

LET'S BUILD A FIRST CITY

PRESERVED BY: JAMES HURD

Buckle up! This is the
very embodiment of a
Crash Course



If you have questions... ask!

How does a website...
website? 

3 Ingredients for Website Stew



HTML



CSS



amazon.com

Flask

What?!

What does a web
browser actually do?

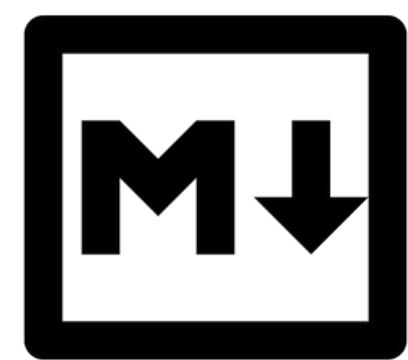




HyperText Markup Language

Text
+
Hyperlinks

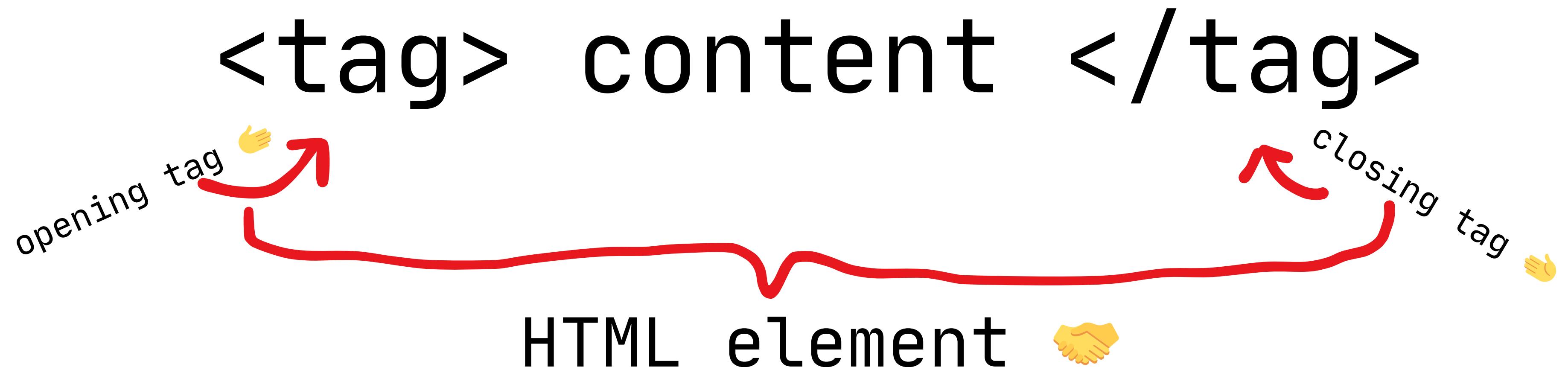
Language that
specifies structure
of a document



LATEX



In HTML data is
structured using tags.



Let's see some examples 🔥

Tags can also hold other
information called
attributes

```
<tag attr="value"> content </tag>
```

Some tags are  special 

`<tag />`

What is a web server? 
Refers to many things!

In hardware . . .



In software...

