Assignment 4

Sergio Cutrim Gouveia

Georgian@ILAC

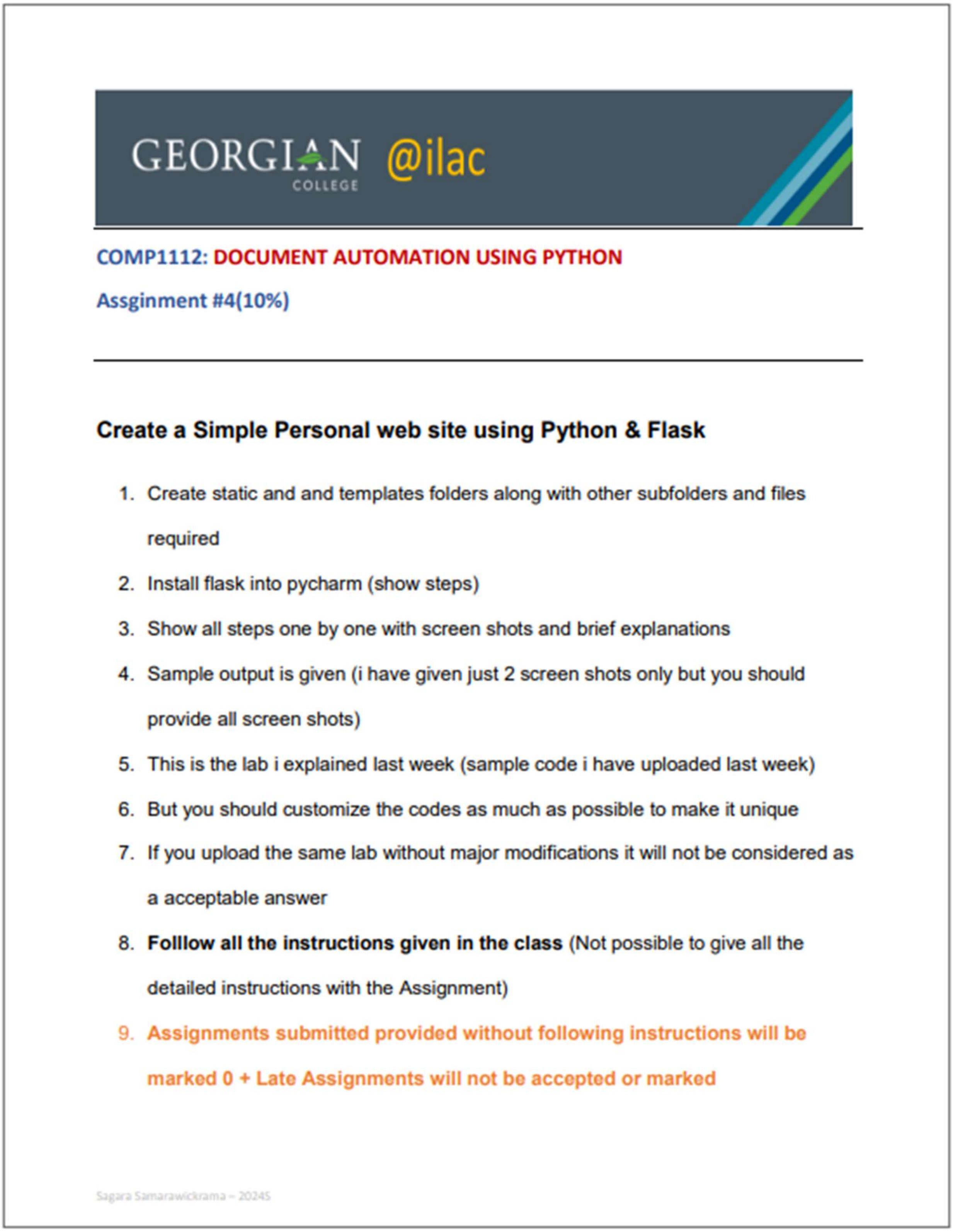
COMP 1112: Document Automation Using Python

Sagara Samarawickrama

August 06, 2024

Assignment 4

Instructions



GEORGIAN COLLEGE @ilac

COMP1112: DOCUMENT AUTOMATION USING PYTHON

Assginment #4(10%)

Create a Simple Personal web site using Python & Flask

1. Create static and and templates folders along with other subfolders and files required
2. Install flask into pycharm (show steps)
3. Show all steps one by one with screen shots and brief explanations
4. Sample output is given (i have given just 2 screen shots only but you should provide all screen shots)
5. This is the lab i explained last week (sample code i have uploaded last week)
6. But you should customize the codes as much as possible to make it unique
7. If you upload the same lab without major modifications it will not be considered as a acceptable answer
8. **Folllow all the instructions given in the class** (Not possible to give all the detailed instructions with the Assignment)
9. **Assignments submitted provided without following instructions will be marked 0 + Late Assignments will not be accepted or marked**

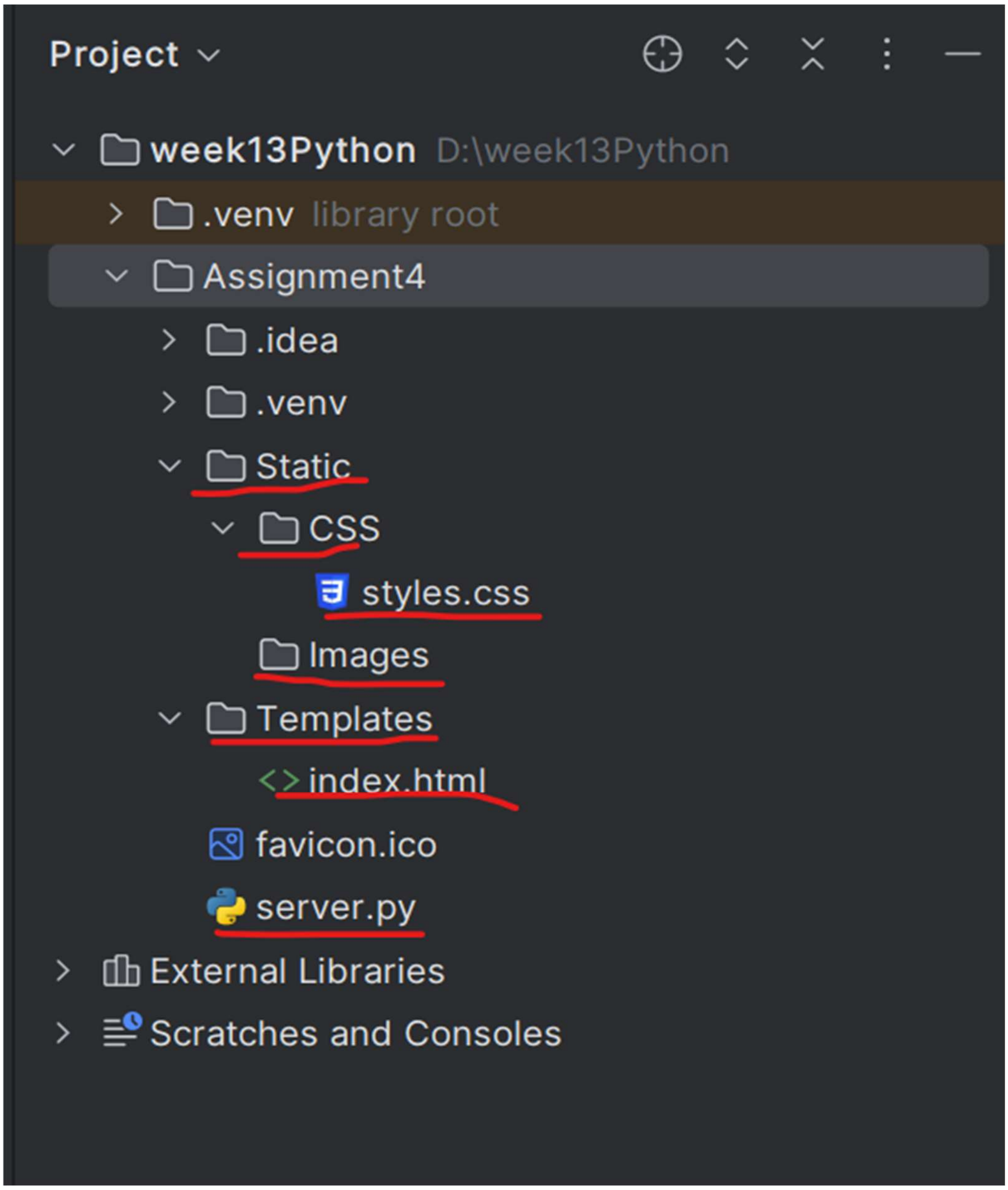
Sagara Samarawickrama – 2024S

Question 1

The first question requires us to create the folders required to create a website via python – static, template and any other subfolders. For the exercise, we will use the website that the teacher created in class as a template so it can be done easier.

My project is named week13Python, and I created a folder inside named Assignment4, inside that folder I created Static and as subfolder CSS and Images (inside each the appropriate files that are going to be used on the website). I have also created the folder Templates that has inside it index the html, and to finish I created the python file named server.py.

