elements inside <head> can include scripts, instruct the browser where to find style sheets, provide meta information, and more.

- Body: HTML body element acts as a container for all the renderable content of the document

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HTML <title> Element

- The <title> element is required in all HTML/XHTML documents.

- The <title> element:

  - defines a title in the browser toolbar

  - provides a title for the page when it is added to favorites

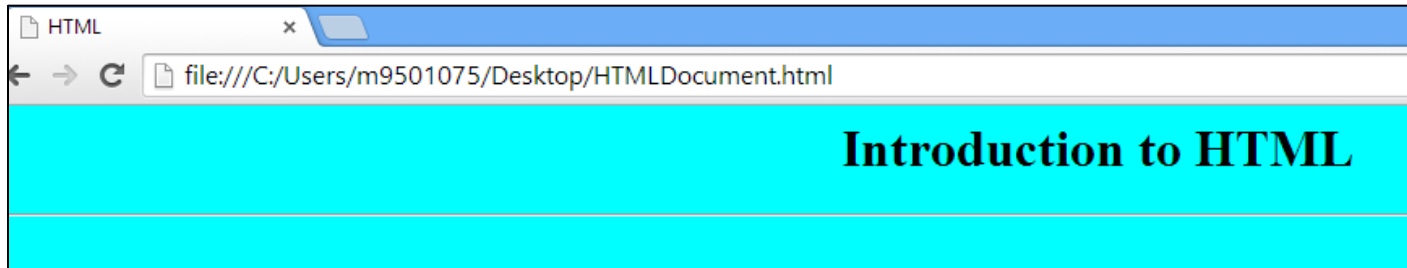 - displays a title for the page in search-engine results


```
<title> HTML </title>
```

HTML   ×

← → C   file:///C:/Users/m9501075/Desktop/HTMLDocument.html

Introduction to HTML

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HTML Attributes

- HTML elements can have **attributes**

- Attributes provide **additional information** about an element

- Attributes are always specified in **the start tag**

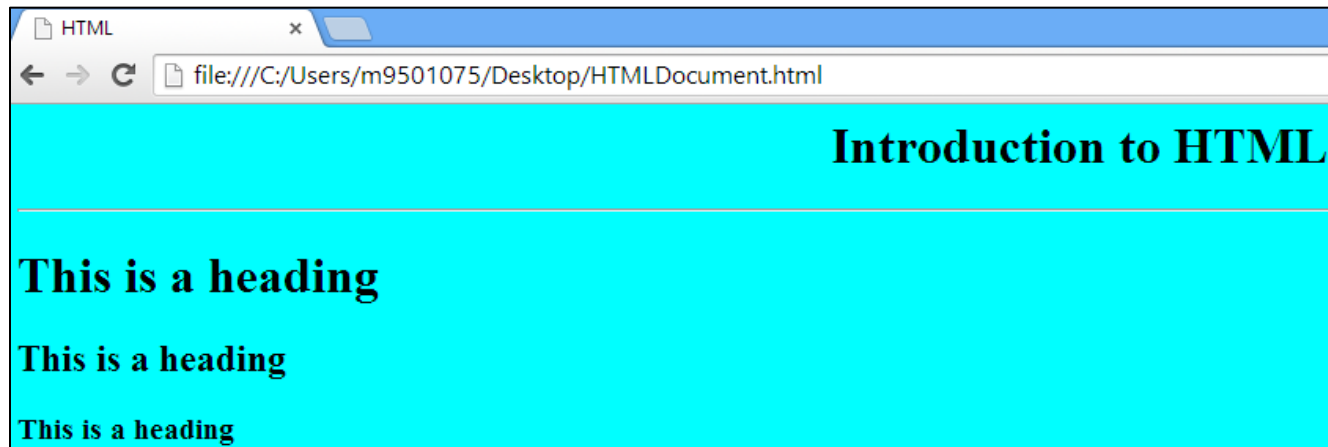- Attributes come in name/value pairs like: **name="value"**

```
<body bgcolor="Aqua">
<h1 align="center"> Introduction to HTML </h1>
<hr/>
</body>
```

HTML   ×

← → C   file:///C:/Users/m9501075/Desktop/HTMLDocument.html

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HTML Headings

- Headings are defined with the <h1> to <h6> tags.

- <h1> defines the most important heading. <h6> defines the least important heading.
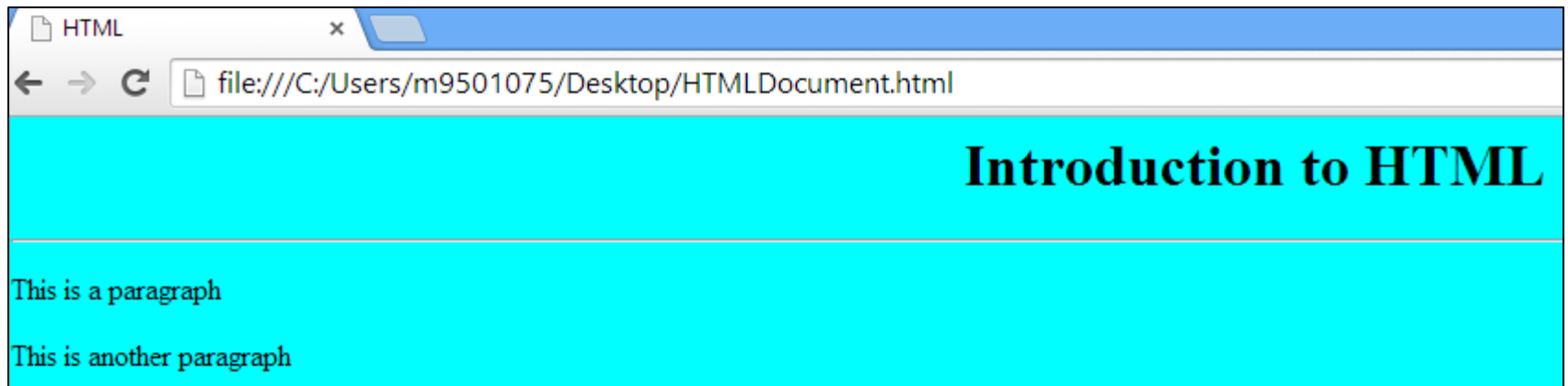
```
<h1>This is a heading</h1>
<h2>This is a heading</h2>
<h3>This is a heading</h3>
```