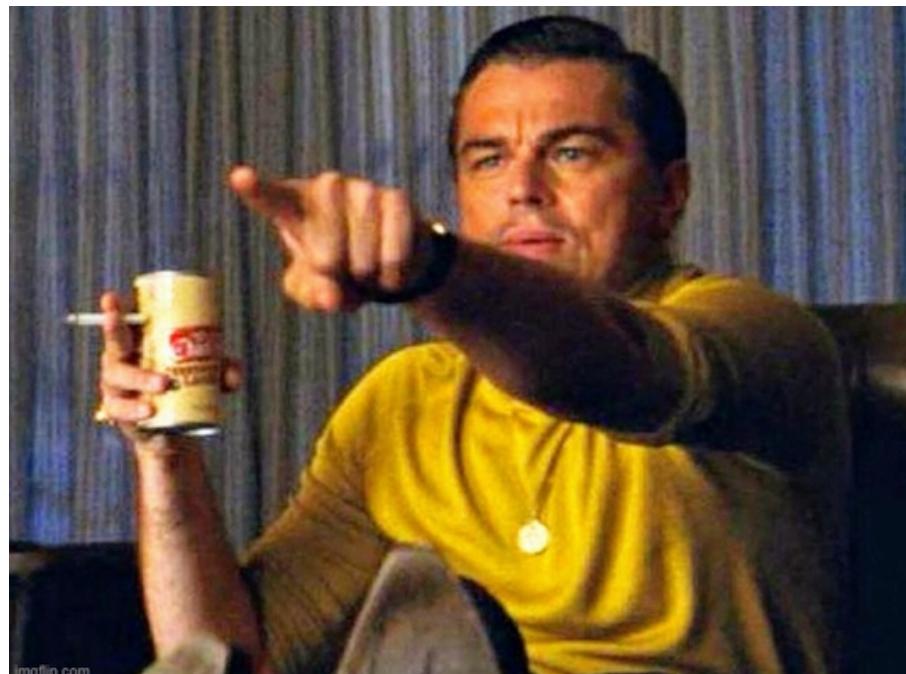
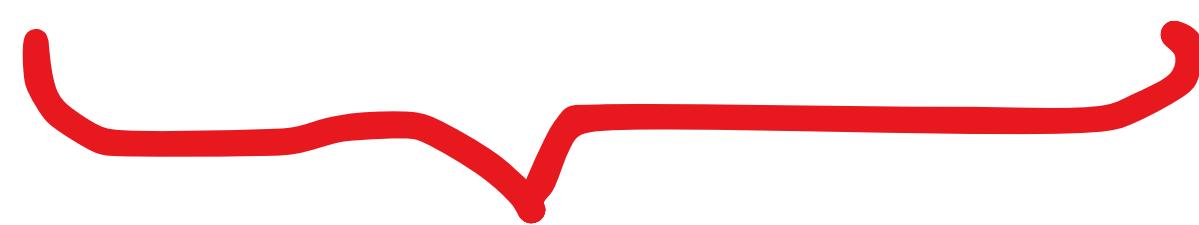
A program that delivers
hosted files via HTTP.

For us, these will be HTML files.

Okay... What is HTTP?



HyperText Transfer Protocol



An agreed upon
way of doing
things.

"Hey, I know this one!"



<https://hackku.org>

“secure”

HTTP interactions take place between a client and server through requests.

Lots of flavors, but we care about two...

GET Requests



Used to request
data from a web
server



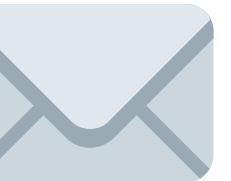
"One website pls"