Each one of the folders is marked in red in the screenshot below:



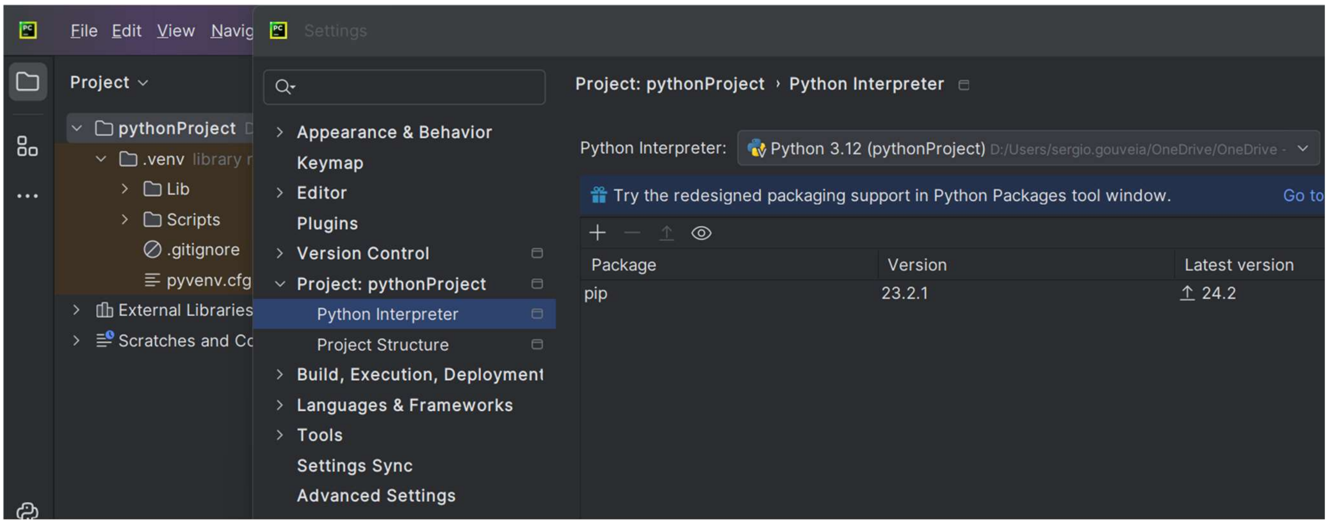
```
Project
week13Python D:\week13Python
  .venv library root
  Assignment4
    .idea
    .venv
    Static
      CSS
        styles.css
      Images
    Templates
      index.html
    favicon.ico
    server.py
External Libraries
Scratches and Consoles
```

Question 2 and 3

I am putting the 2 questions as one because I didn't read both questions and did part 2 without taking the screenshots. The second part only requests to install flask and question 3 requests me to show the installation of flask (step by step). Question 2 was done successfully so I will do it all over again for another project I created from scratch. The idea is just to show how to install flasks.

(from this point on you will see the name of the new project created only to install flask)

First step I am going to check if flask is installed as an interpreter or not by going to Settings > Python Interpreter:

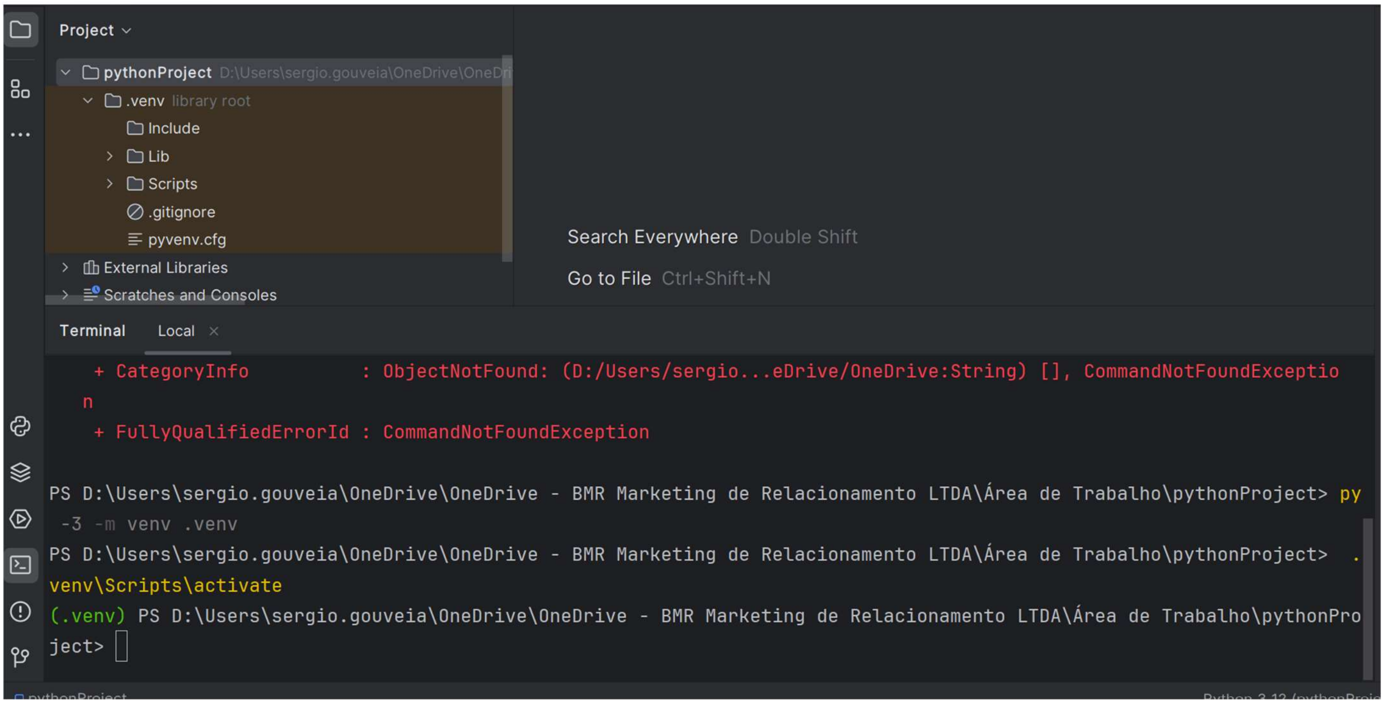


Python Interpreter: Python 3.12 (pythonProject) D:/Users/sergio.gouveia/OneDrive/OneDrive ·

Package	Version	Latest version
pip	23.2.1	↑ 24.2

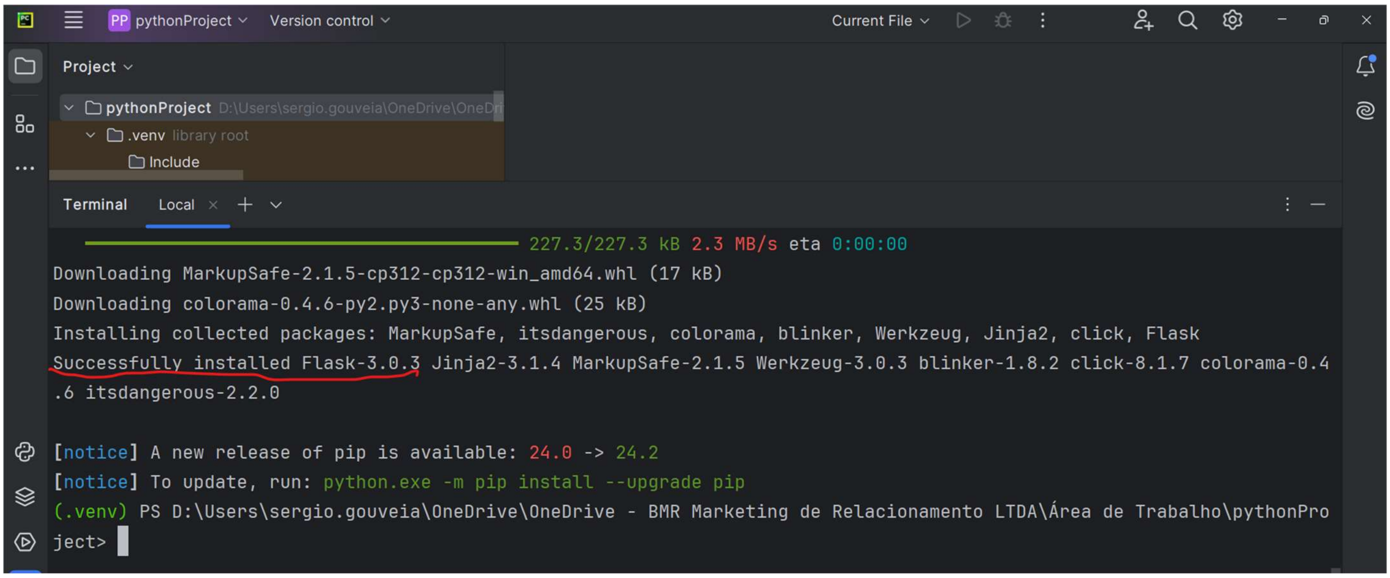
Since it is not installed, we must create the virtual environment in the terminal and activate it using the commands taught in class:

