Web Scraping With Python

WEB SCRAPING IN PYTHON

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datacamp

Business Savvy

What are businesses looking for?

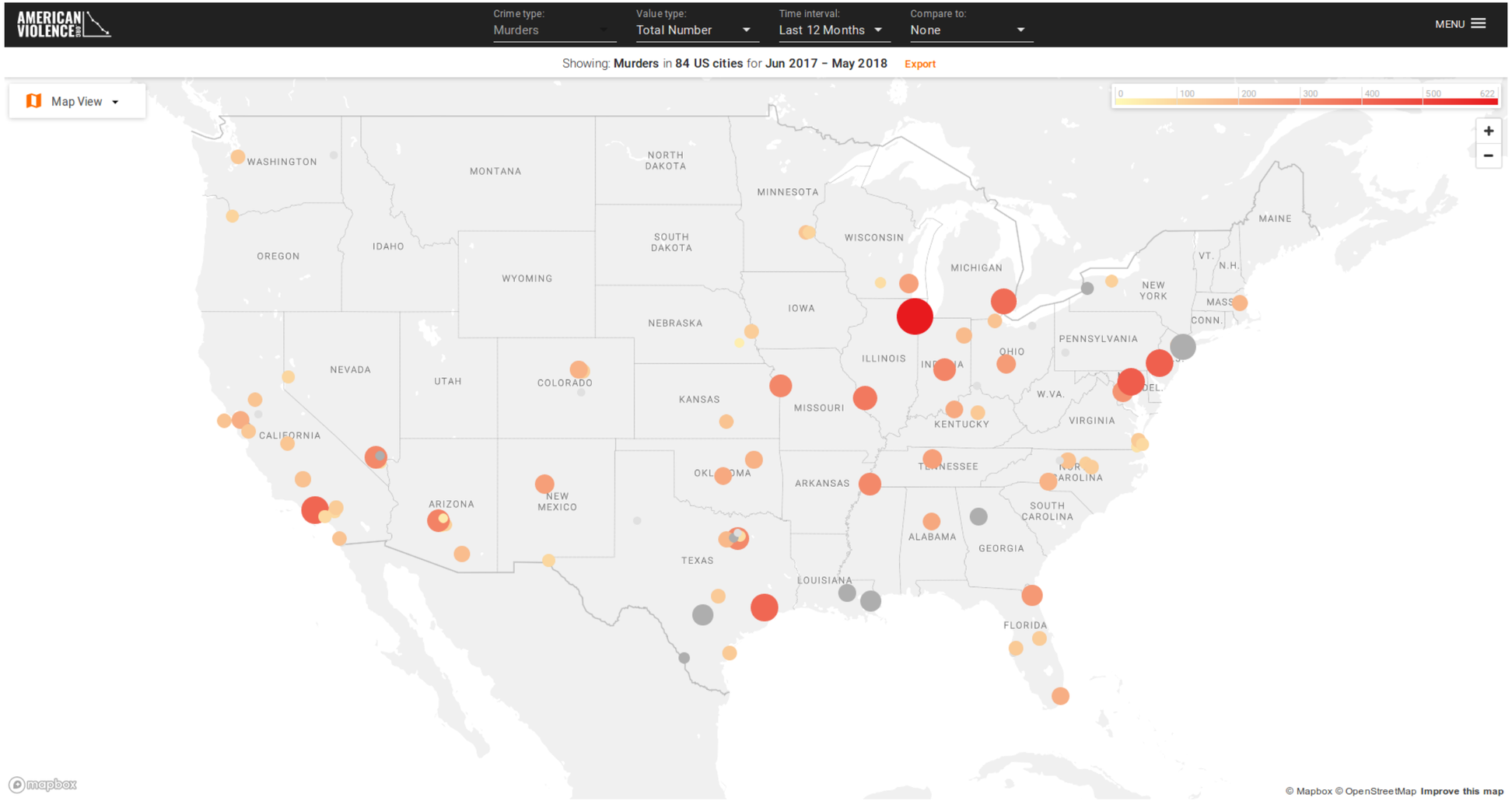
- Comparing prices
- Satisfaction of customers
- Generating potential leads
- ...and much more!