HTML Paragraphs

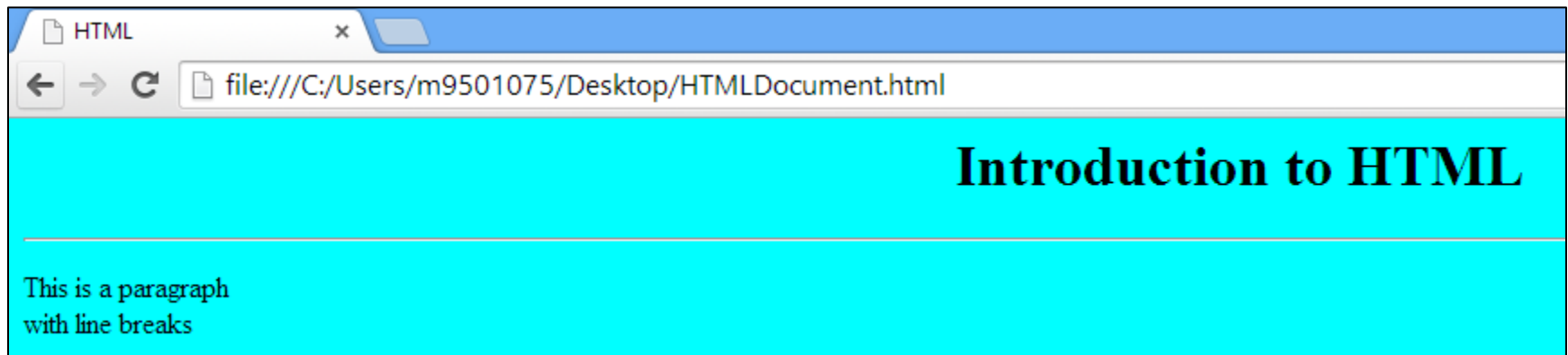- Paragraphs are defined with the <p> tag.

```
<p>This is a paragraph</p>
<p>This is another paragraph</p>
```


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HTML Line Break

- Use the <br> tag if you want a line break (a new line) without starting a new paragraph:
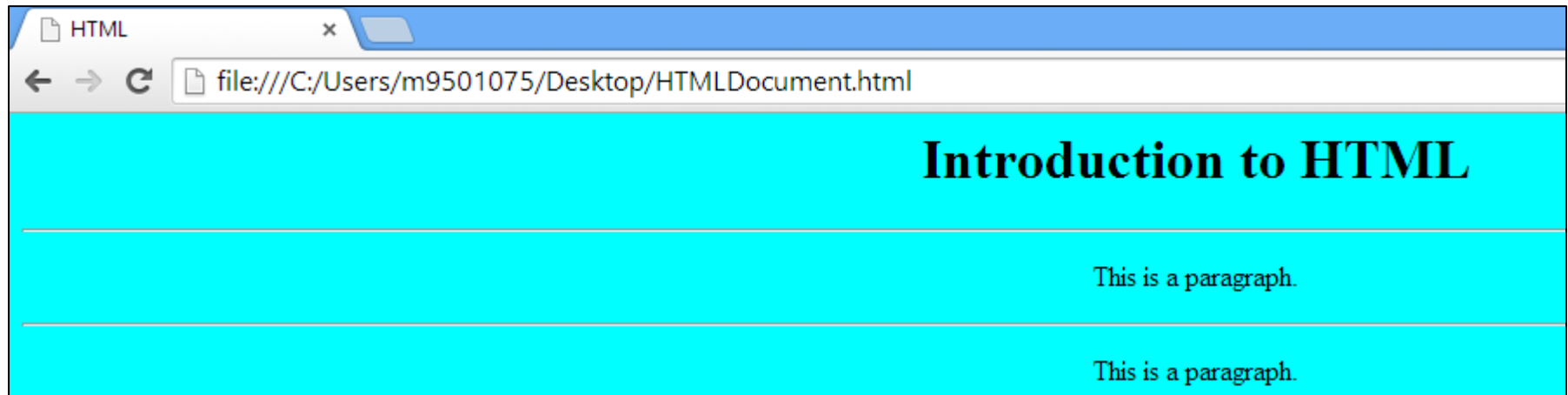
```
<p>This is<br>a para<br>graph with line breaks</p>
```

HTML Horizontal Line

- The <hr> tag creates a horizontal line in an HTML page.

- The hr element can be used to separate content

```
<h1 align="center"> Introduction to HTML </h1>
<hr/>
<p align="center">This is a paragraph.</p>
<hr>
<p align="center">This is a paragraph.</p>
```
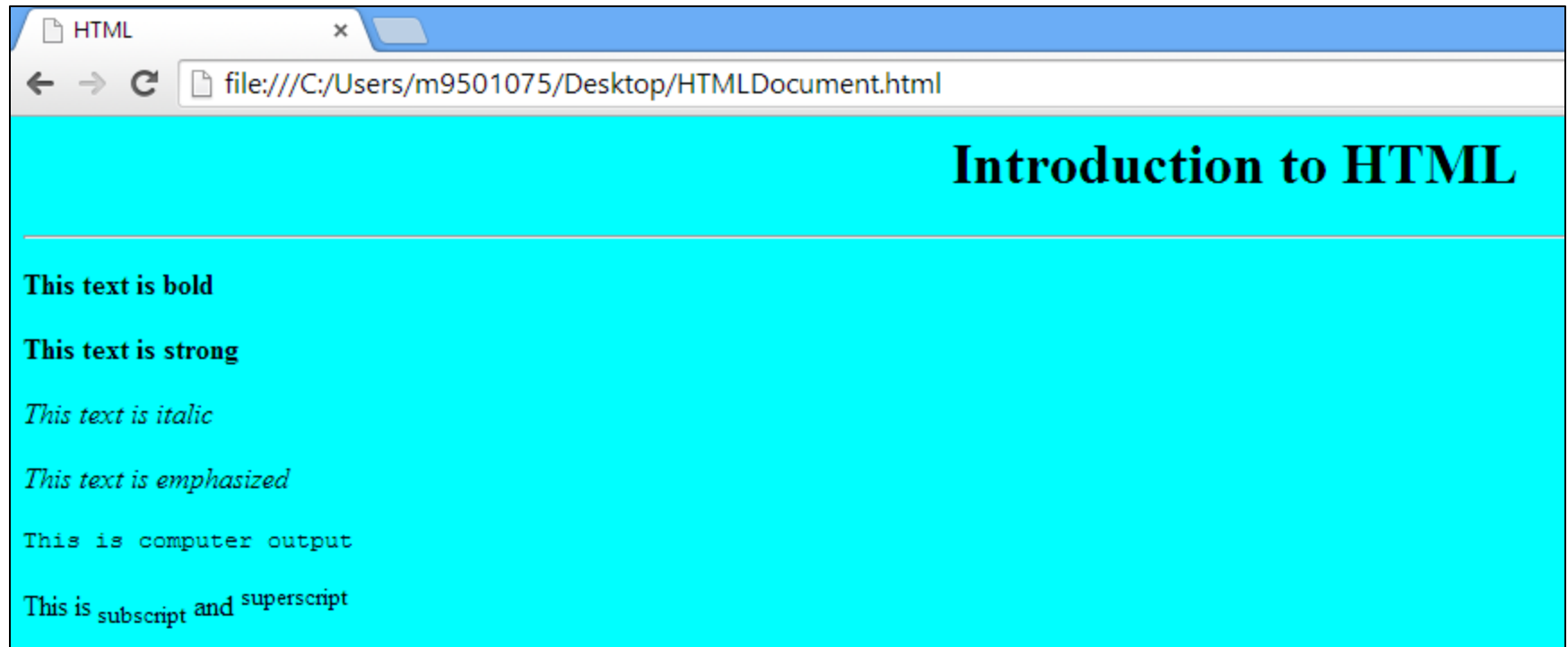