Always has been

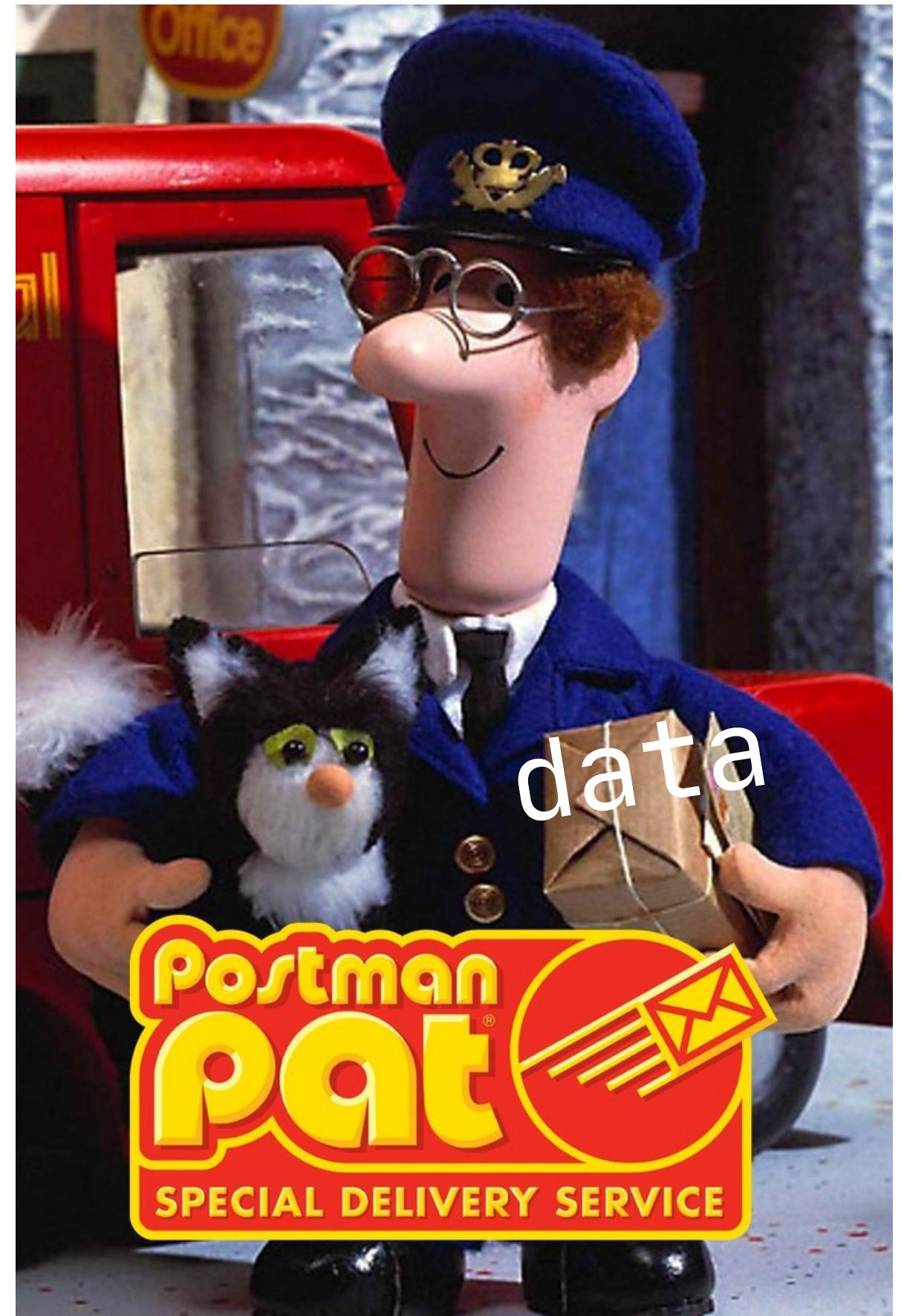
Wait, it's all GET requests ?

POST Requests



Used to send data
to a web server

“omg it’s British 🤪”