- `py -3 -m venv .venv` → this command has to be used to create the virtual environment. It looks in the screen as it is doing nothing and no message comes to the screen it just goes back to the directory already used.
- `.venv\Scripts\activate` → after creating the virtual environment now I can activate it and using this command makes the (.venv) becomes green in the beginning of the path.



```
    + CategoryInfo          : ObjectNotFound: (D:/Users/sergio...eDrive/OneDrive:String) [], CommandNotFoundExceptio
   n
    + FullyQualifiedErrorId : CommandNotFoundException

PS D:\Users\sergio.gouveia\OneDrive\OneDrive - BMR Marketing de Relacionamento LTDA\Área de Trabalho\pythonProject> py
 -3 -m venv .venv
PS D:\Users\sergio.gouveia\OneDrive\OneDrive - BMR Marketing de Relacionamento LTDA\Área de Trabalho\pythonProject>  .
venv\Scripts\activate
(.venv) PS D:\Users\sergio.gouveia\OneDrive\OneDrive - BMR Marketing de Relacionamento LTDA\Área de Trabalho\pythonPro
ject>
```

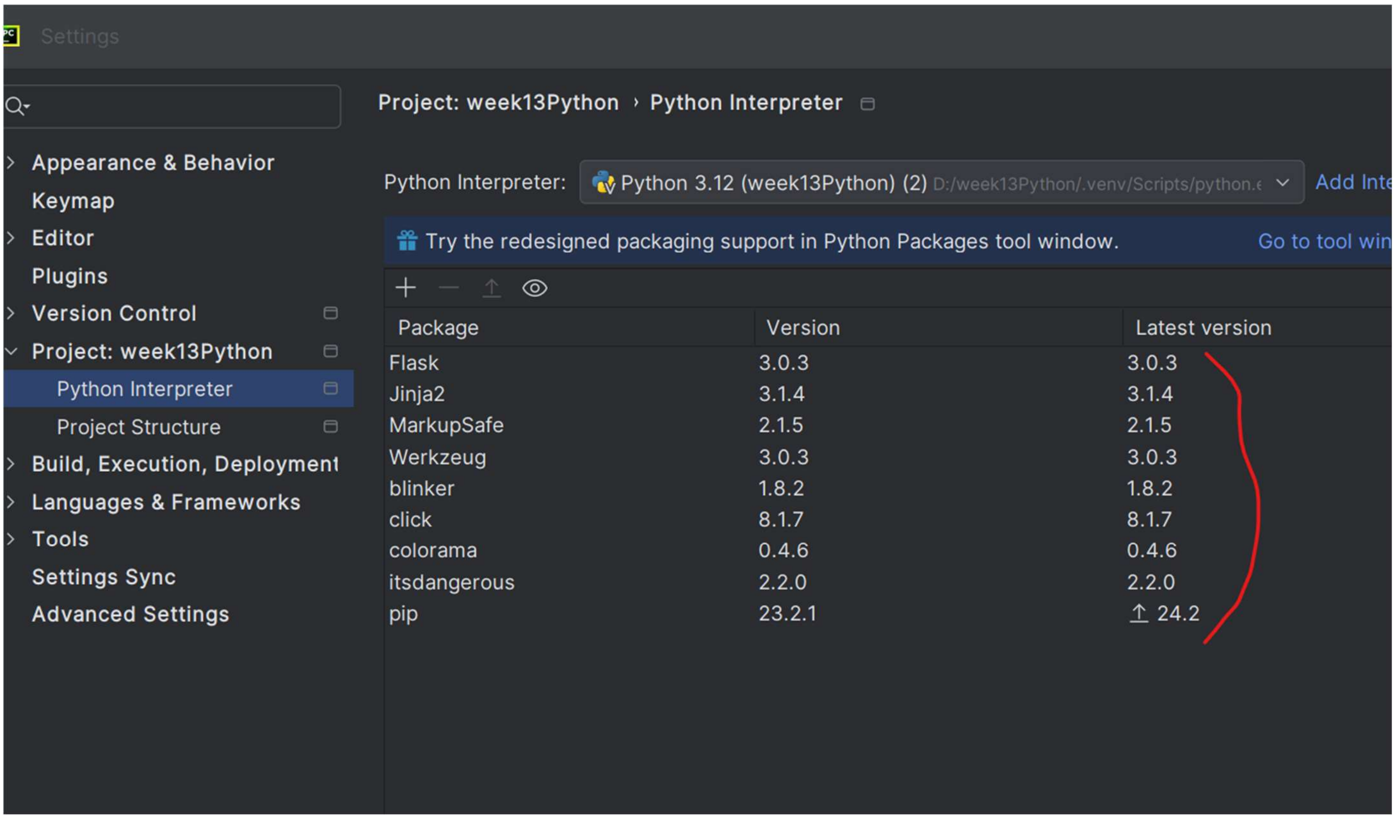
Now that the foldes is active we can now install the flask using the command: pip install Flask. After running the terminal will display a message as below confirming the installation:



```
   ━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━ 227.3/227.3 kB 2.3 MB/s eta 0:00:00
Downloading MarkupSafe-2.1.5-cp312-cp312-win_amd64.whl (17 kB)
Downloading colorama-0.4.6-py2.py3-none-any.whl (25 kB)
Installing collected packages: MarkupSafe, itsdangerous, colorama, blinker, Werkzeug, Jinja2, click, Flask
Successfully installed Flask-3.0.3 Jinja2-3.1.4 MarkupSafe-2.1.5 Werkzeug-3.0.3 blinker-1.8.2 click-8.1.7 colorama-0.4
.6 itsdangerous-2.2.0

[notice] A new release of pip is available: 24.0 -> 24.2
[notice] To update, run: python.exe -m pip install --upgrade pip
(.venv) PS D:\Users\sergio.gouveia\OneDrive\OneDrive - BMR Marketing de Relacionamento LTDA\Área de Trabalho\pythonPro
ject>
```

To confirm Flask is running I can go to the Settings again and check the interpreters as it was done in the beginning. It should show now all that was installed.

(now back to the project that has the assignment)



Python Interpreter: Python 3.12 (week13Python) (2) D:/week13Python/.venv/Scripts/python.e

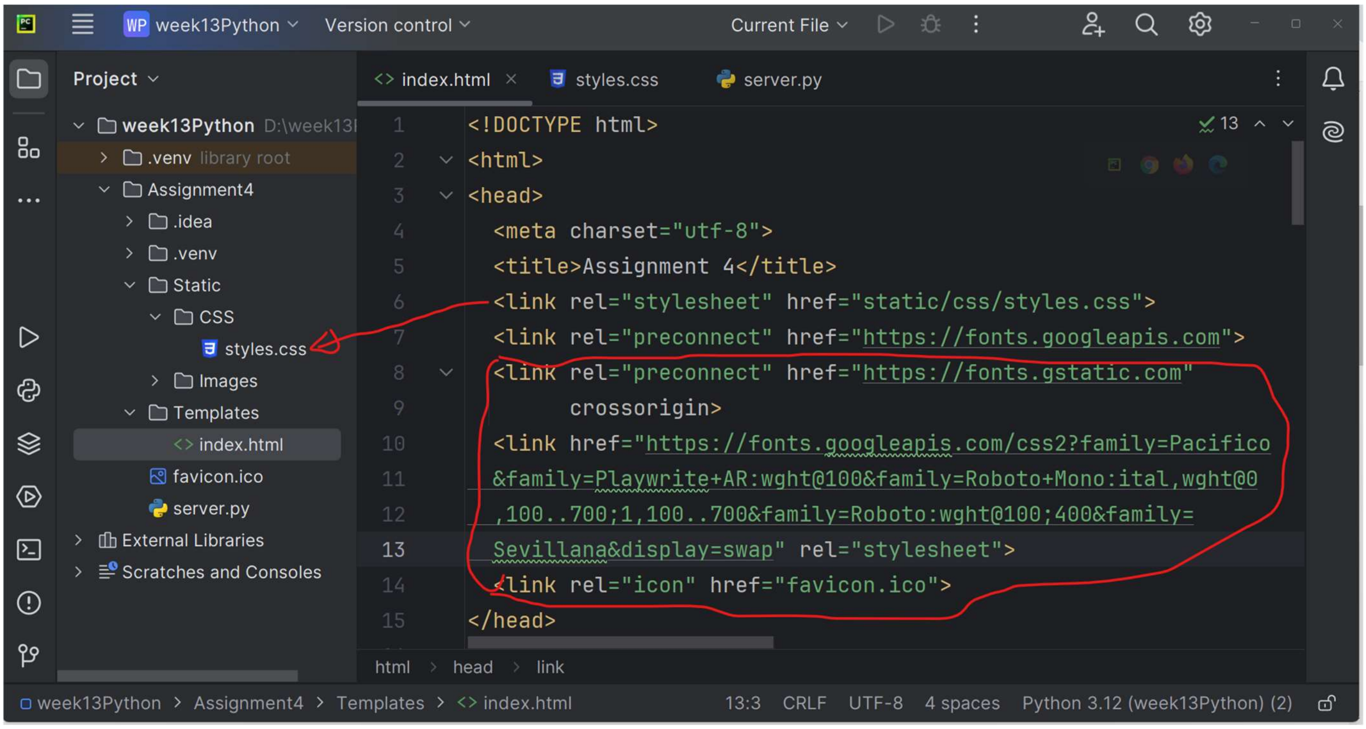
Package	Version	Latest version
Flask	3.0.3	3.0.3
Jinja2	3.1.4	3.1.4
MarkupSafe	2.1.5	2.1.5
Werkzeug	3.0.3	3.0.3
blinker	1.8.2	1.8.2
click	8.1.7	8.1.7
colorama	0.4.6	0.4.6
itsdangerous	2.2.0	2.2.0
pip	23.2.1	↑ 24.2

<u>Question 4 to 9</u>

From now on all the questions are about the development of the website, so I will treat all together as one question and detail each part of html and css.