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HTML Text Formatting

- HTML uses tags like <b> and <i> for formatting output, like **bold** or *italic* text. These HTML tags are called formatting tags

- <b>: Defines bold text only

- <i>: Defines italic text only

- <em>: Defines emphasized text

- <strong>: Defines important text

- <sub>: Defines subscripted text

- <sup>: Defines superscripted text

- <strong> or <em> means that you want the text to be rendered in a way that the user understands as "important".

- <b> or <i> defines bold or italic text only

- Often <strong> renders as <b>, and <em> renders as <i>.

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HTML Text Formatting - Example

```
<p><b>This text is bold</b></p>
<p><strong>This text is strong</strong></p>
<p><i>This text is italic</i></p>
<p><em>This text is emphasized</em></p>
<p><code>This is computer output</code></p>
<p>This is<sub> subscript</sub> and <sup>superscript</sup></p>
```

HTML ×

file:///C:/Users/m9501075/Desktop/HTMLDocument.html

Introduction to HTML

This text is bold

This text is strong

This text is italic

This text is emphasized

This is computer output

This is $_{subscript}$ and ^{superscript}

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HTML Comment Tags

- You can add comments to your HTML source by using the following syntax

```
<!-- This is a comment -->

<p>This is a paragraph.</p>
```
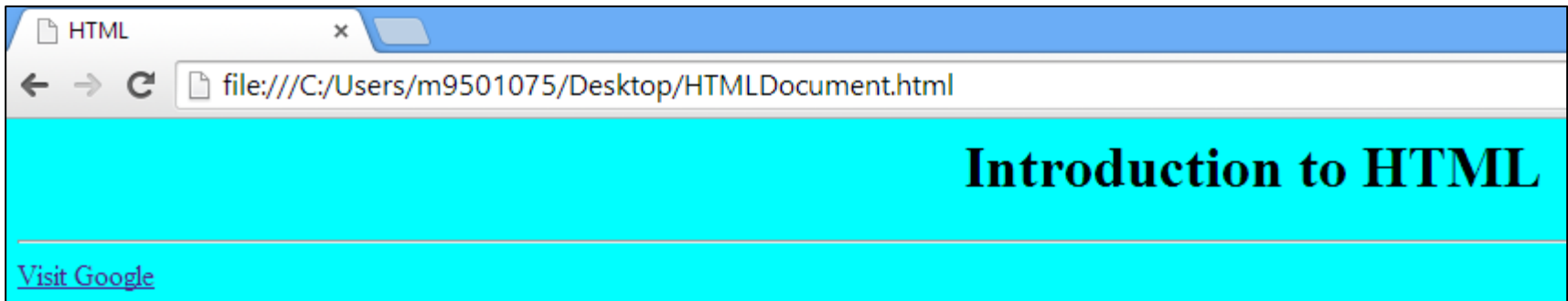
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HTML Links

- The HTML <**a**> tag defines a hyperlink.

- A hyperlink (or link) is a word, group of words, or image that you can click on to jump to another document.

- When you move the cursor over a link in a Web page, the arrow will turn into a little hand.

- The most important attribute of the <**a**> element is the **href** attribute, which indicates the link's destination.

- By default, links will appear as follows in all browsers:

  - An unvisited link is underlined and blue

  - A visited link is underlined and purple

  - An active link is underlined and red

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HTML Links: Example

- Syntax: link text

- Example:

```
<a href="https://www.google.com"> Visit Google </a>
```


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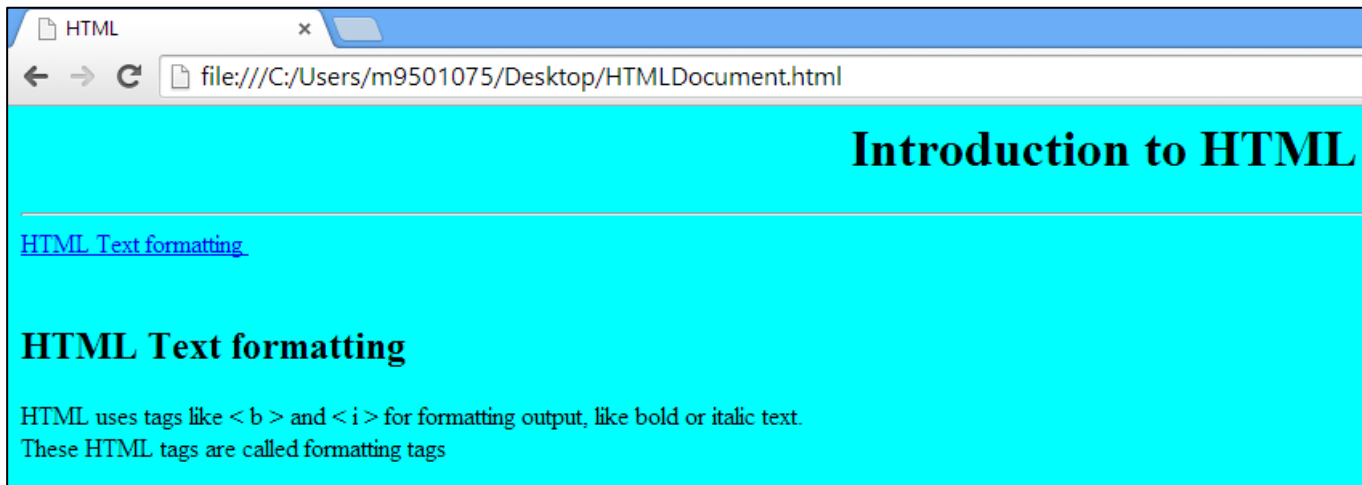# HTML Links - The id Attribute