GET sign_in.html

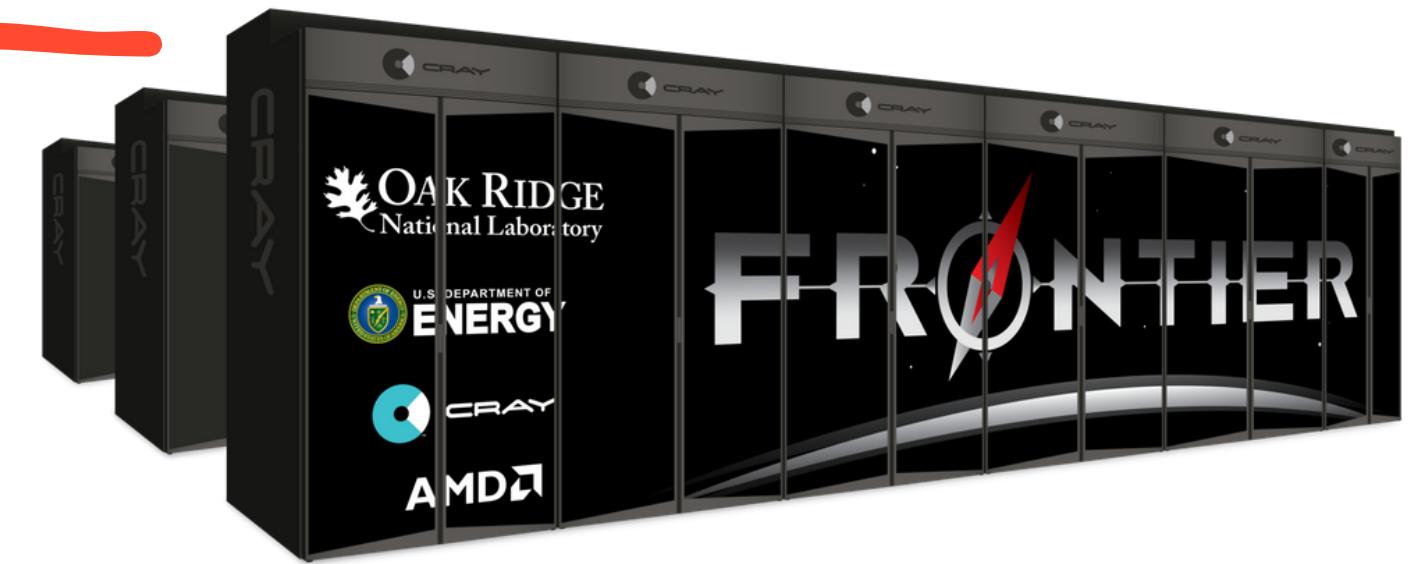


sign_in.html (200 OK)

POST name="yuki"

client

signed_in.html (200 OK)



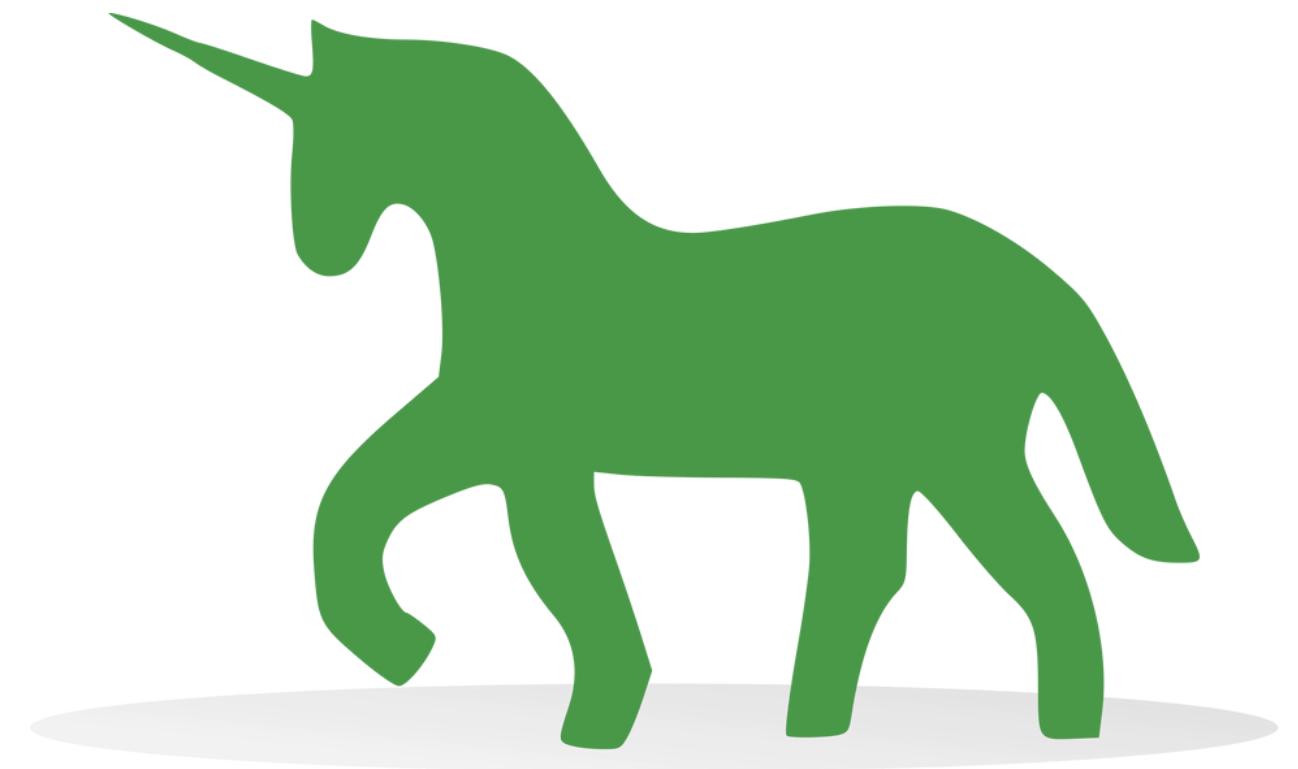
server

So, we need to build a
web server? 