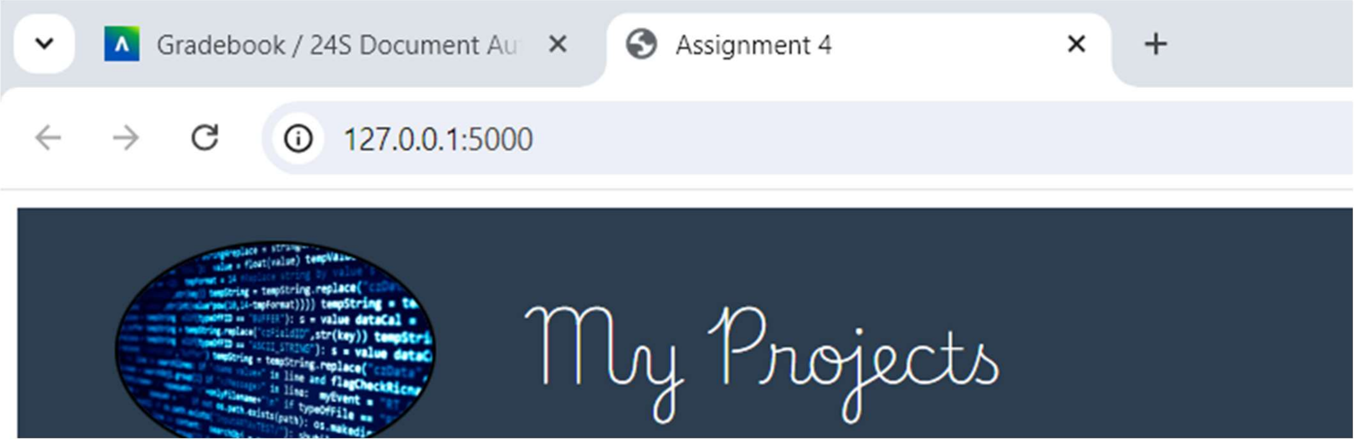
HEADER in HTML

In the header I included the title as the name of the page that appears on the top of the browser, I also added a CSS link to connect to my CSS folder and a font from google just to test if the connections were working and to make the website a little bit more attractive.



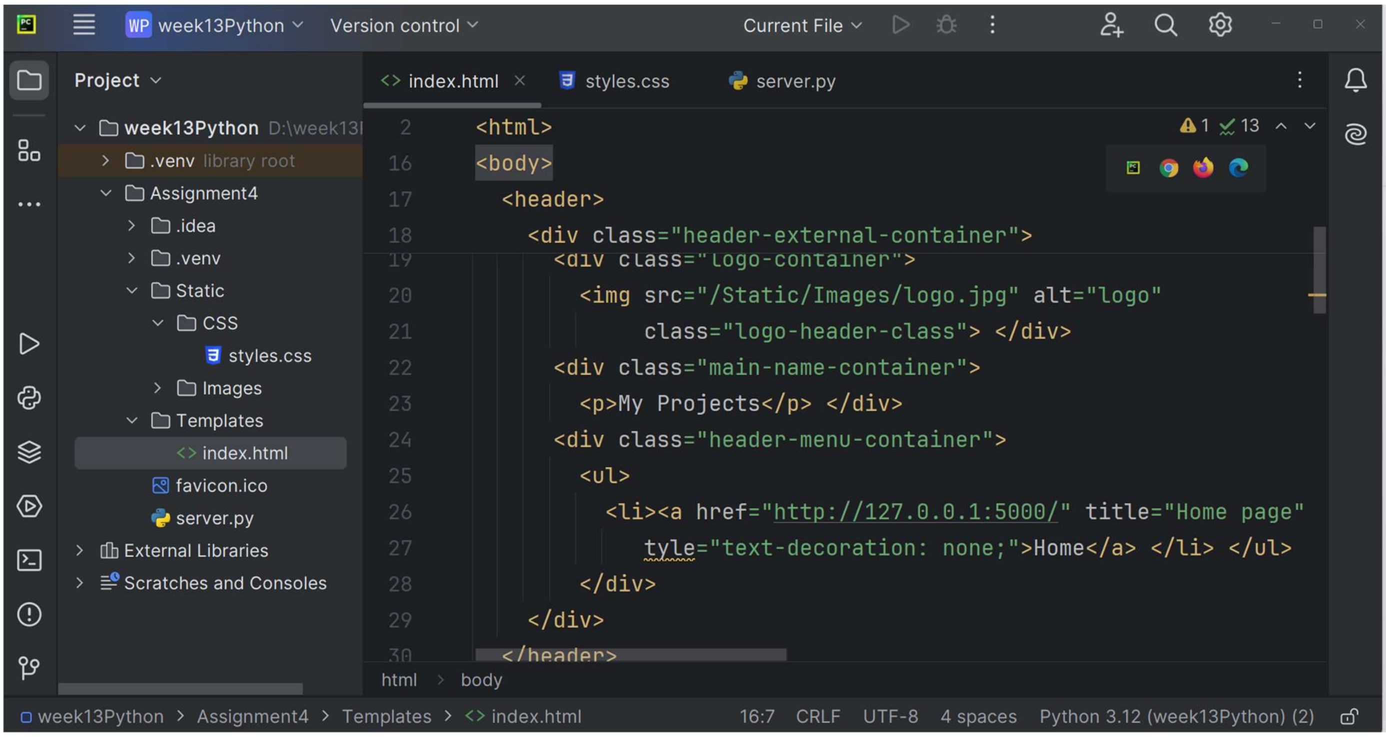
```html
<!DOCTYPE html>
<html>
<head>
    <meta charset="utf-8">
    <title>Assignment 4</title>
    <link rel="stylesheet" href="static/css/styles.css">
    <link rel="preconnect" href="https://fonts.googleapis.com">
    <link rel="preconnect" href="https://fonts.gstatic.com"
          crossorigin>
    <link href="https://fonts.googleapis.com/css2?family=Pacifico
    &family=Playwrite+AR:wght@100&family=Roboto+Mono:ital,wght@0
    ,100..700;1,100..700&family=Roboto:wght@100;400&family=
    Sevillana&display=swap" rel="stylesheet">
    <link rel="icon" href="favicon.ico">
</head>
```

As it should be when I opened the page the title appeared perfectly.