- The id attribute can be used to create a bookmark inside an HTML document.

```html
<a href="#formatting"> HTML Text formatting </a>
<br/>
<br/>

<h2>
<a id="formatting"> HTML Text formatting </a></h2>
<p>     HTML uses tags like &lt; b &gt; and &lt; i &gt; for formatting output, like bold or italic text.
        <br/>
        These HTML tags are called formatting tags
</p>
</h2>
```
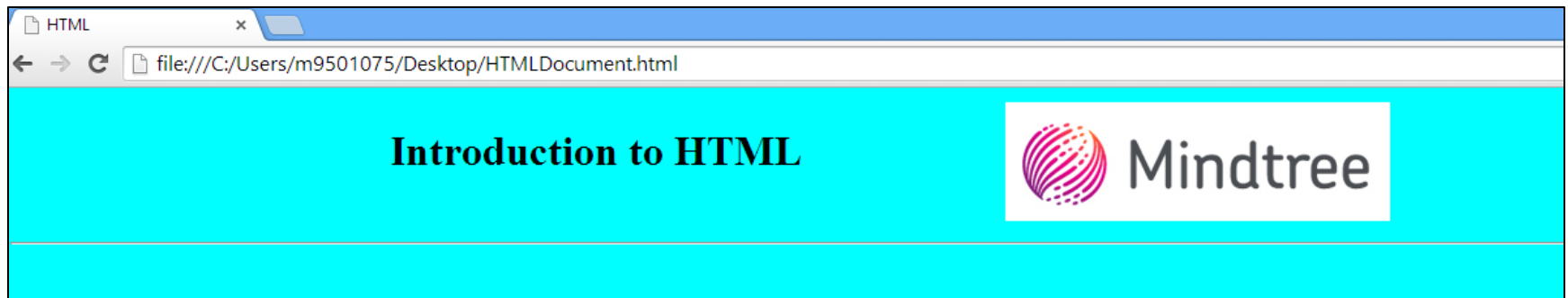
HTML Images

- **The <img> Tag and the Src Attribute**

  - In HTML, images are defined with the <img> tag.

  - The <img> tag is empty, which means that it contains attributes only, and has no closing tag.

  - To display an image on a page, you need to use the src attribute. Src stands for "source". The value of the src attribute is the URL of the image you want to display

  - Syntax:

- The required alt attribute specifies an alternate text for an image, if the image cannot be displayed.

- The value of the alt attribute is an author-defined text

  - Example:

HTML Images: Example

```
<table align="center">
<tr>
<td><h1 align="center"> Introduction to HTML </h1></td>
<td>          
            
            
<img src="C:\Users\m9501075\Pictures\mindtree.png" alt="mindtree ltd."/></td>
</tr>
</table>
<hr/>
```
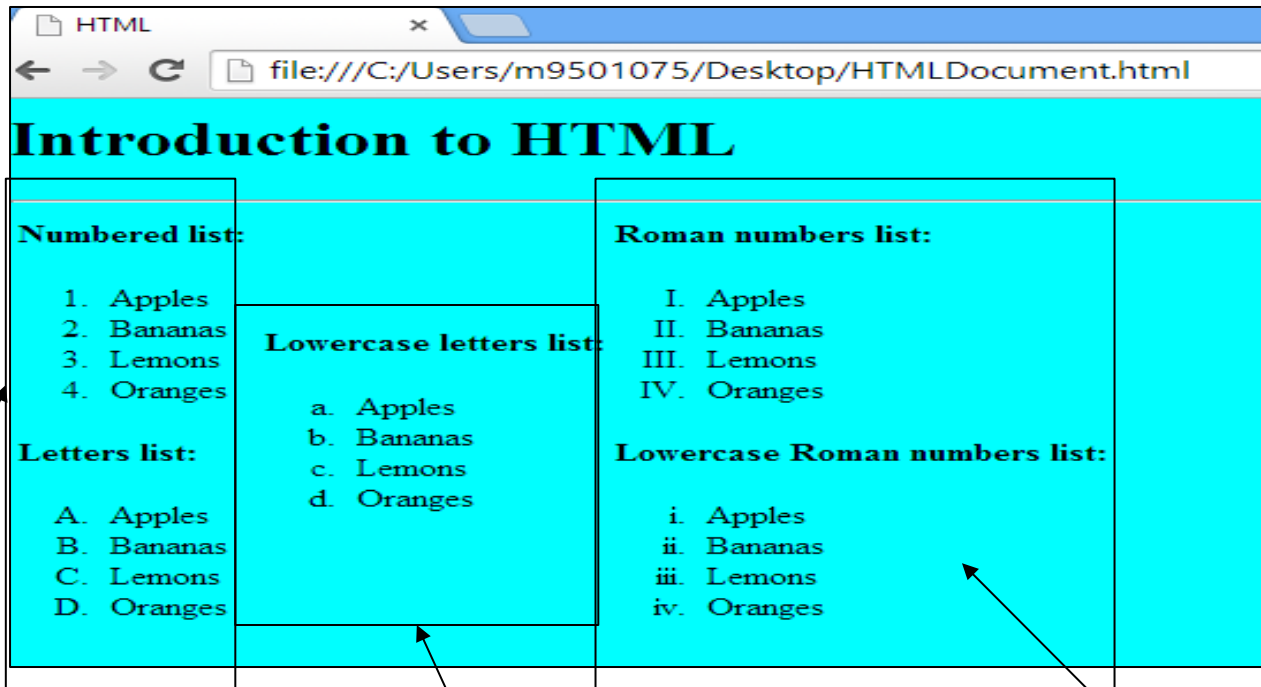
HTML ×

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HTML Lists

- There are two types of lost used in HTML:

  - Ordered list

  - Unordered list

- Unordered List:

  - An unordered list starts with the <ul> tag. Each list item starts with the <li> tag.

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

- Ordered List:

  - An ordered list starts with the <ol> tag. Each list item starts with the <li> tag.

  - The list items are marked with numbers.

