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HTML: Hyper-Text Markup Language

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How does Web work

1. A user enters a URL into a browser (for example, Google.com. This request is passed to a domain name server.
2. The domain name server returns an IP address for the server that hosts the Website (for example, 68.178.157.132).
3. The browser requests the page from the Web server using the IP address specified by the domain name server.
4. The Web server returns the page to the IP address specified by the browser requesting the page. The page may also contain links to other files on the same server, such as images, which the browser will also request.
5. The browser collects all the information and displays to your computer in the form of Web page.

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What is a website

What is a Website?

A website is a group of globally accessible, interlinked web pages which have a single domain name. It can be developed and maintained by an individual, business or organization. The website aims to serve a variety of purposes. Example: Blogs.

A website is hosted on a single or multiple web server. It is accessible via a network like the Internet or a private local area network via IP address.

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What is a web application

What is a Web Application?
A web application is a software or program which is accessible using any web browser. Its frontend is usually created using languages like HTML, CSS, Javascript, which are supported by major browsers. While the backend could use any programming stack like LAMP, MEAN, etc. Unlike mobile apps, there is no specific SDK for developing web applications.

Characteristics of website and web application

Characteristics Of Website

•Quality and relevant Web Content is which richly displayed.
•User-friendly navigation and web design
•Can be easily searched using search engines like Google.

Characteristics Of Web Application

•Cloud-hosted and highly scalable
•Mostly Cross-platform
•Modular and loosely coupled
•It is easily tested with automated tests.

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Web application Vs Website

Parameter	Web Application	Website
Created for	A web application is designed for interaction with the end user	A website mostly consists of static content. It is publicly accessible to all the visitors.
User interaction	In a web application, the user not only read the page content but also manipulate the restricted data.	A website provides visual & text content which user can view and read, but not affect it ‘s functioning.
Authentication	Web applications need authentication, as they offer a much broader scope of options than websites.	Authentication is not obligatory for informational websites. The user may ask to register to get a regular update or to access additional options. This features not available for the unregistered website visitors.
Task and Complexity	Web application functions are quite higher and complex compared to a website.	The website displays the collected data and information on a specific page.
Type of software	The web application development is part of the website. It is itself not a complete website.	The website is a complete product, which you access with the help of your browser.
Compilation	The site must be precompiled before deployment	The site doesn’t need to be pre-compiled
Deployment	All changes require the entire project to be re-compiled and deployed.	Small changes never require a full re-compilation and deployment. You just need to update the HTML code.

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What is HTML

HTML stands for **H**yper **T**ext **M**arkup **L**anguage
HTML is the **standard markup** language for Web pages
HTML **elements** are the building blocks of HTML pages
HTML elements are represented by **<> tags**