It's Personal

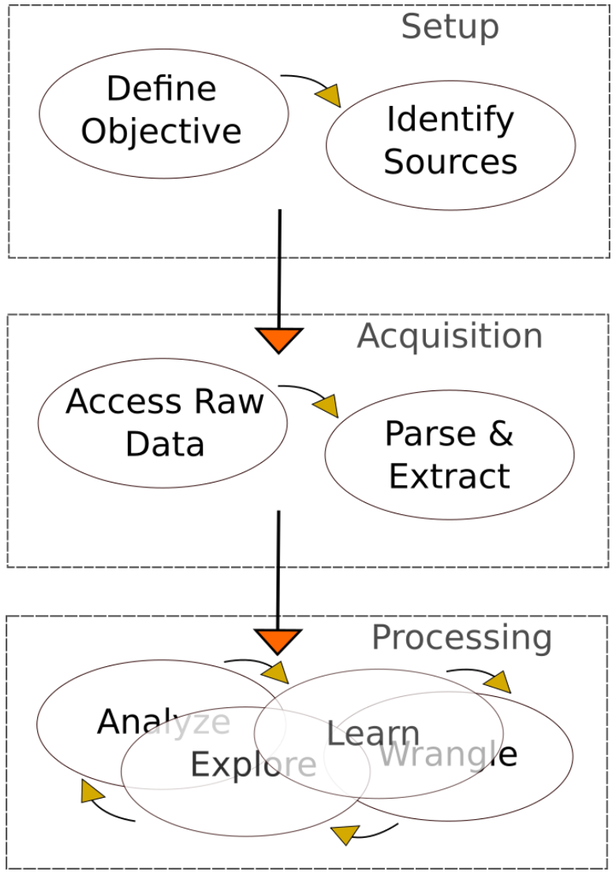
What could you do?

- Search for your favorite memes on your favorite sites.
- Automatically look through classified ads for your favorite gadgets.
- Scrape social site content looking for hot topics.
- Scrape cooking blogs looking for particular recipes, or recipe reviews.
- ...and much more!

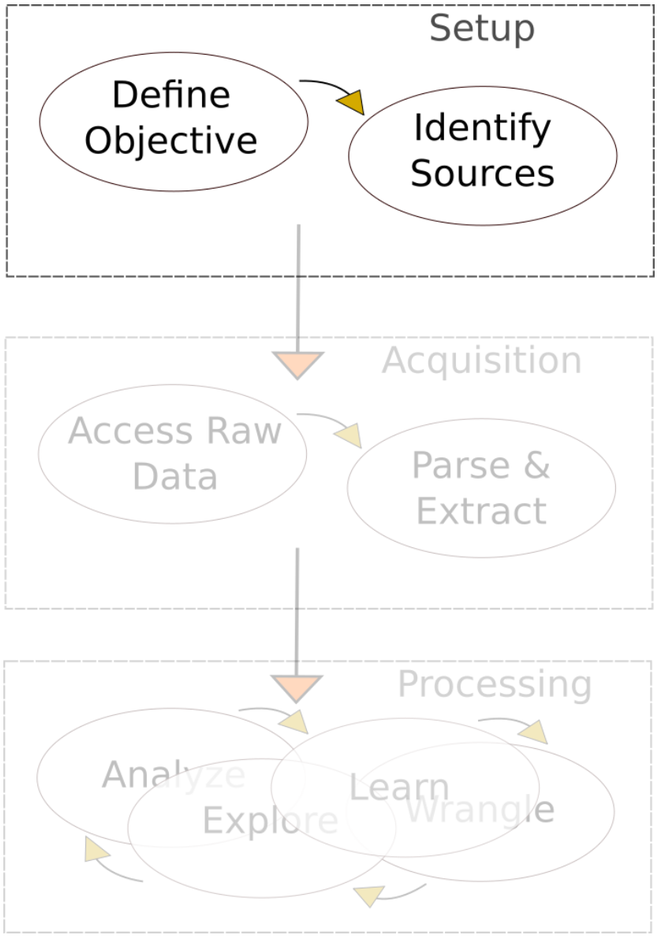
About My Work



Pipe Dream


Setup
Define Objective
Identify Sources
Acquisition
Access Raw Data
Parse & Extract
Processing
Analyze
Explore
Learn
Wrangle