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HTML Ordered list: Example


```
<h4>Numbered list:</h4>
<ol>
        <li>Apples</li>
        <li>Bananas</li>
        <li>Lemons</li>
        <li>Oranges</li>
</ol>

<h4>Letters list:</h4>
<ol type="A">
        <li>Apples</li>
        <li>Bananas</li>
        <li>Lemons</li>
        <li>Oranges</li>
</ol>
```

```
<h4>Lowercase letters list:</h4>
<ol type="a">
        <li>Apples</li>
        <li>Bananas</li>
        <li>Lemons</li>
        <li>Oranges</li>
</ol>
```
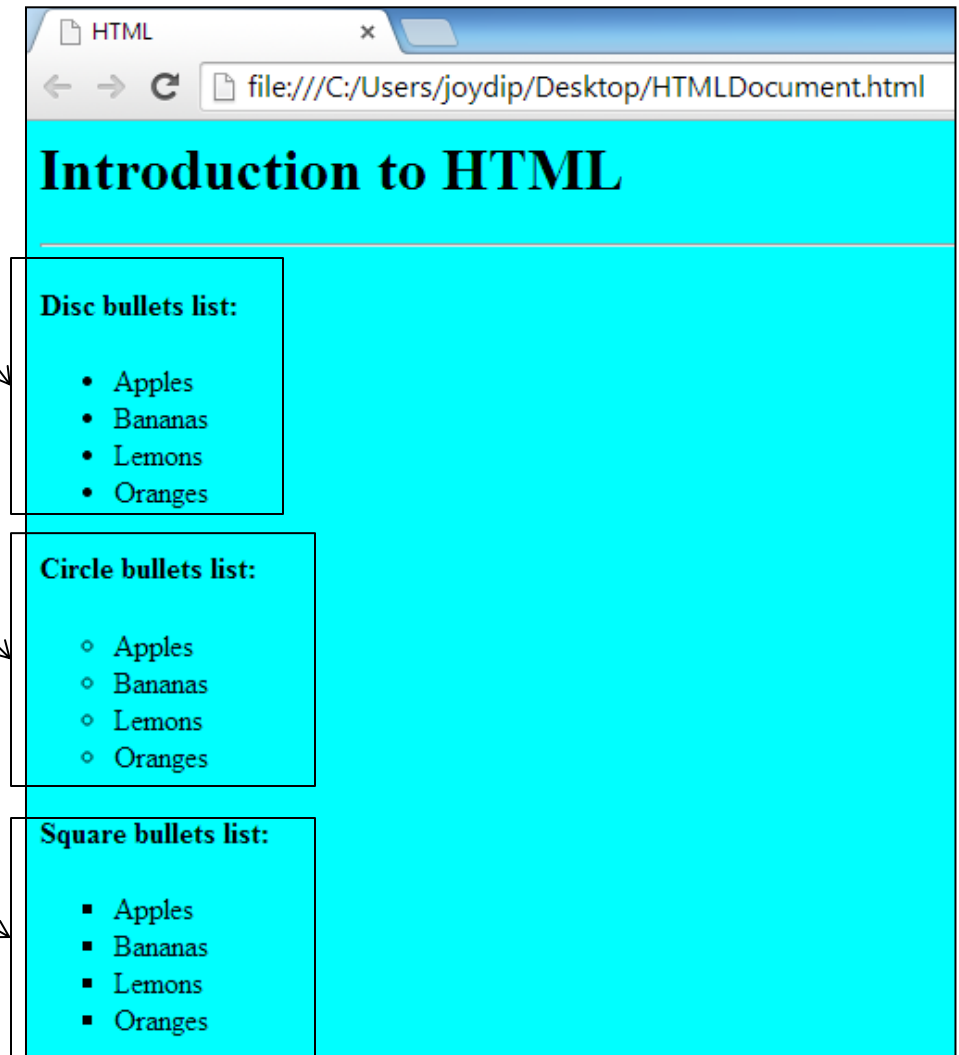
```
<h4>Roman numbers list:</h4>
<ol type="I">
        <li>Apples</li>
        <li>Bananas</li>
        <li>Lemons</li>
        <li>Oranges</li>
</ol>

<h4>Lowercase Roman numbers list:</h4>
<ol type="i">
        <li>Apples</li>
        <li>Bananas</li>
        <li>Lemons</li>
        <li>Oranges</li>
</ol>
```

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HTML Unordered List: Example

```
<h4>Disc bullets list:</h4>
<ul style="list-style-type:disc">
        <li>Apples</li>
        <li>Bananas</li>
         <li>Lemons</li>
        <li>Oranges</li>
</ul>
```

```
<h4>Circle bullets list:</h4>
<ul style="list-style-type:circle">
        <li>Apples</li>
        <li>Bananas</li>
        <li>Lemons</li>
        <li>Oranges</li>
</ul>
```

```
<h4>Square bullets list:</h4>
<ul style="list-style-type:square">
        <li>Apples</li>
        <li>Bananas</li>
        <li>Lemons</li>
        <li>Oranges</li>
</ul>
```


Browser window showing:

HTML — file:///C:/Users/joydip/Desktop/HTMLDocument.html

Introduction to HTML

Disc bullets list:

- Apples
- Bananas
- Lemons
- Oranges

Circle bullets list:

○ Apples
○ Bananas
○ Lemons
○ Oranges

Square bullets list:

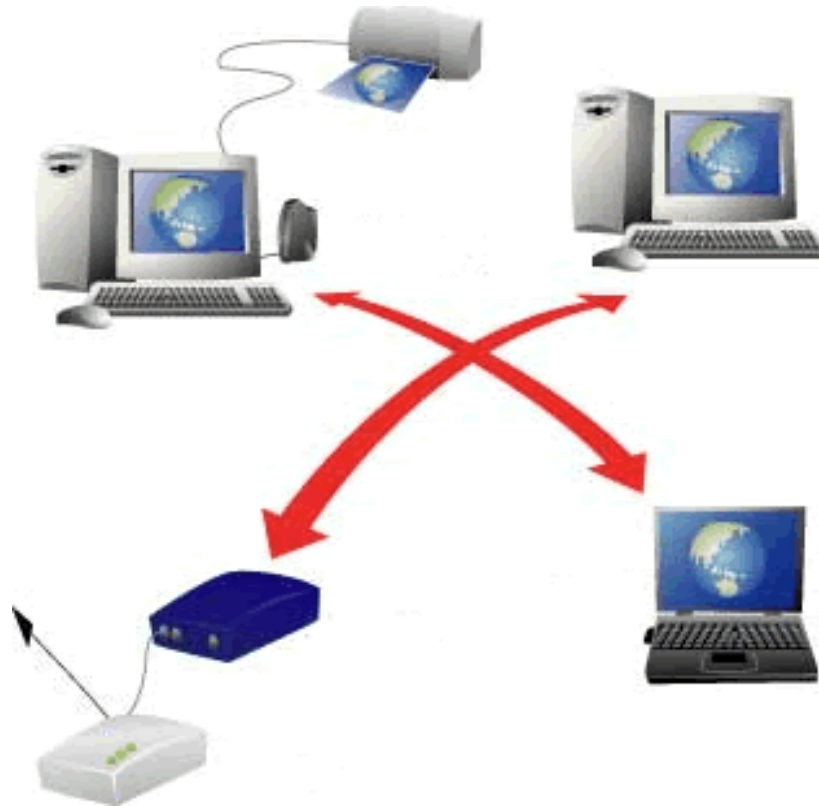▪ Apples
▪ Bananas
▪ Lemons
▪ Oranges

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SELF-STUDY: Basics of Internet, WWW and Web

Objectives

- What is network?

- What is world wide web?

- Need for world wide web.

- How does the web work?