HEADER

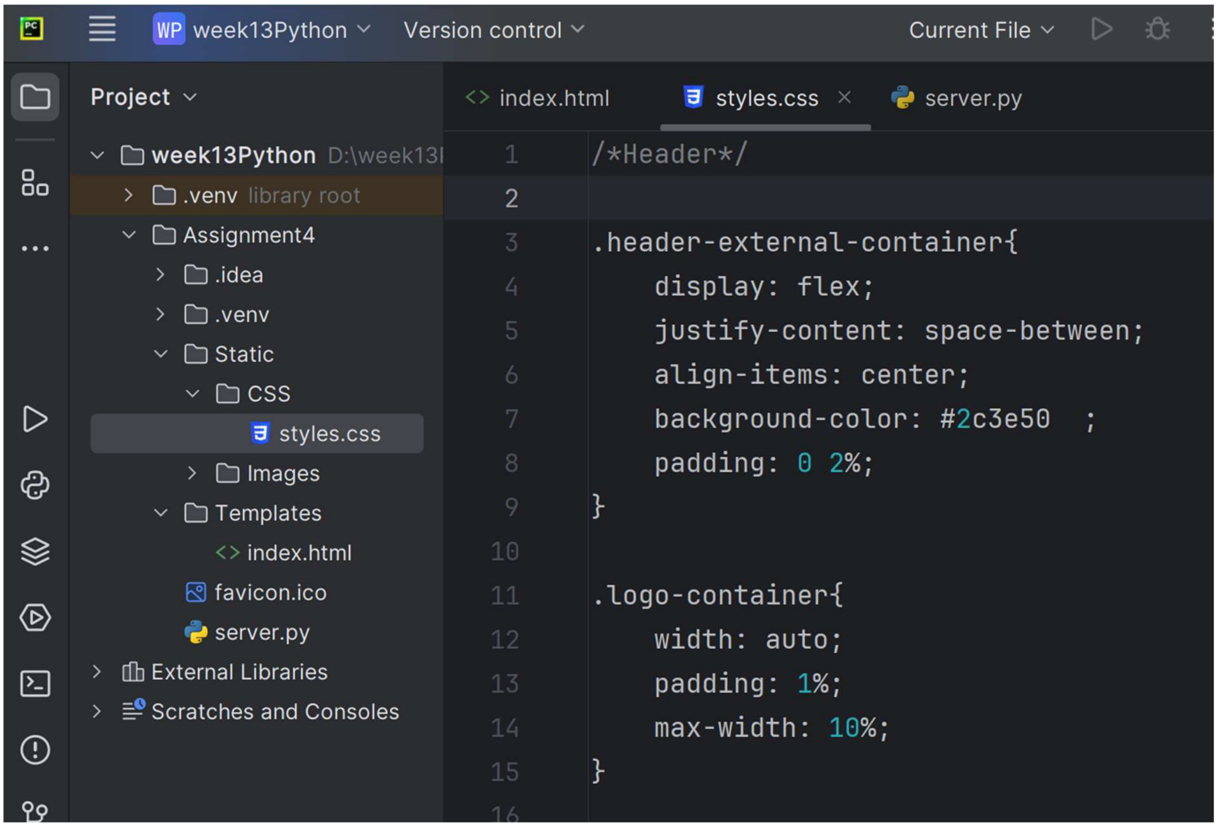
Now I started the body of the HTML with the Header. The header will be a large bar with 3 columns (divs). Inside the first column I am going to put a logo, the 2nd will have the name of the website and the 3rd will have a list of Menu to go to any other page of the website. Since this exercise is more about Python I only added one page the Home, but adding new ones is easy just keep using the code <li> and adding more links.



```
<html>
<body>
  <header>
    <div class="header-external-container">
      <div class="logo-container">
        <img src="/Static/Images/logo.jpg" alt="logo"
             class="logo-header-class"> </div>
      <div class="main-name-container">
        <p>My Projects</p> </div>
      <div class="header-menu-container">
        <ul>
          <li><a href="http://127.0.0.1:5000/" title="Home page"
             tyle="text-decoration: none;">Home</a> </li> </ul>
        </div>
    </div>
  </header>
```

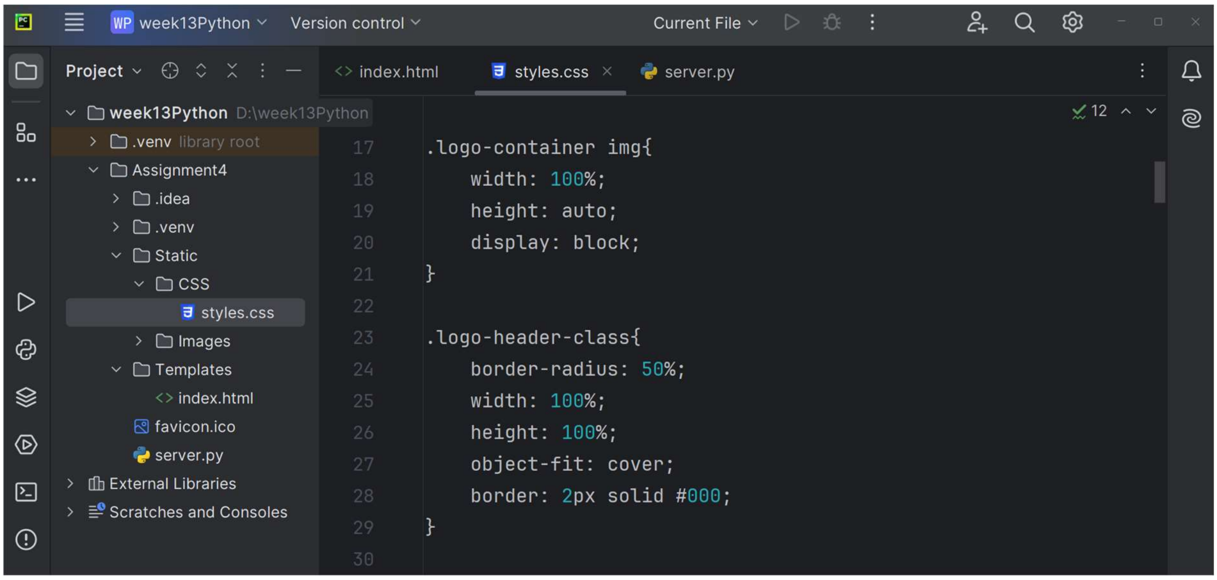
For the header I had to include CSS to make the page stylized. SO lets take it part by part in the CSS file.

Adjust the external DIV that contains all the DIVs, and also the DIV that contains the LOGO:



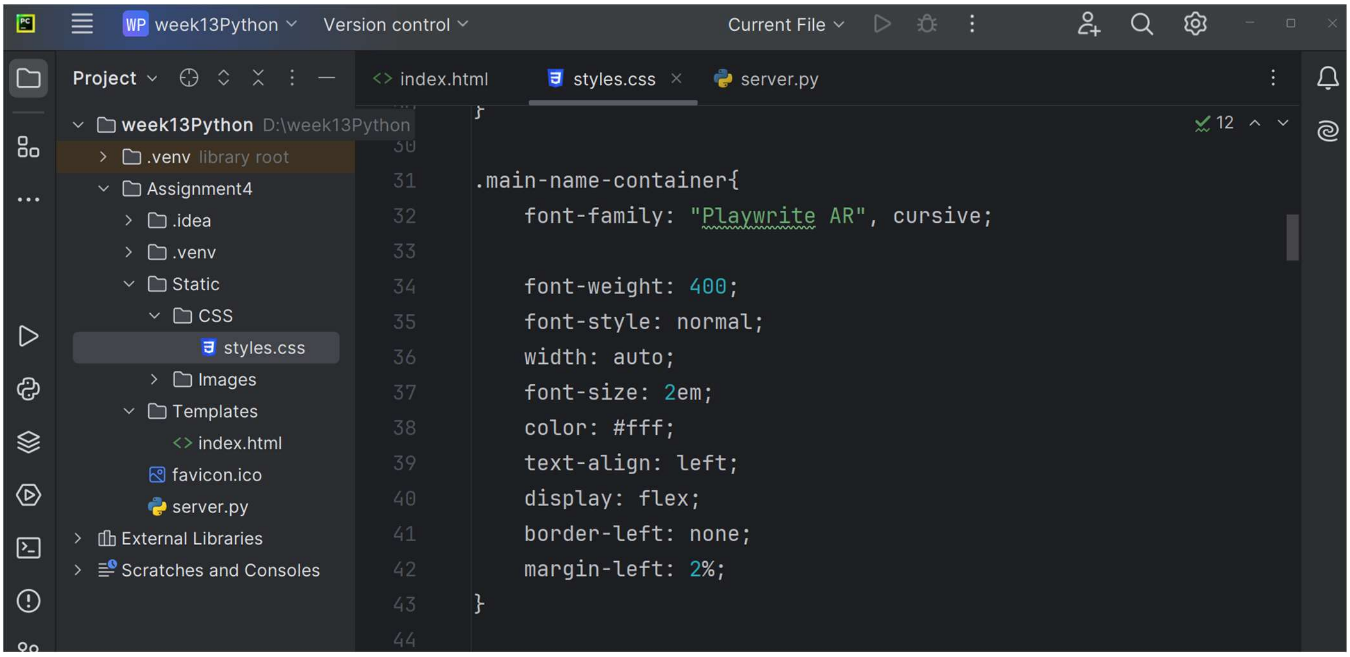
```css
/*Header*/

.header-external-container{
    display: flex;
    justify-content: space-between;
    align-items: center;
    background-color: #2c3e50  ;
    padding: 0 2%;
}

.logo-container{
    width: auto;
    padding: 1%;
    max-width: 10%;
}
```

Adjust the image to be rounded and add some features to the image to adjust it to the logo div:



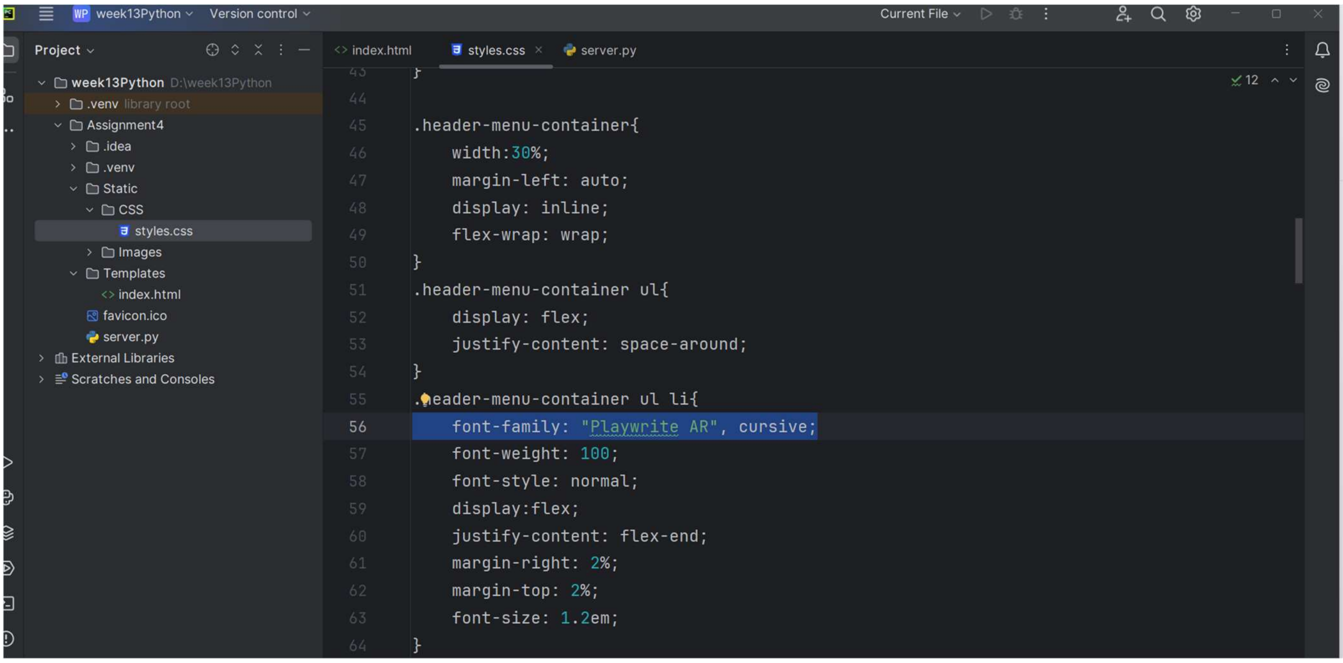
```css
.logo-container img{
    width: 100%;
    height: auto;
    display: block;
}

.logo-header-class{
    border-radius: 50%;
    width: 100%;
    height: 100%;
    object-fit: cover;
    border: 2px solid #000;
}
```

Adjust the title of the page to be centralized vertically but arranged as aligned to the left, also changing the font:

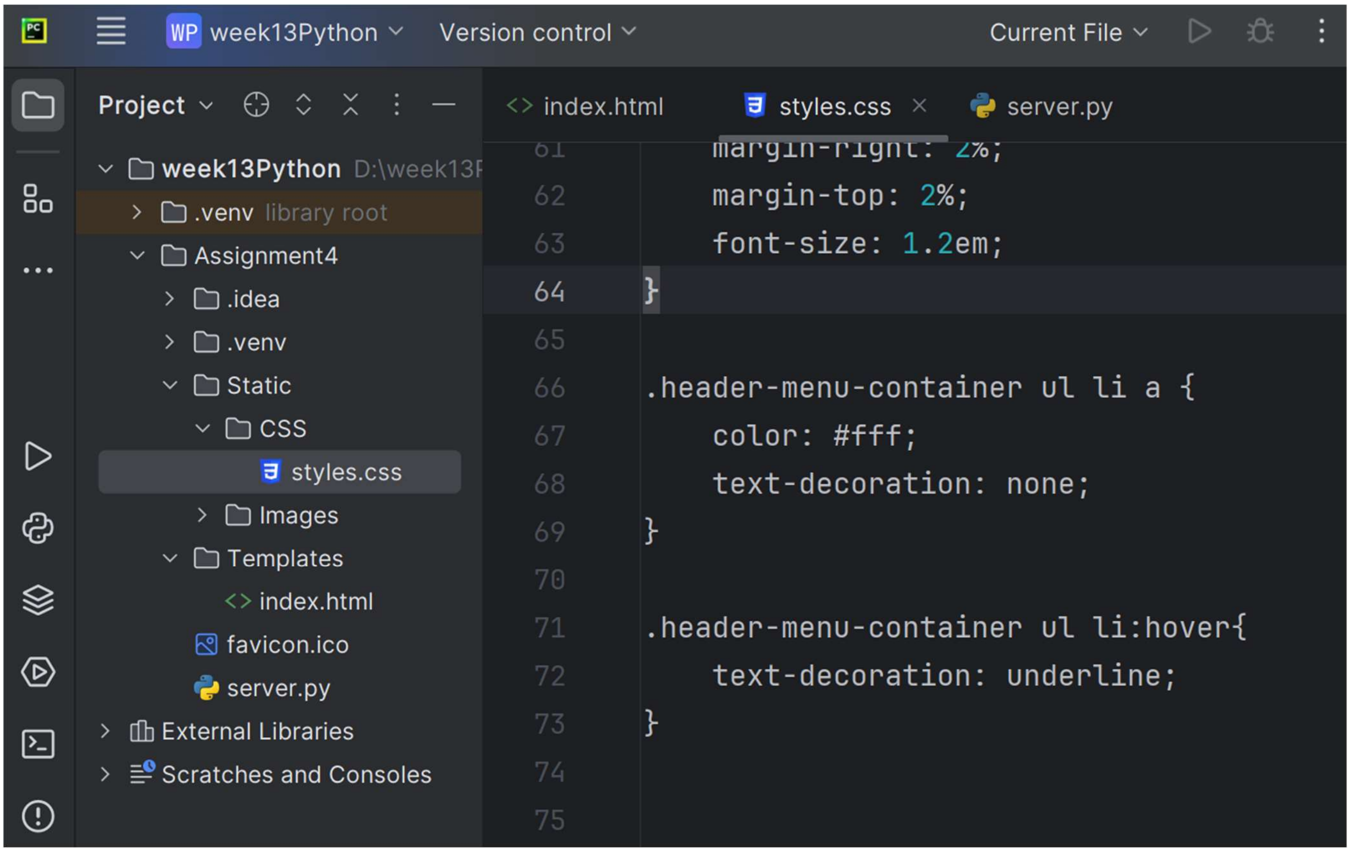


```css
}

.main-name-container{
    font-family: "Playwrite AR", cursive;

    font-weight: 400;
    font-style: normal;
    width: auto;
    font-size: 2em;
    color: #fff;
    text-align: left;
    display: flex;
    border-left: none;
    margin-left: 2%;
}
```

Adjusting the menu via CSS:

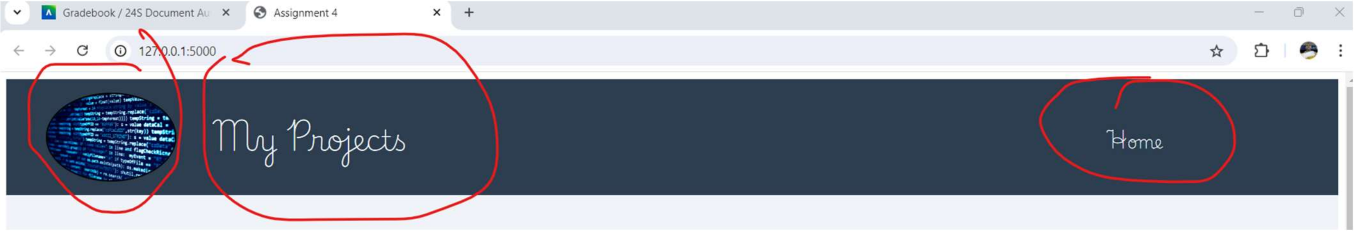


```css
}

.header-menu-container{
    width:30%;
    margin-left: auto;
    display: inline;
    flex-wrap: wrap;
}
.header-menu-container ul{
    display: flex;
    justify-content: space-around;
}
.header-menu-container ul li{
    font-family: "Playwrite AR", cursive;
    font-weight: 100;
    font-style: normal;
    display:flex;
    justify-content: flex-end;
    margin-right: 2%;
    margin-top: 2%;
    font-size: 1.2em;
}
```



```css
    margin-right: 2%;
    margin-top: 2%;
    font-size: 1.2em;
}

.header-menu-container ul li a {
    color: #fff;
    text-decoration: none;
}

.header-menu-container ul li:hover{
    text-decoration: underline;
}
```

After applying all the css I can now see it on the webpage:

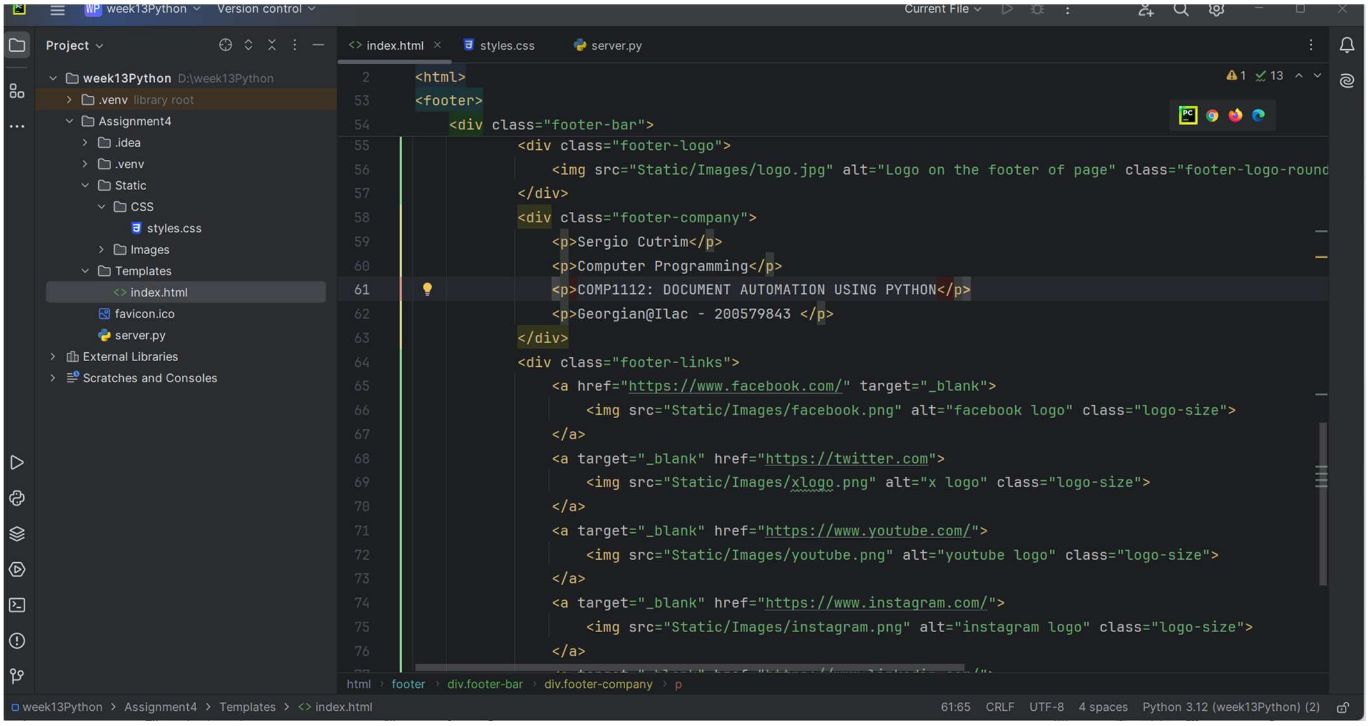


The color of the background is set as the background of the main div that is why it is applied to all the headers. The letter I changed just to test if the connection with google fonts was possible. The logo was created as I wanted and centered in a small box on the left, and finally the links and the name are displayed as I wanted.

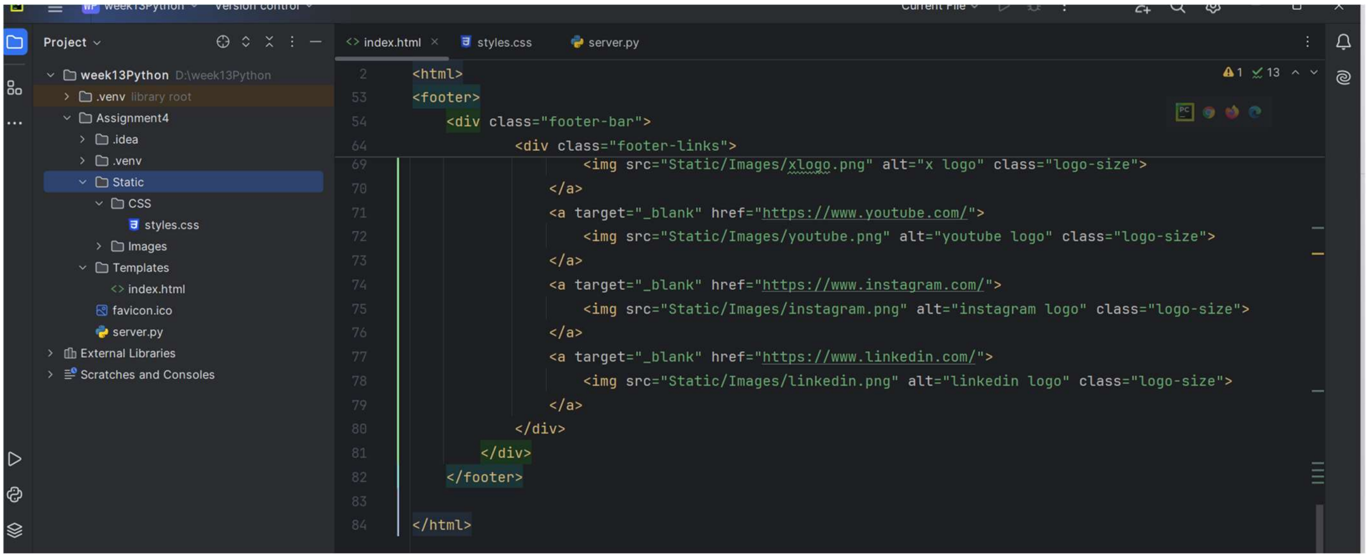
I will skip for now the main and go to the FOOTER since it has a similar design.

FOOTER

The CSS and HTML are not the main focus, and because of that I will start to go a little bit faster on this part. This is the footers HTML



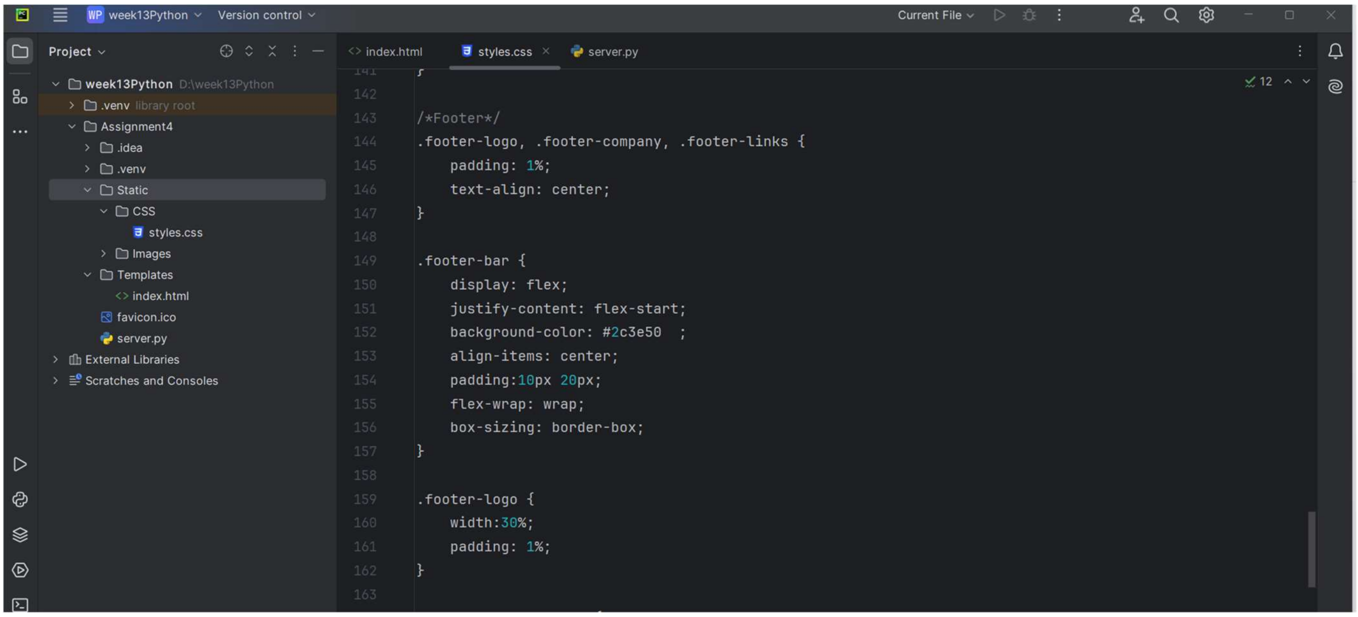
```html
<html>
<footer>
    <div class="footer-bar">
            <div class="footer-logo">
                <img src="Static/Images/logo.jpg" alt="Logo on the footer of page" class="footer-logo-round
            </div>
            <div class="footer-company">
                <p>Sergio Cutrim</p>
                <p>Computer Programming</p>
                <p>COMP1112: DOCUMENT AUTOMATION USING PYTHON</p>
                <p>Georgian@Ilac - 200579843 </p>
            </div>
            <div class="footer-links">
                <a href="https://www.facebook.com/" target="_blank">
                    <img src="Static/Images/facebook.png" alt="facebook logo" class="logo-size">
                </a>
                <a target="_blank" href="https://twitter.com">
                    <img src="Static/Images/xlogo.png" alt="x logo" class="logo-size">
                </a>
                <a target="_blank" href="https://www.youtube.com/">
                    <img src="Static/Images/youtube.png" alt="youtube logo" class="logo-size">
                </a>
                <a target="_blank" href="https://www.instagram.com/">
                    <img src="Static/Images/instagram.png" alt="instagram logo" class="logo-size">
                </a>
```