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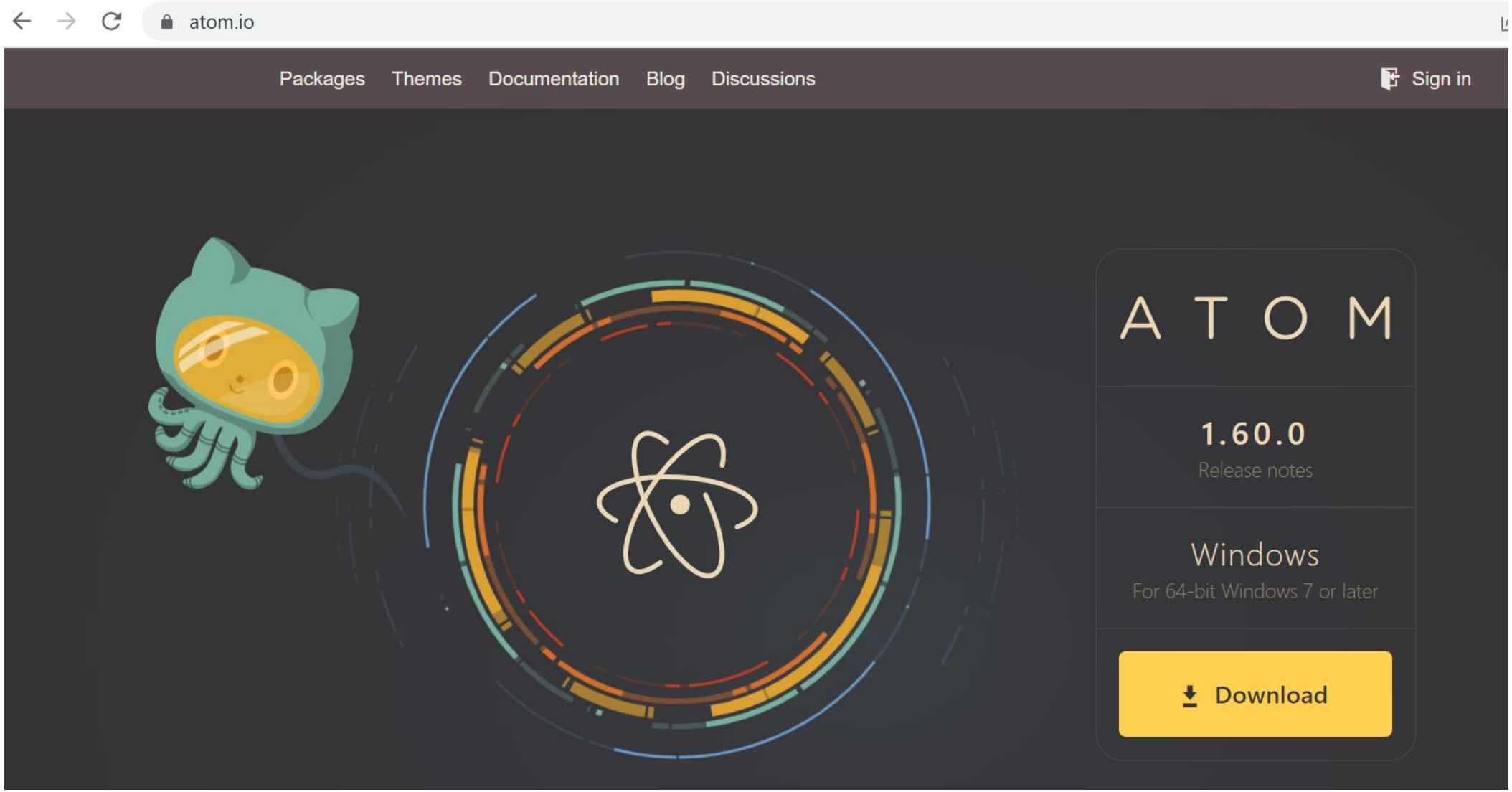
Installing Atom text editor



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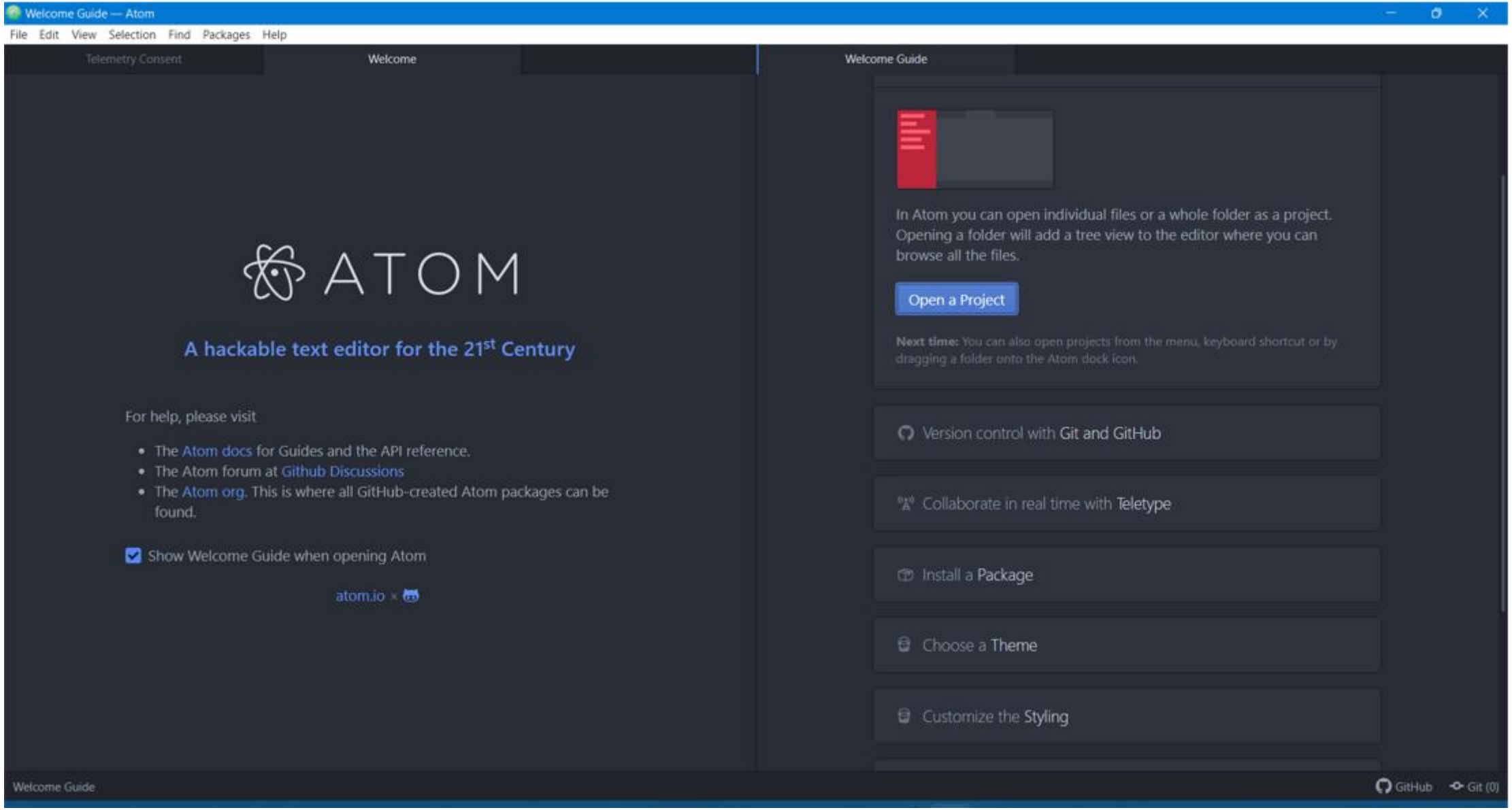
Creating a New Project