- Web components
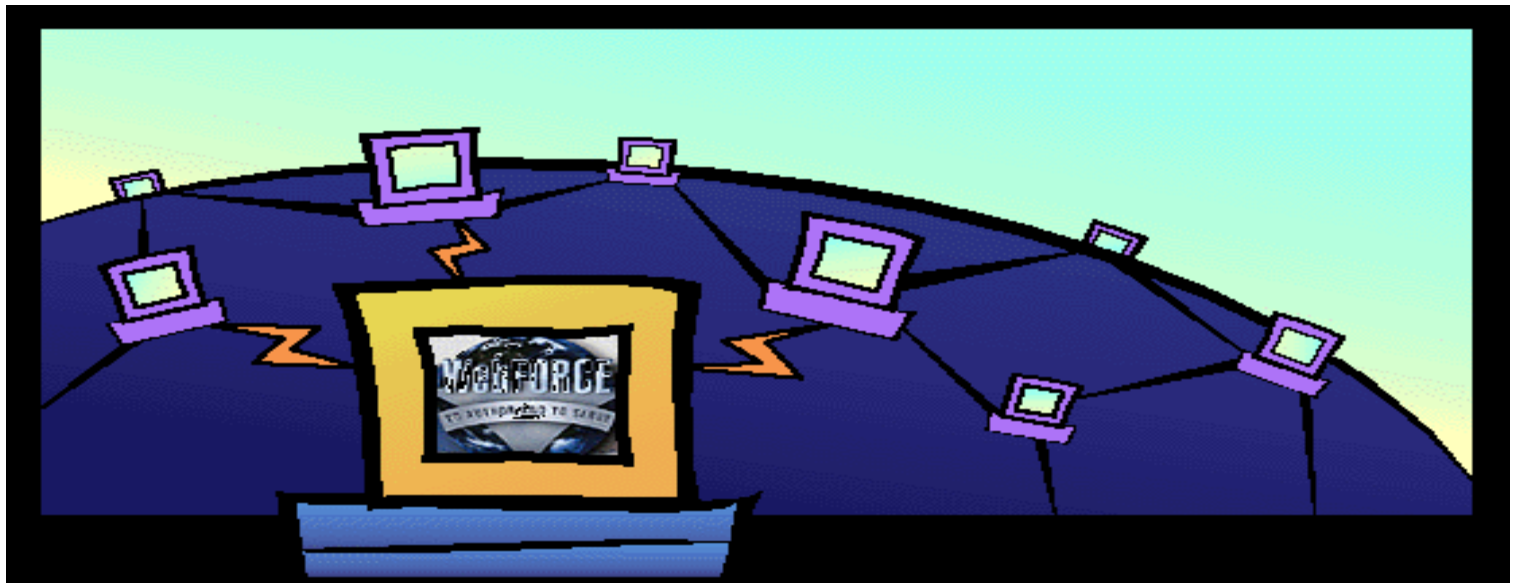
- How does browser fetches web pages fro server?

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Network

- What is a network?

  - It consists of two or more computers that are linked in order to share information or resources.

What is World Wide Web?

The World Wide Web (abbreviated as the Web or WWW) is a system of Internet servers that support hypertext to access several Internet protocols on a single interface.
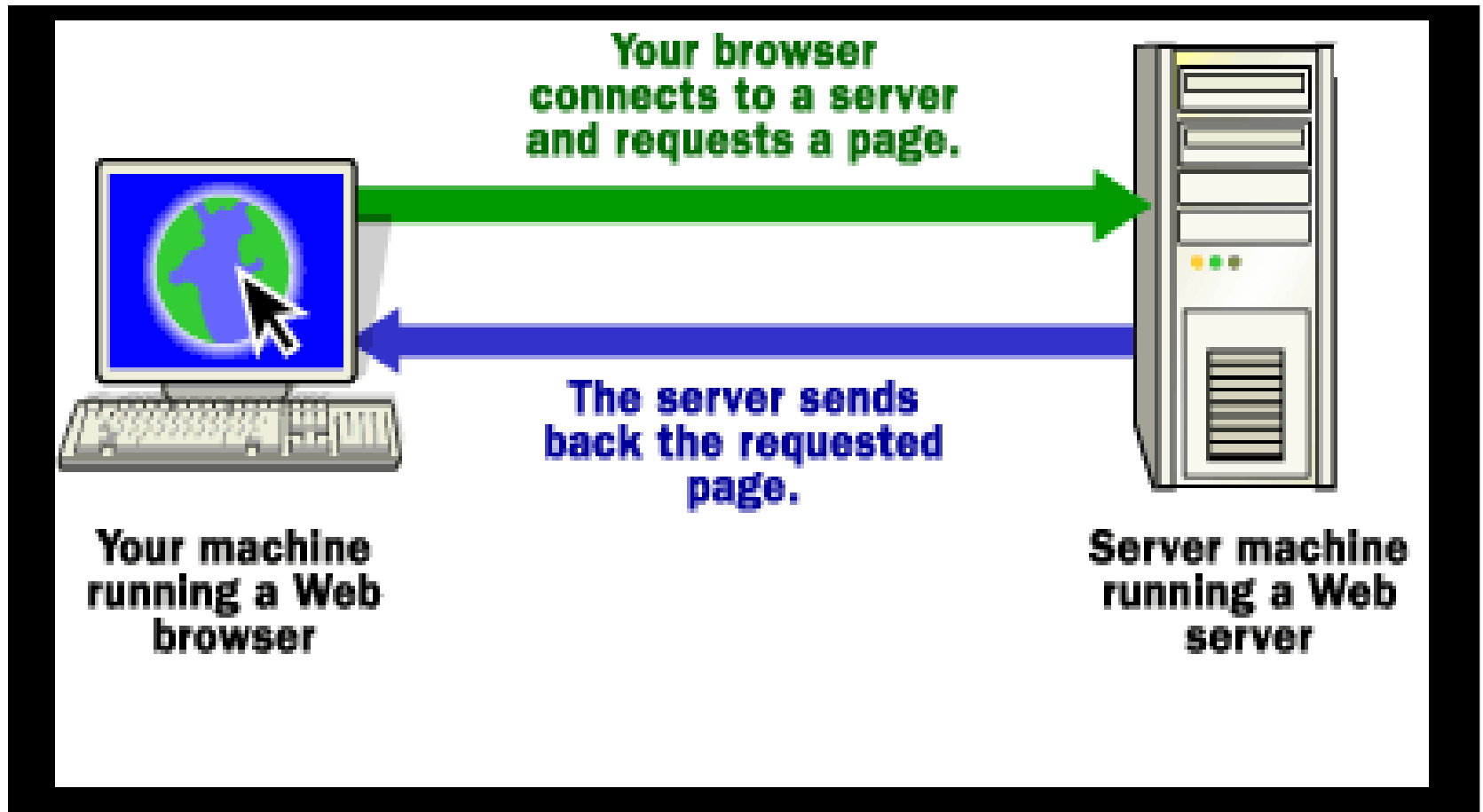

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Need for World Wide Web

- Computers in the Internet run on different Operating Systems and use different softwares to store information.

