

# Advanced Programming with Python

Pepe García

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# Plan for today

- Review homework
- Sending files from folder
- working with HTML

## Practice

Create a flask server exposing just one route that receives two numbers and divides the first by the second.

Validate the data and be sure to return a meaningful status code

# Error handling

Flask provides a nice way of handling errors that may happen in our application, such as **404** or **500**.

```
@app.errorhandler(500)
def handle_500_error(error):
    return jsonify({"error": "500 Internal Server Error"}), 500
```

## Practice

Let's see the default behaviour and the effect we get when adding the error handler

# Homework

# Serving static files

Being able to serve static files is vital for websites. They can be images, videos, CSS templates, or anything you imagine.

# Serving static files

In flask we can serve static files using the **send\_from\_directory** function.

```
from flask import send_from_directory
```

```
@app.route("/images/<image>.png")
def serve_image(image):
    return send_from_directory(
        "images/",
        filename="{}.png".format(image))
```



# Serving static files

Do you see something that can go wrong in the previous route? Try to search for an image that's not there.

# Practice

<https://github.com/app-2020/app-sync-4>

See example-1

HTML files, as files of any other type can be served using the **`send_from_directory`** function.

# Serving HTML

```
@app.route("/")  
def index():  
    return send_from_directory("html", filename="index.html")
```

**HTML** stands for **Hypertext Markup Language**. It's a language that describes how the information should be presented in webpages

HTML documents are defined by tags, which look as follows:

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

Let's see a real world example

```
<p>this is a paragraph</p>
```

the `<p>` tag is used to represent paragraphs!

# HTML structure

In HTML, all the visible structure of the document must go inside the **<body>** tag

```
<body>  
  <p>the 'p' tag represents a paragraph</p>  
</body>
```



# HTML structure

On the other hand, all the HTML tags that are not meant to be rendered go inside the **<head>** tag.

For example, the title tag is one of these tags:

```
<head>  
  <title>this is the title</title>  
</head>  
<body>  
  <p>the 'p' tag represents a paragraph</p>  
</body>
```

# HTML structure

Finally, for an HTML document to be well formed, it needs to be wrapped in the HTML tag

```
<html>
  <head>
    <title>this is the title</title>
  </head>
  <body>
    <p>the 'p' tag represents a paragraph</p>
  </body>
</html>
```

# HTML structure

Let's create our first web page!

# Some HTML tags

Now let's see some HTML tags

# Paragraphs

text paragraphs in HTML are represented with the `<p>` tag

```
<p>
```

```
this is the first paragraph of my text. As you can see it  
also contains <strong>other tags</strong>
```

```
</p>
```

```
<p>
```

```
In the second paragraph, I wanted to write this other thing  
but I'm running out of ideas for what to write
```

```
</p>
```

```
<p>
```

```
In the last paragraph of my text I want to <strong>finish</strong>  
it
```

```
</p>
```

# Headings

Headings are used in html in the same way a word doc, or in a newspaper, to capture reader's attention.

What's the most important heading in the image? and the second one?

# Headings

HTML provides us with 6 different tags to represent 6 different levels of headings.

```
<h1>this is the h1</h1>
```

```
<h2>this is the h2</h2>
```

```
<h3>this is the h3</h3>
```

```
<h4>this is the h4</h4>
```

```
<h5>this is the h5</h5>
```

```
<h6>this is the h6</h6>
```

# Hyperlinks

Hyperlinks are the most vital part of HTML. They allow us to go to other documents when clicking them.



# Hyperlinks

We create links in HTML using the `<a>` tag. `a`, in this case, stands for *anchor*.

```
<a>this is a link, but doesn't have an address to go to...</a>
```

In order to give an address to the link, we need to use the **href attribute**:

```
<a href="https://google.com">this takes you to Google!</a>
```

We use the **img** tag with the **src** attribute in order to embed images in our HTML documents.

The **src** attribute can be either a route to a local file, or a url to a file in the Internet.

```

```

Create the HTML for what it could be your Wikipedia entry.

- different parts of your life
- links to your presence in the web

# Resources

Codecademy course to learn HTML:

**<https://www.codecademy.com/courses/learn-html>**

Mozilla development network docs:

**<https://developer.mozilla.org/en-US/docs/Web/HTML>**