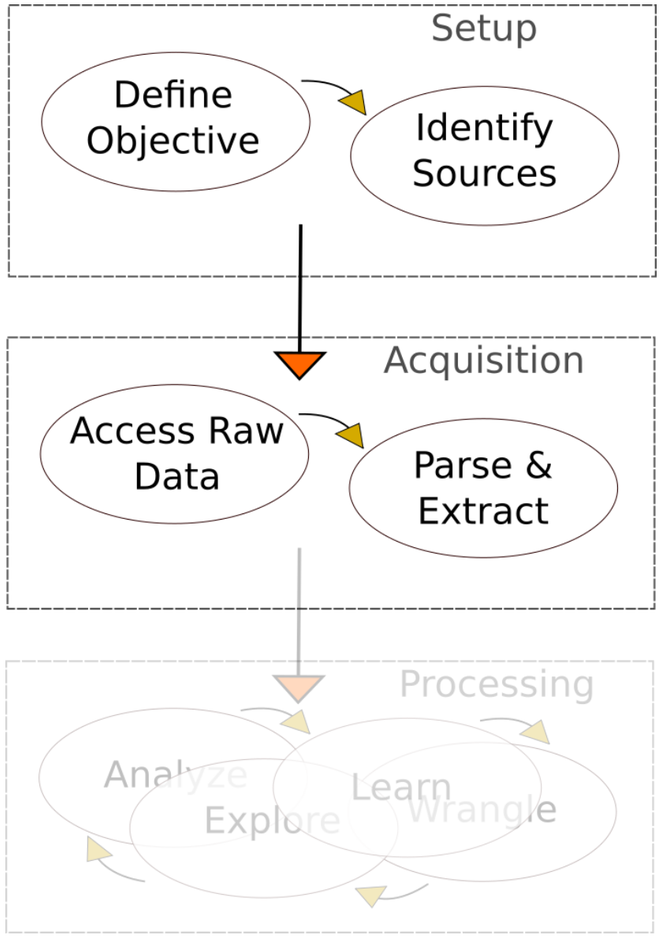
Pipe Dream: Setup



Setup

- Understand what we want to do.
- Find sources to help us do it.

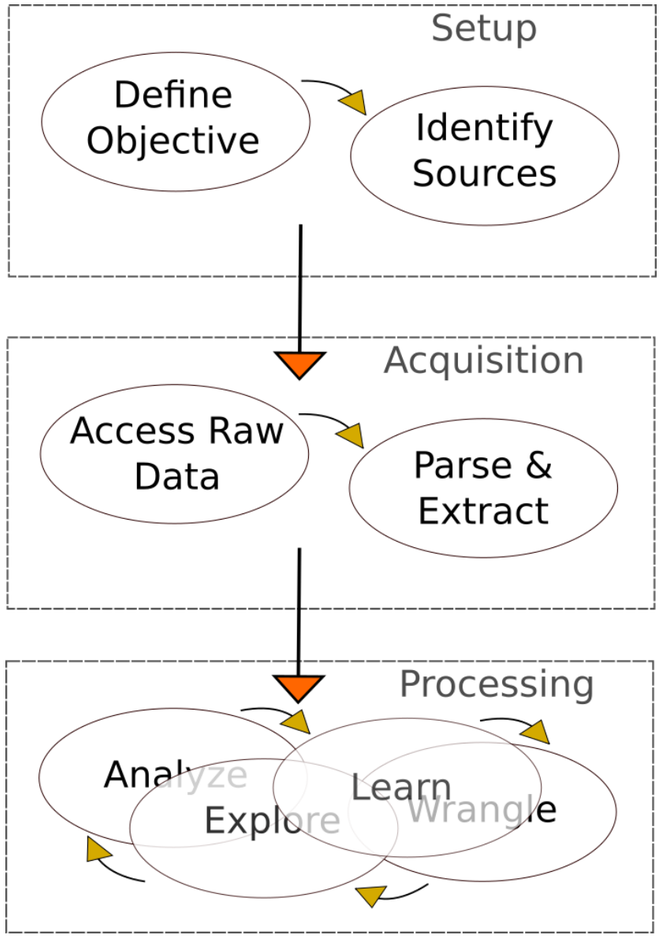
Pipe Dream: Acquisition



Acquisition

- Read in the raw data from online.
- Format these data to be usable.

Pipe Dream: Processing



Processing

- Many options!

How do you do?

Our Focus

- Acquisition!
- (Using `scrapy` via `python`)

Are you in?