- In order to share information across the computers over the Internet, a standard format of the information needs to be used and common rules to access the information.

- This led to the development of Web.

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How does the Web work?

Web is based on Client Server Architecture.

Your browser connects to a server and requests a page.

The server sends back the requested page.

Your machine running a Web browser

Server machine running a Web server

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How does the Web Work ?

- Web is based on Client – Server Architecture.

- Clients are machines which request for services or information.

- Servers are machines which provide services or information on request from the clients.

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Client Server Interaction

- HTTP

  The client and the server exchange information using a protocol called HTTP, which is short for

  'Hyper Text Transfer Protocol'

- HTML

  The information sent by the server are HTML pages, which is short for 'Hyper Text Markup Language'
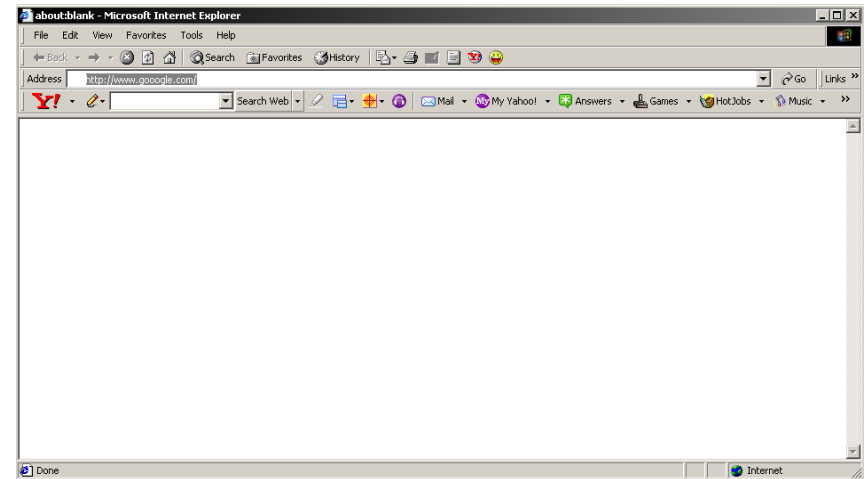
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Web Components

- Web information is stored in documents called "Web Pages".

- Web pages are text files stored on computers called "Servers".

- Web page requests are received in server by a software called "web server", who does the job of processing the request and generating proper response

- Computers reading the Web pages are called "Web Clients".

- Web clients view the pages with a program called a "Web Browser".

- Popular browsers are : Internet Explorer, Mozilla etc.

How does the browser fetch pages from server?

Step 1:

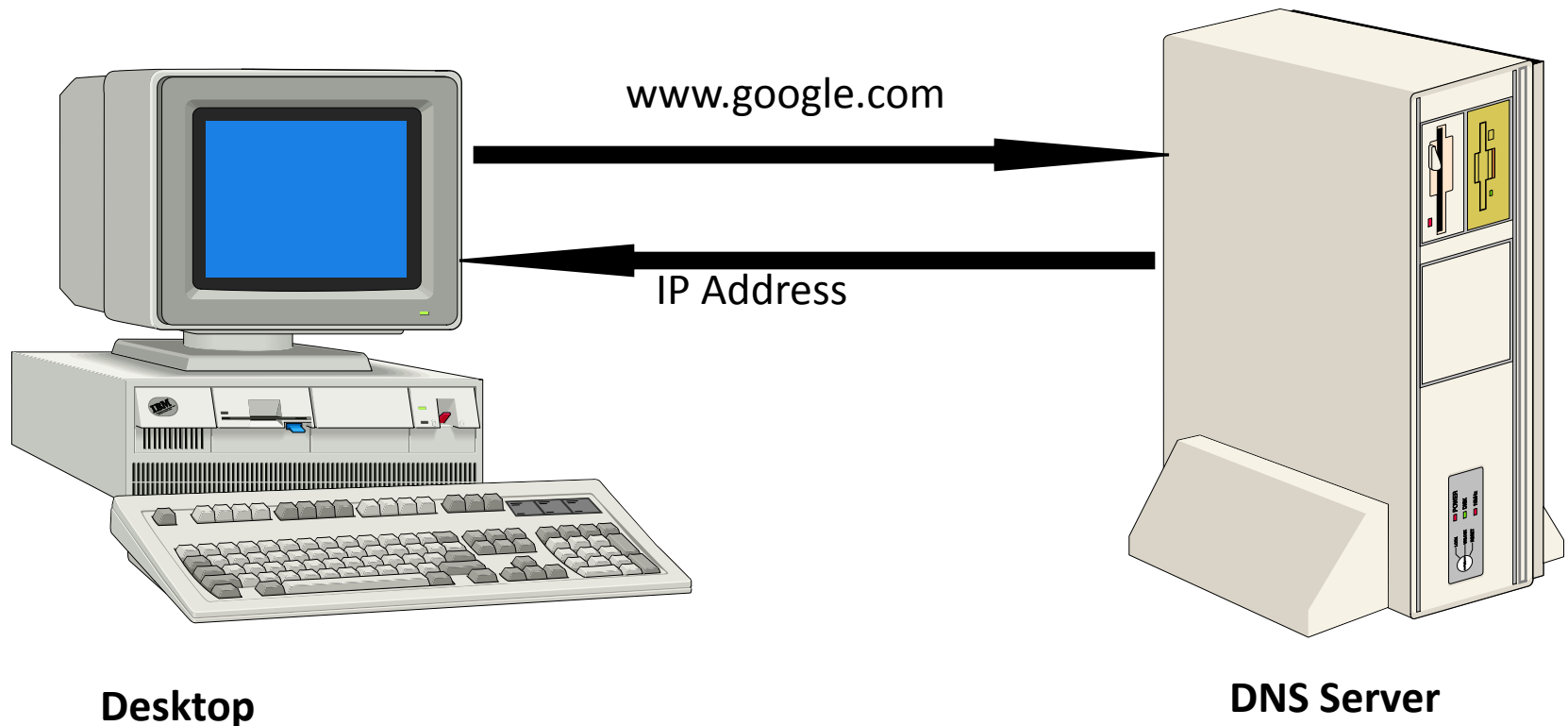The browser breaks the request in 3 steps.

1. The protocol("http")
2. The server name (www.google.com)
3. The file name

How does the browser fetch pages from server?