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Structure of an HTML file

PI_B3_HTML.html

```
1  <!DOCTYPE html>
2  <html lang="en" dir="ltr">
3    <head>
4      <meta charset="utf-8">
5      <title></title>
6    </head>
7    <body>
8
9    </body>
10 </html>
```

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Basic HTML Document

In its simplest form, following is an example of an HTML document:

```
<!DOCTYPE html>
<html>
<head>
<title>This is document title</title>
</head>
<body>
<h1>This is a heading</h1>
<p>Document content goes here.....</p>
</body>
</html>
```

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The <!DOCTYPE> Declaration

The <!DOCTYPE> declaration tag is used by the web browser to understand the version of the HTML used in the document. Current version of HTML is 5 and it makes use of the following declaration:

```
<!DOCTYPE html>
```

There are many other declaration types which can be used in HTML document depending on what version of HTML is being used.

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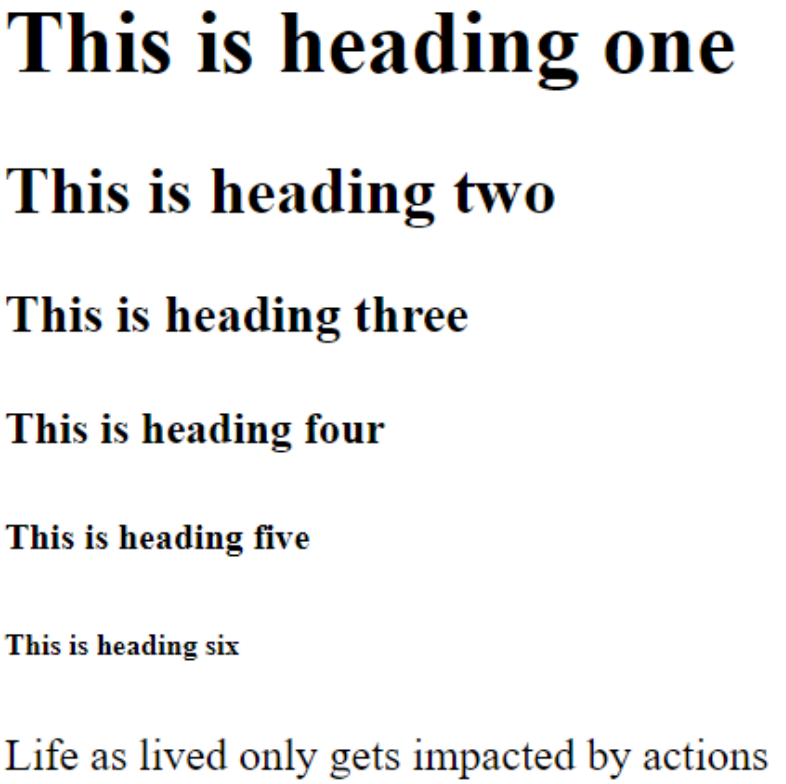
Heading Tags