Not exactly...

Tons of web servers
already exist! 

NGINX
Caddy



We need to write code to
“control” the web server



Introducing...  web frameworks 

Special software that handles
dealing with the web server
for us!

Also:

- URL Routing
- Template Engine (More on this later)



Flask

A Python Web Framework 😊

Flask is not installed by default...

We must install it using pip,
Python's package manager!

A tool for installing,
managing, and upgrading 3rd-
party modules/applications

comes with most
python installs by
default! 😍

```
$ pip install flask
```

Before we get drunk on web
programming...
we must unlock some new Python
syntax! 

What is a decorator?

If you like functional programming, these are higher-order functions 😊

In Flask, website functionality
is defined via functions that
return HTML.

Decorators are used to specify
the endpoint and request type.

https://kuacm.club/officers/

protocol

domain name

endpoint

Flask lets us do much more than
just render plain HTML...

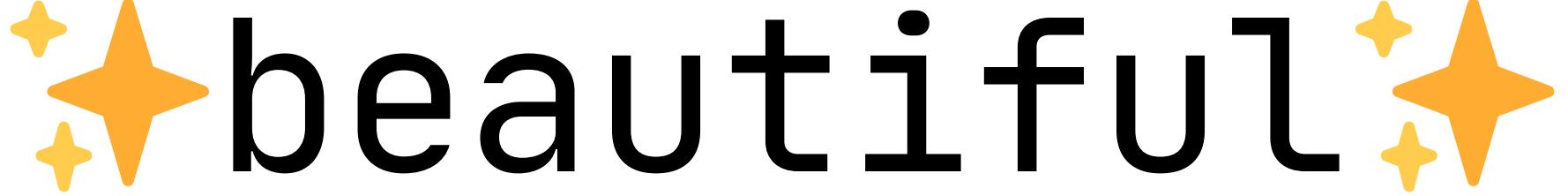
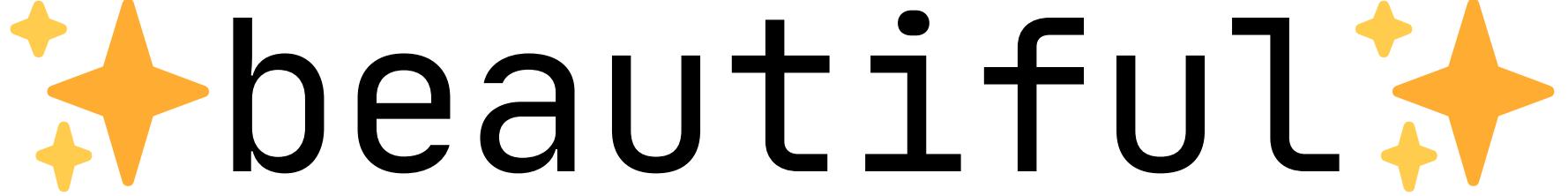
We can render HTML templates 😍

Just like regular HTML, but with
placeholders!

Can access data passed to it using the
`{{ data }}` syntax.

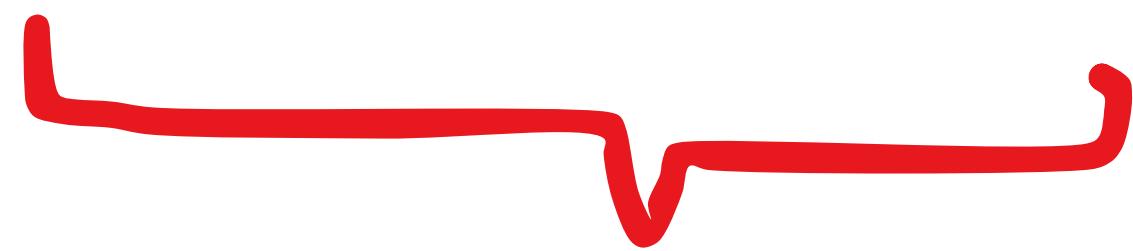
You can also loop through iterables in a
template.