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HyperText Markup Language

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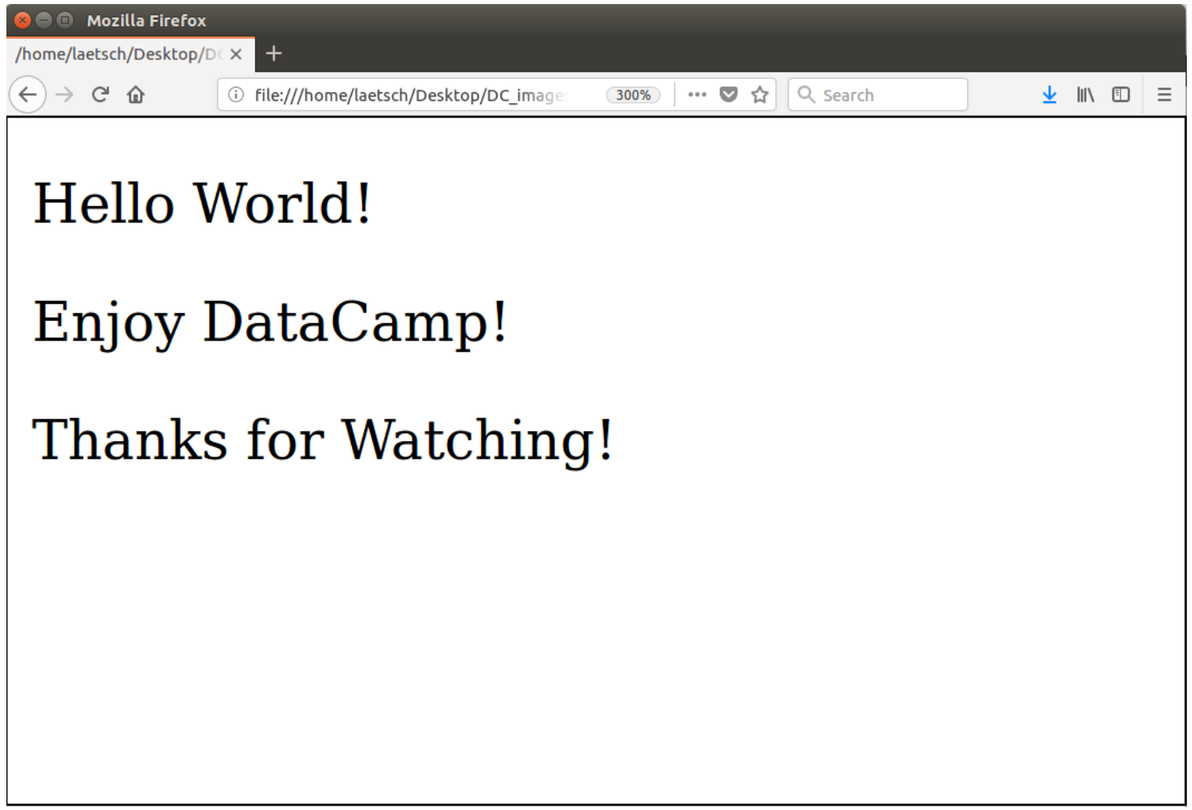
The main example

```
<html>
    <body>
        <div>
            <p>Hello World!</p>
            <p>Enjoy DataCamp!</p>
        </div>
        <p>Thanks for Watching!</p>
    </body>
</html>
```