HTML also has six levels of headings, which use the elements **<h1>, <h2>, <h3>, <h4>, <h5>, and <h6>**. While displaying any heading, browser adds one line before and one line after that heading.

```
<!DOCTYPE html>
<html lang="en" dir="ltr">
  <head>
    <meta charset="utf-8">
    <title>My First HTML Class</title>
  </head>
  <body>
<h1>This is heading one </h1>
<h2>This is heading two </h2>
<h3>This is heading three</h3>
<h4>This is heading four</h4>
<h5>This is heading five</h5>
<h6>This is heading six</h6>
<p>Life as lived only gets impacted by actions</p>
  </body>
</html>
```



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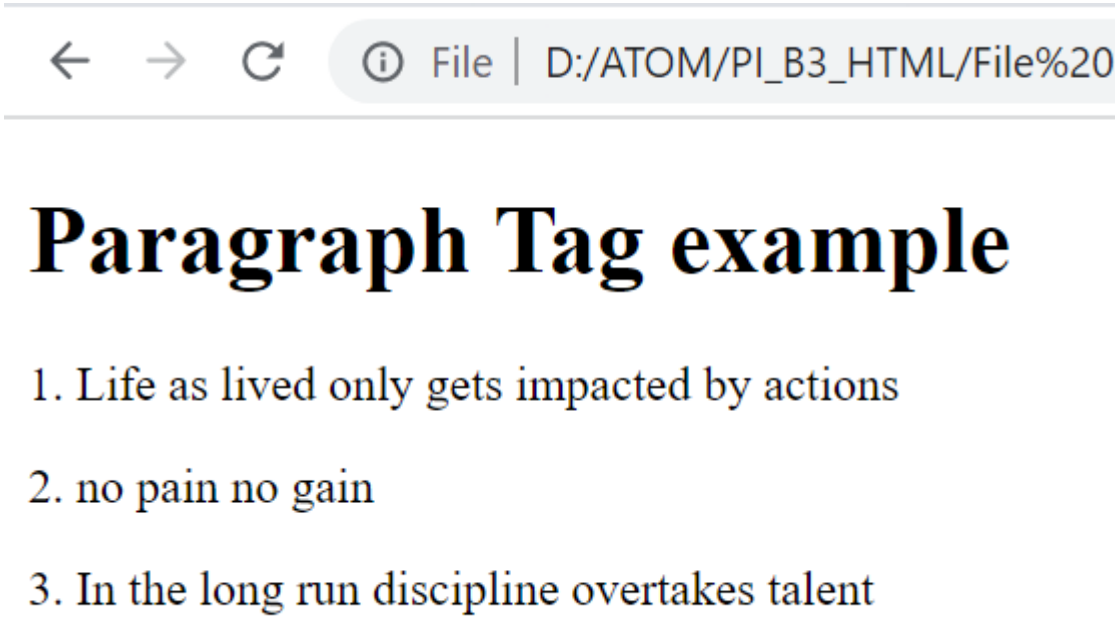
Paragraph Tags

The ** ** tag offers a way to structure your text into different paragraphs. Each paragraph of text should go in between an opening and a closing tag as shown below

```
<!DOCTYPE html>
<html lang="en" dir="ltr">
  <head>
    <meta charset="utf-8">
    <title>My First HTML Class</title>
  </head>
  <body>
<h1>Paragraph Tag example </h1>
<p> 1. Life as lived only gets impacted by actions</p>
<p> 2. no pain no gain</p>
<p> 3. In the long run discipline overtakes talent</p>
  </body>
</html>
```



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Line Break Tags

Whenever you use the **
** element, anything following it starts from the next line. This tag is an example of an **empty** element, where you do not need opening and closing tags, as there is nothing to go in between them.
The
 tag has a space between the characters **br** and the forward slash. If you omit this space, older browsers will have trouble rendering the line break, while if you miss the forward slash character and just use
 it is not valid in XHTML.

```
<h1>Paragraph Tag example </h1>

<p> 1. Life as lived only <br />gets impacted by actions</p>
<p> 2. no pain <br />no gain</p>
<p> 3. In the long run discipline <br />overtakes talent</p>
  </body>
</html>
```

Paragraph Tag example

1. Life as lived only
gets impacted by actions

2. no pain
no gain

3. In the long run discipline
overtakes talent

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Centering Content

You can use ** ** tag to put any content in the center of the page or any table cell.

```
<p> 1. Life as lived only gets impacted by actions</p>
<center>
<p> 2. no pain no gain</p>
</center>
<p> 3. In the long run discipline <br />overtakes talent</p>
  </body>
</html>
```

