

Why Markup Languages?

Sometimes, we need to embed data in our text. Usually, we choose an uncommon character sequence to denote a special command, like make this bold:

```
<b>Hello</b> everybody !
```

```
**Hello** everybody !
```

XML and HTML

XML (eXtensible Markup Langauge) and HTML (HyperText Markup Language) use a syntax of tags:

```
<tag>content</tag>
```

The inside **content** is read as text, and the **tag** is the instruction to the compiler.

Attributes

The tag might also have attributes. For example, the `<a>` tag is a link. But, we need a reference point `href` to link (anchor) to:

```
<a href="https://beatymuseum.ubc.ca">The Beaty Website</a>
```

Why `<a>` and not `<l>`? The anchor is at the end of the link, and also refers to links within a page.

Styles

A special type of attribute is the `style`.

```
<span style="color: red">Hello</span>, world!
```

Hello, world!

HTML pages

An HTML page is just a text file with a special markup structure. It is convention to indent tags so that it's easier to read.

```
<html>
  <body>
    Hello, world!
  </body>
</html>
```

Copy the above into a text file (using Notepad orTextEdit) and save with a `.html` extension rather than `.txt` then open with a browser.

Play with HTML tags

Here are some HTML tags. Try using them to make your own content.

- Tags

```
<h1>Heading</h1>
<p>Paragraph</p>
<ul>Unordered list</ul>
<ol>Ordered list</ol>
<li>List item</li>
```

- Example

```
<h1>This is my grocery list</h1>
<p>Groceries</p>
<ul>
    <li>Bananas</li>
    <li>Tahini</li>
</ul>
```

Example from Specify

- Example

```
<viewdef name="Collection Object" >
  <desc>The Collection Object form</desc>
  <rows>
    <row>
      <cell
        type="label" labelfor="1"
        label="Catalog Number" />
      <cell
        type="field" id="1"
        name="catalogNumber"
        uitype="formattedtext" />
    </row>
    <row>
      <cell
        type="label" labelfor="4"
        label="Cataloger" />
      <cell
        type="field"
        id="4" name="cataloger"
        uitype="querycbx" isrequired="true" />
    </row>
  </rows>
```

Other Markup Language Uses

- A Word doc is XML in a compressed folder.

```
└── Unzipped Informatics Report
    ├── [Content_Types].xml
    ├── _rels
    └── docProps
        ├── app.xml
        └── core.xml
    └── word
        ├── _rels
        │   └── document.xml.rels
        ├── document.xml
        ├── fontTable.xml
        ├── settings.xml
        ├── styles.xml
        ├── theme
        │   └── theme1.xml
        └── webSettings.xml
```