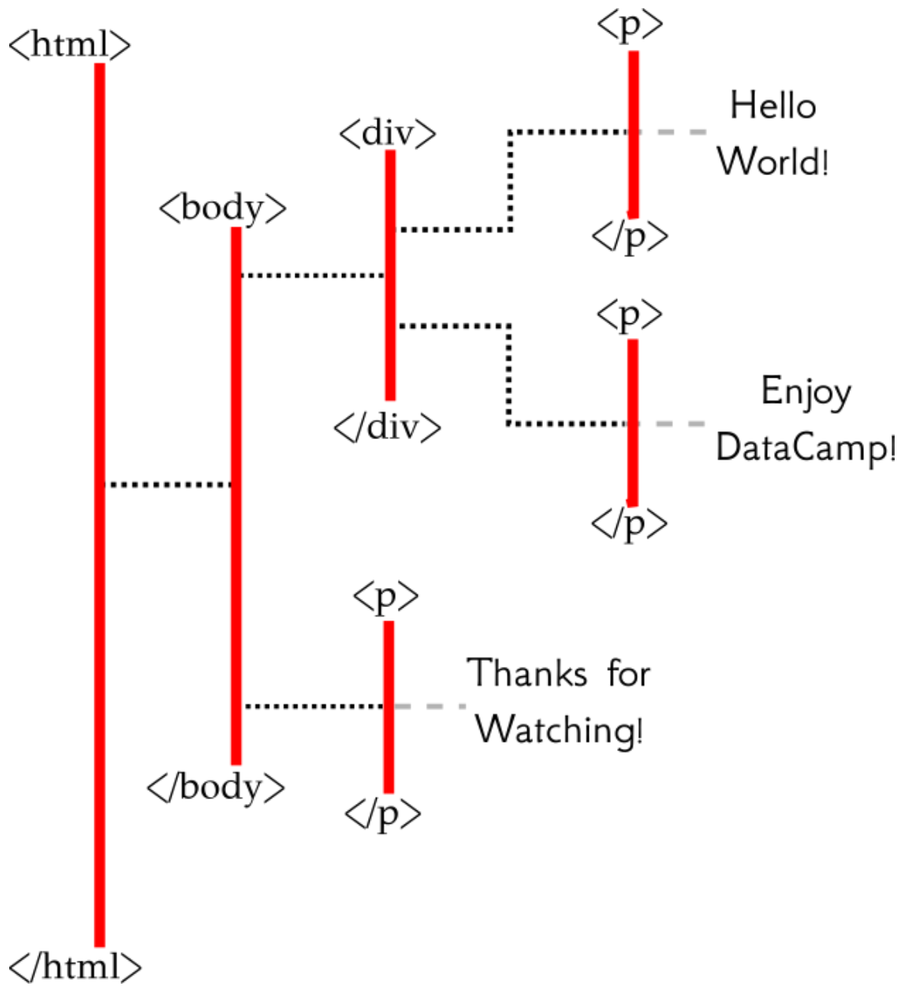
HTML tags

```
<html>
    <body>
        <div>
            <p>Hello World!</p>
            <p>Enjoy DataCamp!</p>
        </div>
        <p>Thanks for Watching!</p>
    </body>
</html>
```

- `<html> ... </html>`
- `<body> ... </body>`
- `<div> ... </div>`
- `<p> ... </p>`

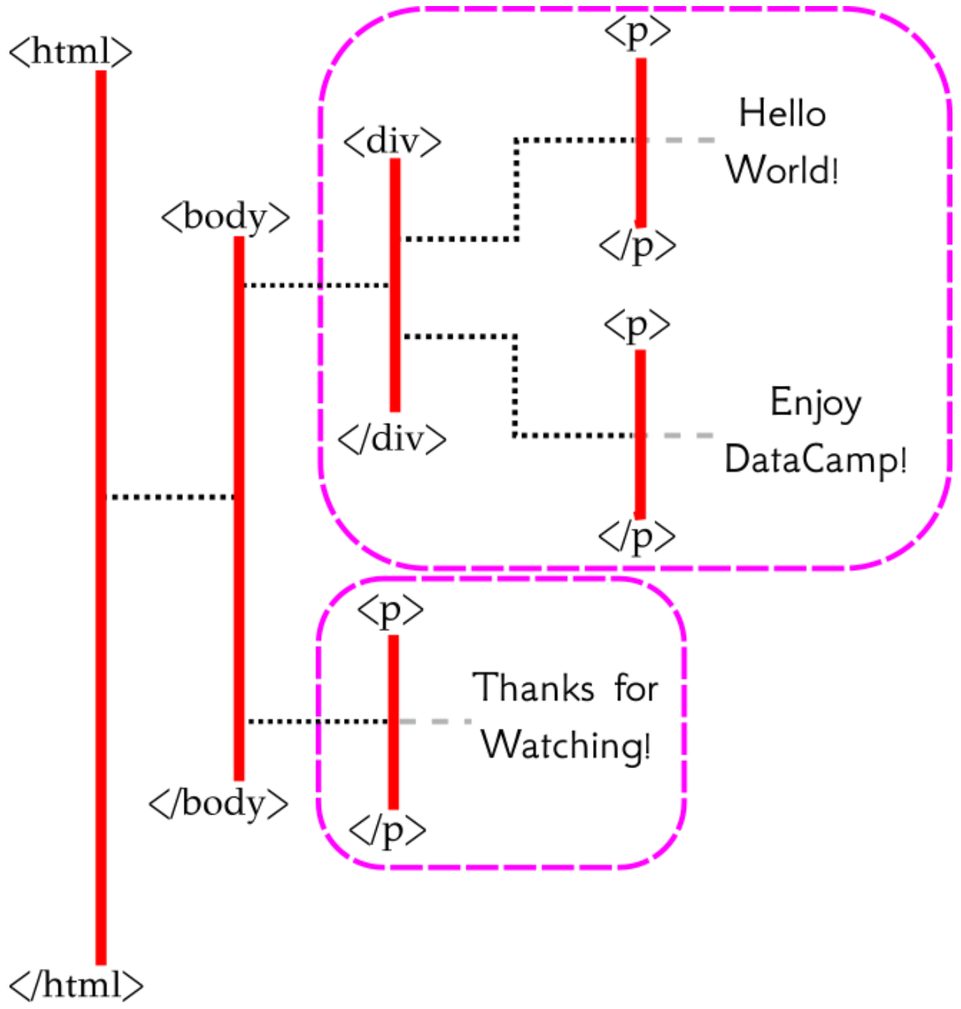
The HTML tree

```
<html>
    <body>
        <div>
            <p>Hello World!</p>
            <p>Enjoy DataCamp!</p>
        </div>
        <p>Thanks for Watching!</p>
    </body>
</html>
```