Step 2

The browser communicates with a Domain Name Server(DNS) to translate the server name, "www.google.com" into an IP address, which it uses to connect to that server machine.

www.google.com

IP Address
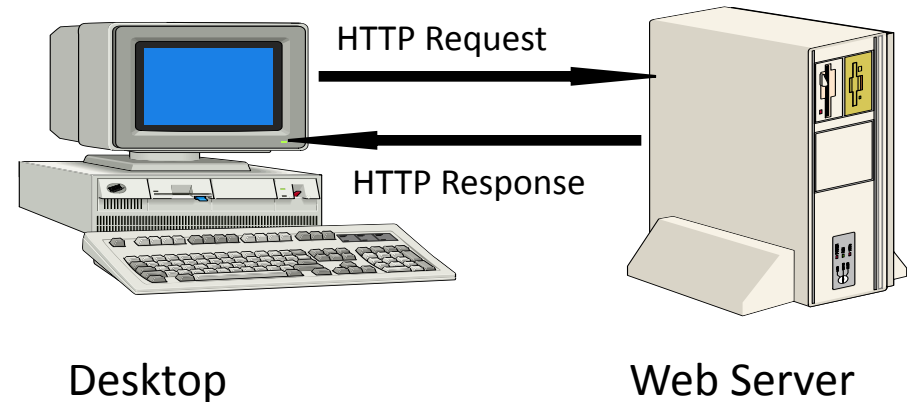
Desktop

DNS Server

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How does the browser fetch pages from server?

- **Step 3**

  The browser then forms a connection to the Web server at that IP address.

- **Step 4**

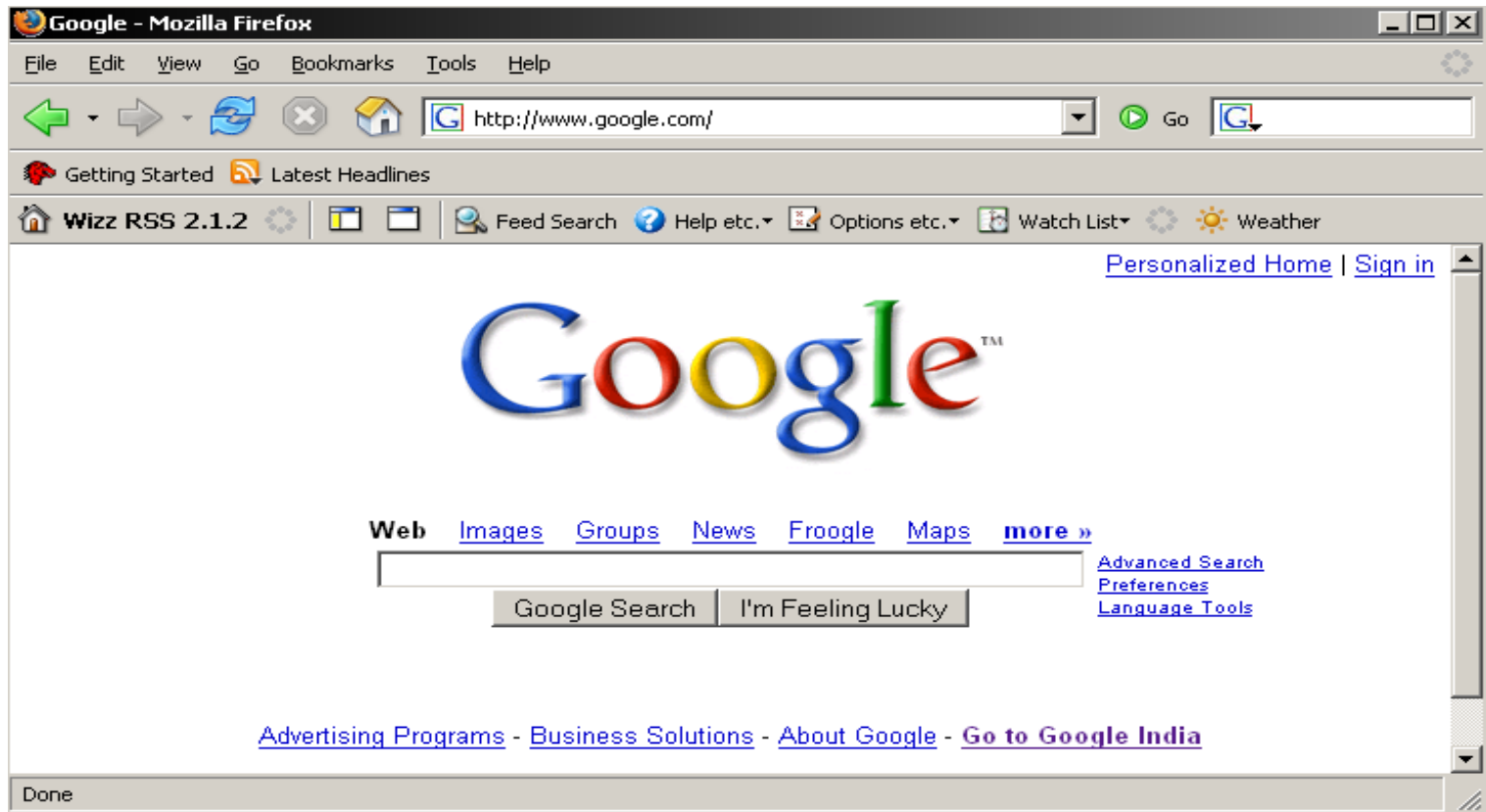 Following the HTTP protocol, the browser sends a GET request to the server for the file "http://www.google.com/"

HTTP Request

HTTP Response

Desktop   Web Server

- **Step 5**

  The Server sends the HTML text for the Web page to the browser.

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How does the browser fetch pages from server?

- **Step 6**

  The browser reads the HTML tags and formats the   page onto your screen.

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Who makes the Web standards?

- The Web standard are not made up by Netscape or Microsoft.

- The rule making body of the Web is the W3C.

- W3C stands for World Wide Web Consortium.

- W3C puts together specifications for the Web standards.

- The most essential Web standards are HTML,CSS and XML.

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Web Structure

- There is no right or wrong way to display the structure of the Web.

- But there is one fundamental difference between Internet and Web structures.

- Internet structure is controlled by wiring.

- Web structure is controlled by hyperlinks.

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References

- http://www.w3schools.com/html/DEFAULT.asp

- http://html.net/tutorials/html/

- http://www.codecademy.com/tracks/web

- http://htmldog.com/guides/html/intermediate/spandiv/

- http://stackoverflow.com/questions/183532/what-is-the-difference-between-html-tags-div-and-span

- http://www.tutorialspoint.com/html/html_tables.htm

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Thank You

Welcome to possible

www.mindtree.com/social