Paragraph Tag example

1. Life as lived only gets impacted by actions

2. no pain no gain

3. In the long run discipline
overtakes talent

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Horizontal lines

Horizontal lines are used to visually break-up sections of a document. The **<hr>** tag creates a line from the current position in the document to the right margin and breaks the line accordingly.

```
<p> 1. Life as lived only gets impacted by actions</p>
<hr />
<center>
<p> 2. no pain no gain</p>
</center>
<hr />
<p> 3. In the long run discipline <br />overtakes talent</p>
  </body>
</html>
```

Paragraph Tag example

1. Life as lived only gets impacted by actions

---

2. no pain no gain

---

3. In the long run discipline
overtakes talent

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HTML Elements

An **HTML element** is defined by a starting tag. If the element contains other content, it ends with a closing tag, where the element name is preceded by a forward slash.

Start Tag	Content	End Tag
	This is paragraph content.	
<h1>	This is heading content.	</h1>
	This is division content.	

There are some HTML elements which don't need to be closed, such as **<img.../>**, **<hr />** and **
** elements. These are known as **void elements**.

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HTML Attributes

We have seen few HTML tags and their usage like heading tags **<h1>, <h2>,** paragraph tag **<p>** and other tags. We used them so far in their simplest form, but most of the HTML tags can also have attributes, which are extra bits of information.

An attribute is used to define the characteristics of an HTML element and is placed inside the element's opening tag. All attributes are made up of two parts: a **name** and a **value**:

☐ The **name** is the property you want to set. For example, the paragraph **<p>** element in the example carries an attribute whose name is **align**, which you can use to indicate the alignment of paragraph on the page.

☐ The **value** is what you want the value of the property to be set and always put within quotations. The below example shows three possible values of align attribute: **left, center** and **right**

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HTML Attributes

```
  <body>
<h1>Paragraph Tag example </h1>

<p align="left"> 1. Life as lived only gets impacted by actions</p>
<p align="center"> 2. No pain No gain </p>
<p align="right"> 3. In the long run discipline <br />overtakes talent</p>
  </body>
```

Paragraph Tag example

1. Life as lived only gets impacted by actions

2. No pain No gain

3. In the long run discipline
overtakes talent

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Core Attributes

The four core attributes that can be used on the majority of HTML elements (although not all) are:

- ✓ Id
- ✓ Title
- ✓ Class
- ✓ Style

The **id** attribute of an HTML tag can be used to uniquely identify any element within an HTML page.

The **title** attribute gives a suggested title for the element.

The **class** attribute is used to associate an element with a style sheet, and specifies the class of element.

The **style** attribute allows you to specify Cascading Style Sheet (CSS) rules within the element.

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Formatting

Bold Text

Anything that appears within **…** element, is displayed in bold

Italic Text

Anything that appears within **…** element is displayed in italicized

Underlined Text

Anything that appears within **<u>…</u>** element, is displayed with underline

Strike Text

Anything that appears within **<strike>…</strike>** element is displayed

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Phrase

The phrase tags have been desicolgned for specific purposes, though they are displayed in a similar way as other basic tags like **<b>, <i>, <pre>,** and **<tt>**

Emphasized Text

Anything that appears within **...** element is displayed as emphasized text.

```
<p>The following word uses a <em>emphasized</em> typeface.</p>
```

Marked Text

Anything that appears with-in **<mark>...</mark>** element, is displayed as marked with yellow ink.

```
<p>The following word has been <mark>marked</mark> with yellow</p>
```

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Phrase

The phrase tags have been desicolgned for specific purposes, though they are displayed in a similar way as other basic tags like **<b>, <i>, <pre>,** and **<tt>**

Strong Text

Anything that appears within **...** element is displayed as important text.

```
<p>The following word uses a <strong>strong</strong> typeface.</p>
```

Text Abbreviation

You can abbreviate a text by putting it inside opening <abbr> and closing </abbr> tags. If present, the title attribute must contain this full description and nothing else.

```
<p>My best friend's name is <abbr title="Abhishek">Abhy</abbr>.</p>
```

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Phrase

The phrase tags have been desicolgned for specific purposes, though they are displayed in a similar way as other basic tags like **<b>, <i>, <pre>,** and **<tt>**

Acronym Element

The **<acronym>** element allows you to indicate that the text between <acronym> and </acronym> tags is an acronym.
At present, the major browsers do not change the appearance of the content of the <acronym> element.

```
<p>This chapter covers marking up text in <acronym>XHTML</acronym>.</p>
```