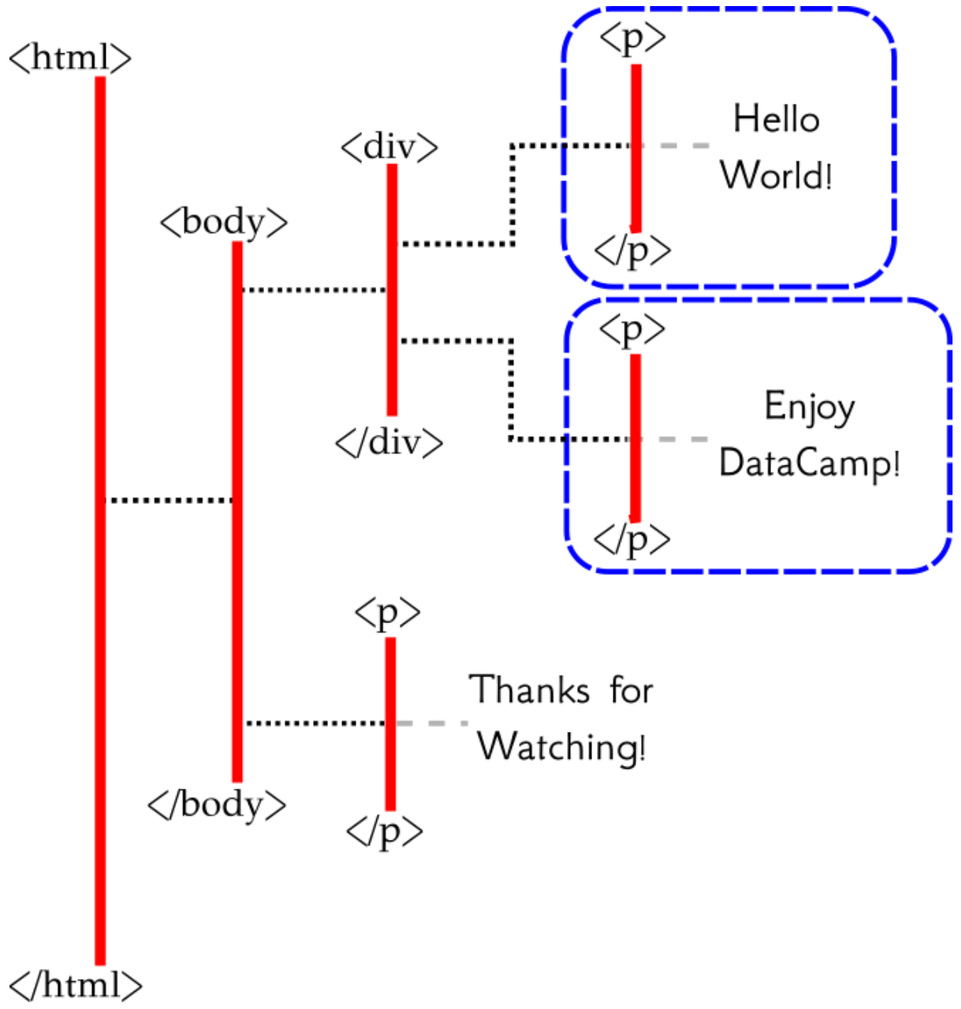
The HTML tree: Example 1

```
<html>
    <body>
        <div>
            <p>Hello World!</p>
            <p>Enjoy DataCamp!</p>
        </div>
        <p>Thanks for Watching!</p>
    </body>
</html>
```