Flask's templating engine is called Jinja

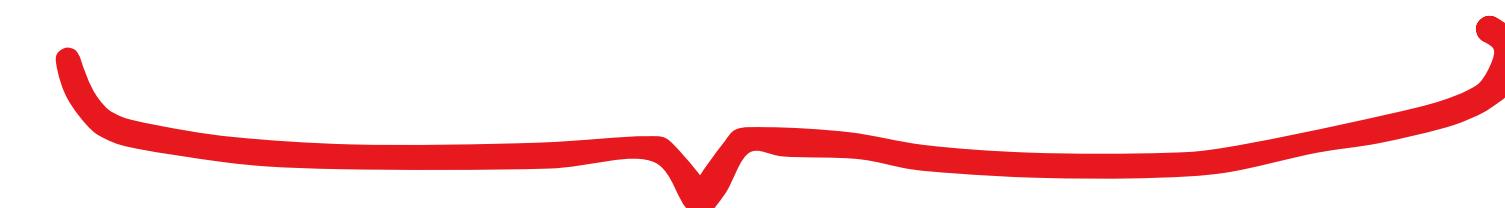
Now, time to make our
webpage beautiful 

What's CSS? 

Cascading Style Sheets



Style values are
combined from
multiple sources 



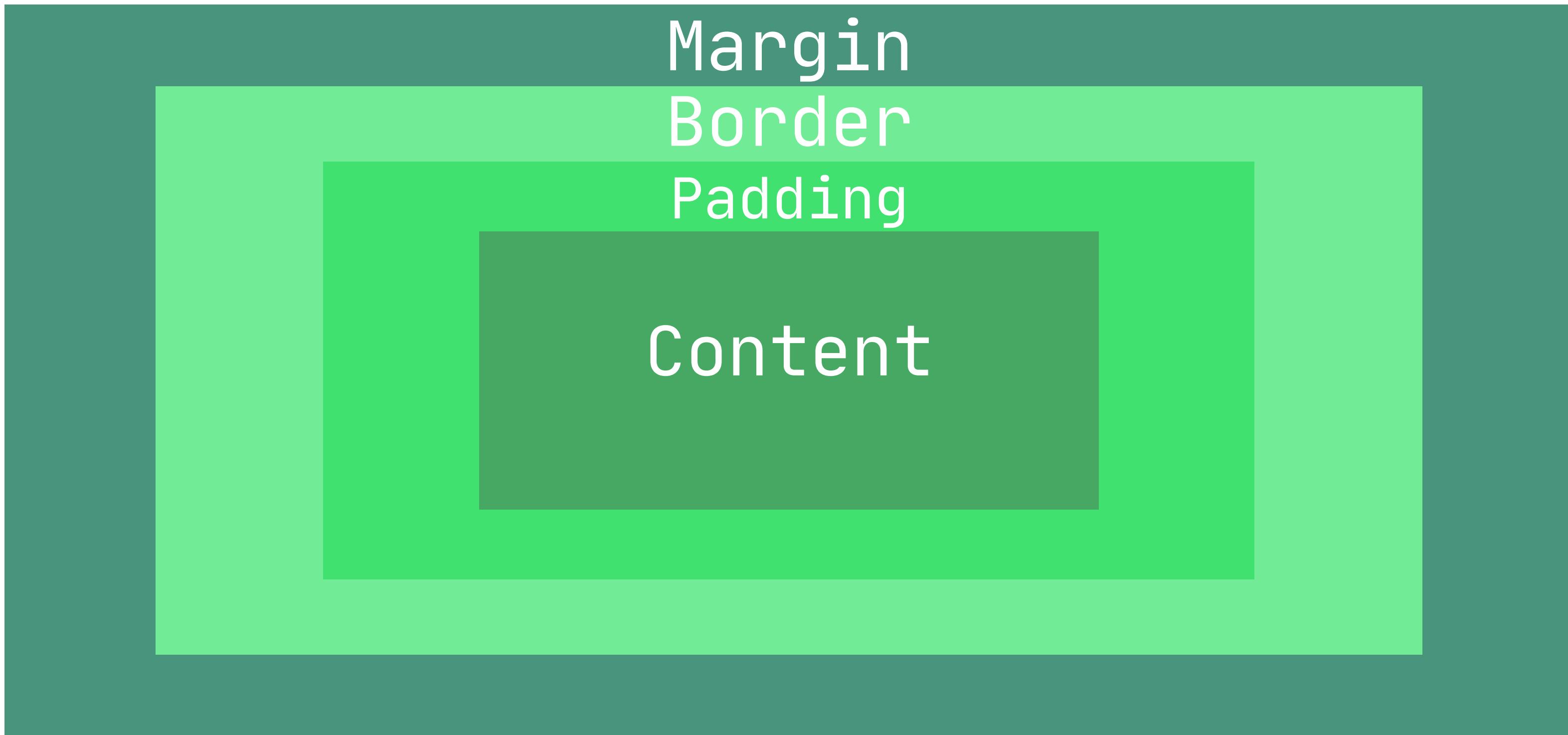
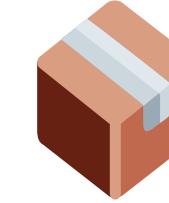
Defines how structured
documents *look* 