The HTML tree: Example 2

```
<html>
    <body>
        <div>
            <p>Hello World!</p>
            <p>Enjoy DataCamp!</p>
        </div>
        <p>Thanks for Watching!</p>
    </body>
</html>
```



Introduction to HTML Outro

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HTML Tags and Attributes

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Do we have to?

- Information within HTML tags can be valuable
- Extract link URLs
- Easier way to select elements

Tag, you're it!

```
<tag-name attrib-name="attrib info">
    ..element contents..
</tag-name>
```

- We've seen **tag names** such as **html**, **div**, and **p**.
- The **attribute name** is followed by **=** followed by information assigned to that attribute, usually quoted text.

Let's "div"vy up the tag

```
<div id="unique-id" class="some class">
    ..div element contents..
</div>
```

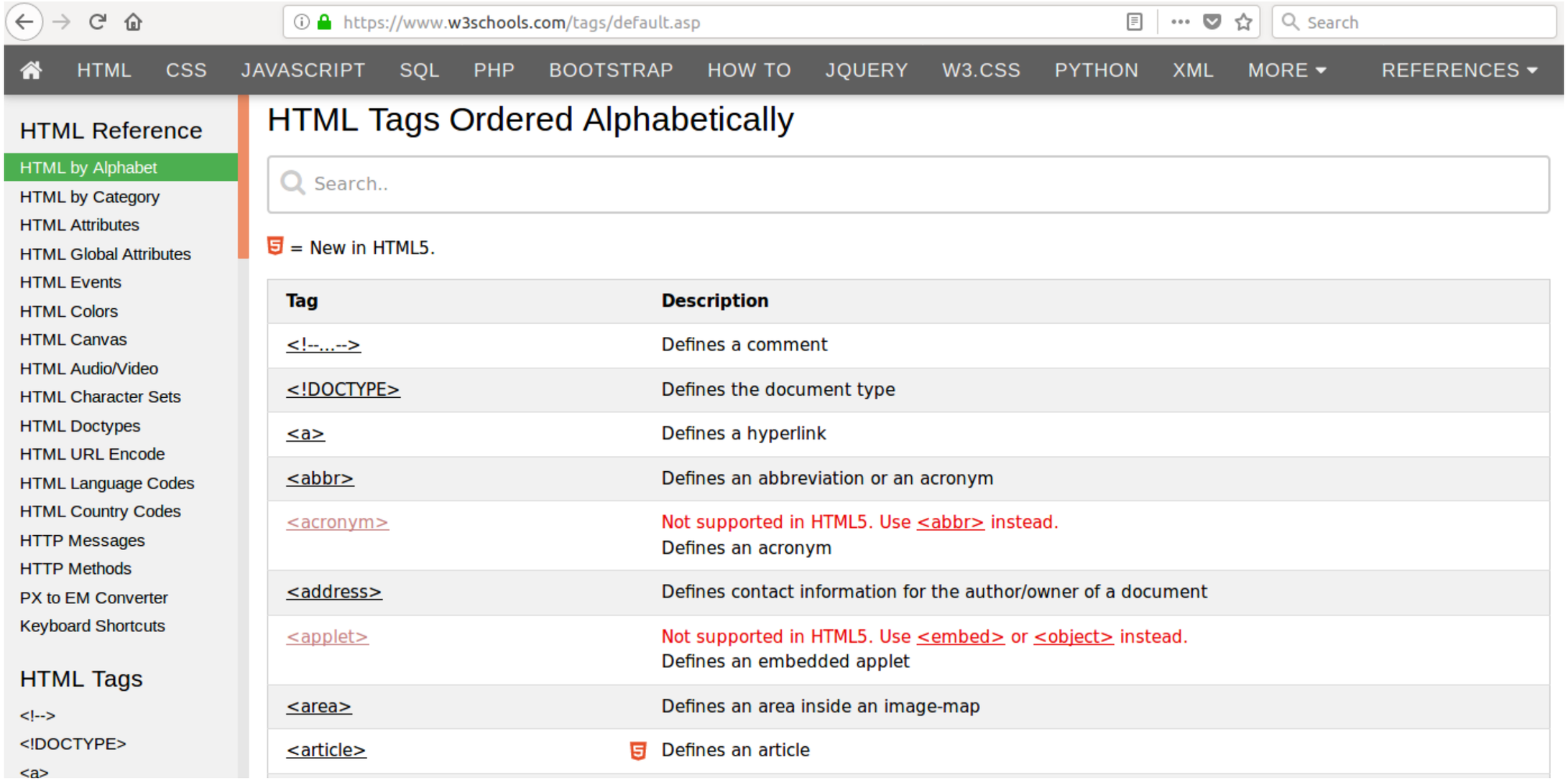
- **id** attribute should be unique
- **class** attribute doesn't need to be unique

"a" be linkin'

```
<a href="https://www.datacamp.com">
    This text links to DataCamp!
</a>
```

- **a** tags are for **hyperlinks**
- **href** attribute tells what link to go to

Tag Traction



Et Tu, Attributes?

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Crash Course X

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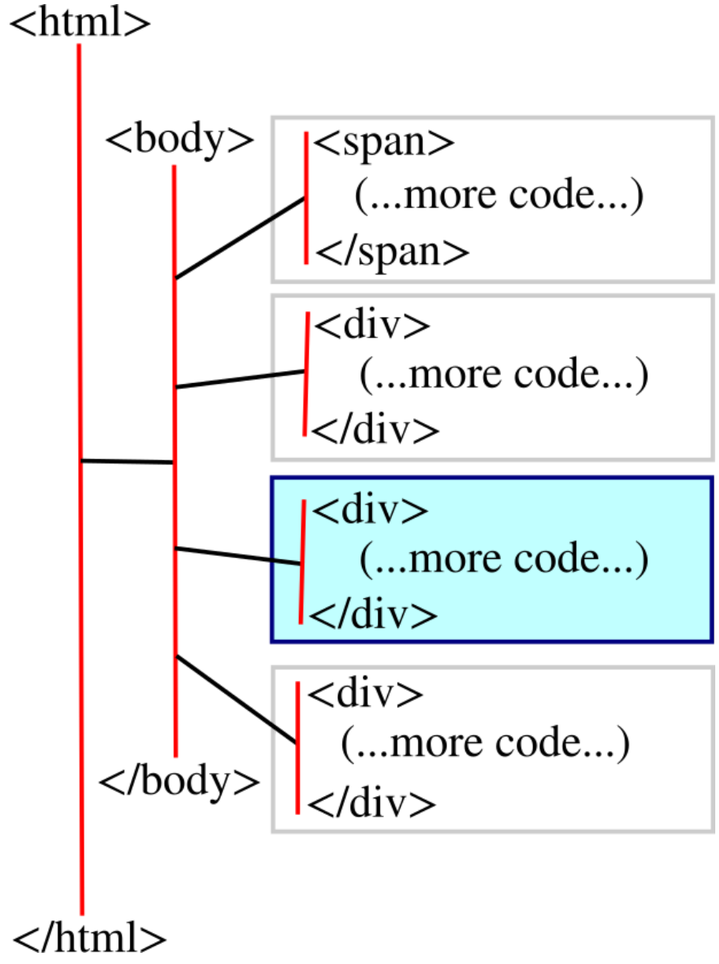
Another Slasher Video?

```
xpath = '/html/body/div[2]'
```

Simple XPath:

- Single forward-slash `/` used to move forward one generation.
- tag-names between slashes give direction to which element(s).
- Brackets [] after a tag name tell us which of the selected siblings to choose.

Another Slasher Video?




```
xpath = '/html/body/div[2]'
```

Slasher Double Feature?

- Direct to all `table` elements within the entire HTML code:

```
xpath = '//table'
```

- Direct to all `table` elements which are descendants of the 2nd `div` child of the `body` element:

```
xpath = '/html/body/div[2]//table`
```

Ex(path)celent

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