You can include a stylesheet in
an HTML document using:

```
<link rel="stylesheet" href="/path/to/sheet.css">
```

within <head>

CSS Box Model



Note: Border is the only visible layer!

What's Flexbox



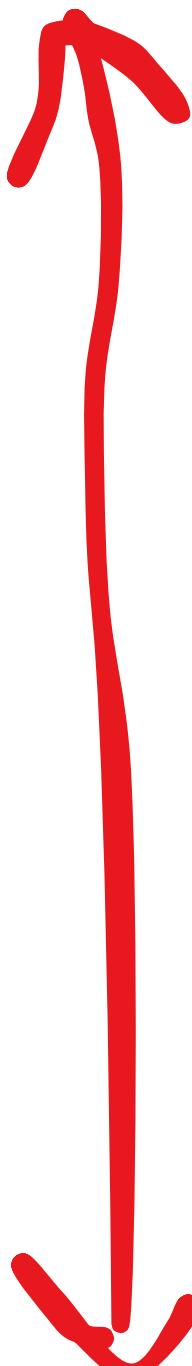
Flexbox is a CSS feature that automatically handles the *layout* of content on a webpage.

2 flavors of Flexbox...

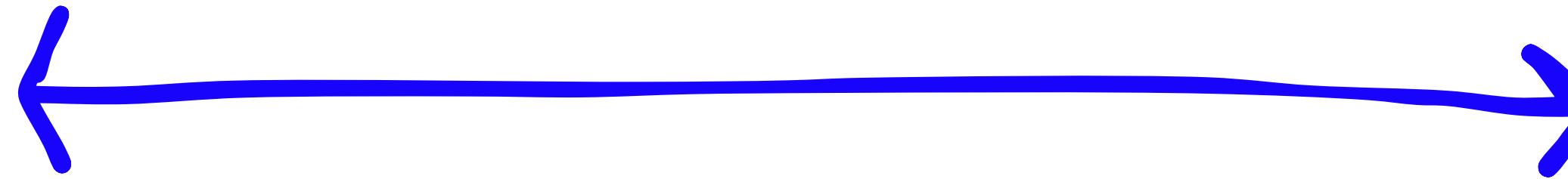
Column Flex (Default)



Main Axis (align-items)



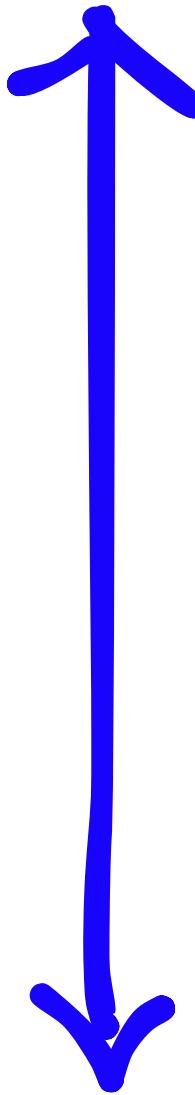
Cross Axis (justify-content)



Row Flex (Default)



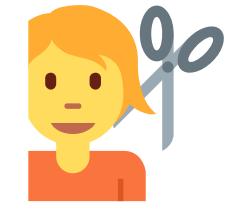
Cross Axis (justify-content)



Main Axis (align-items)



Let's do some CSS!



Dang. We covered a lot.



References!



- MDN Web Docs
- W3 Schools
- Flask Quickstart Guide

Thank you!



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https://jameshurd.net/talks/lets_build_a_website

Sim,