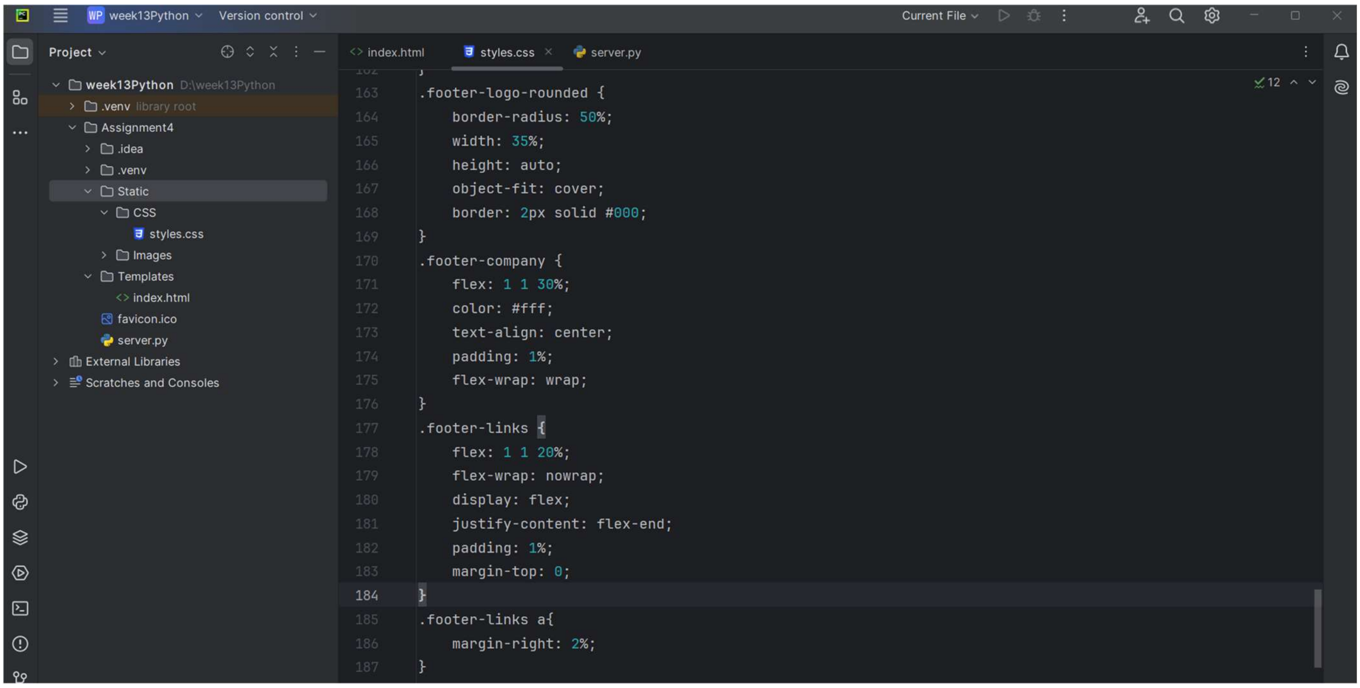
```html
<html>
<footer>
    <div class="footer-bar">
            <div class="footer-links">
                    <img src="Static/Images/xlogo.png" alt="x logo" class="logo-size">
                </a>
                <a target="_blank" href="https://www.youtube.com/">
                    <img src="Static/Images/youtube.png" alt="youtube logo" class="logo-size">
                </a>
                <a target="_blank" href="https://www.instagram.com/">
                    <img src="Static/Images/instagram.png" alt="instagram logo" class="logo-size">
                </a>
                <a target="_blank" href="https://www.linkedin.com/">
                    <img src="Static/Images/linkedin.png" alt="linkedin logo" class="logo-size">
                </a>
            </div>
        </div>
    </footer>

</html>
```

Basically it is the same as the header with 3 DIVS inside a bigger div. The diffference is in the CSS that I made to have the information on the footre centered instead of align to the left. Also the links now are static images of social media, all the links are working and I have added a link to all of them.

The CSS of the footer is below:

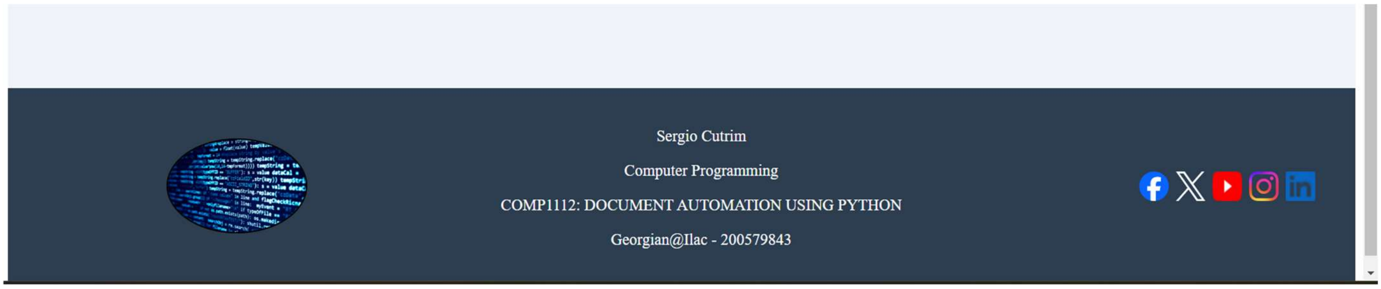


```
}

/*Footer*/
.footer-logo, .footer-company, .footer-links {
    padding: 1%;
    text-align: center;
}

.footer-bar {
    display: flex;
    justify-content: flex-start;
    background-color: #2c3e50  ;
    align-items: center;
    padding:10px 20px;
    flex-wrap: wrap;
    box-sizing: border-box;
}

.footer-logo {
    width:30%;
    padding: 1%;
}

```



```
.footer-logo-rounded {
    border-radius: 50%;
    width: 35%;
    height: auto;
    object-fit: cover;
    border: 2px solid #000;
}
.footer-company {
    flex: 1 1 30%;
    color: #fff;
    text-align: center;
    padding: 1%;
    flex-wrap: wrap;
}
.footer-links {
    flex: 1 1 20%;
    flex-wrap: nowrap;
    display: flex;
    justify-content: flex-end;
    padding: 1%;
    margin-top: 0;
}
.footer-links a{
    margin-right: 2%;
}
```

As I wanted the page is behaving and showing the texts and colors I defined.



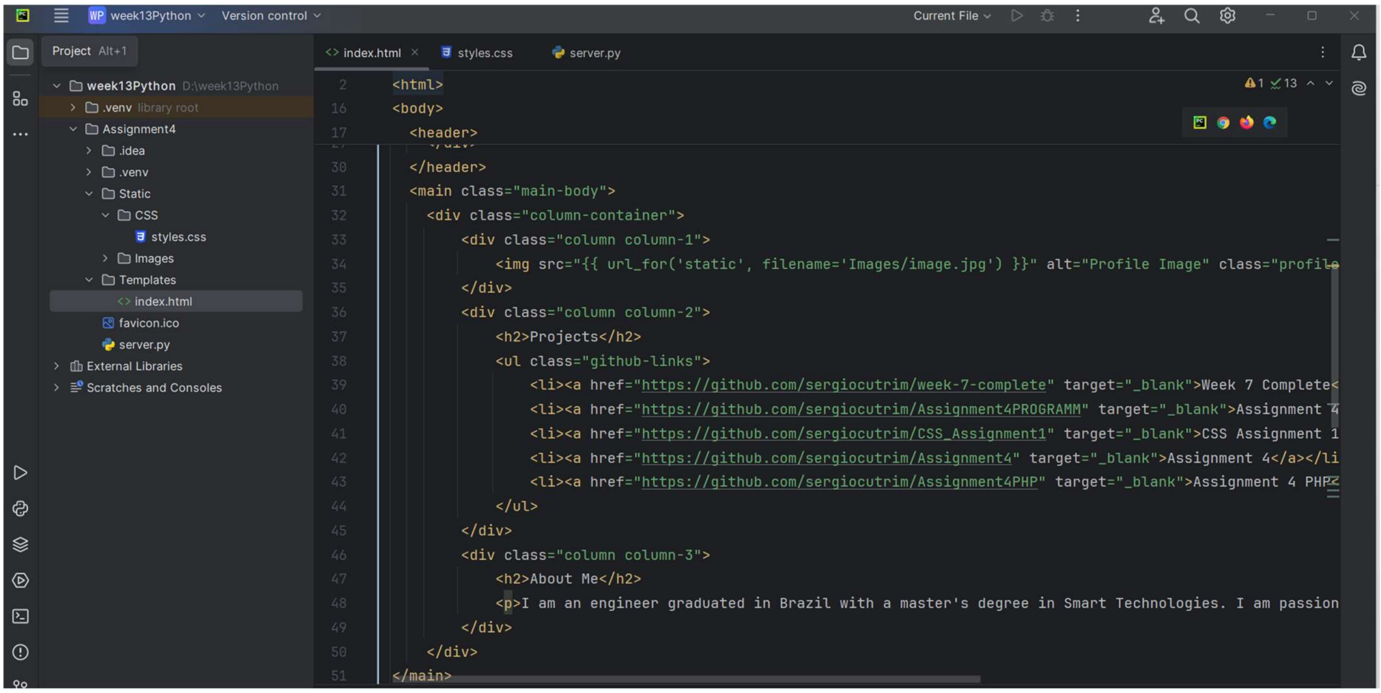
Sergio Cutrim

Computer Programming

COMP1112: DOCUMENT AUTOMATION USING PYTHON

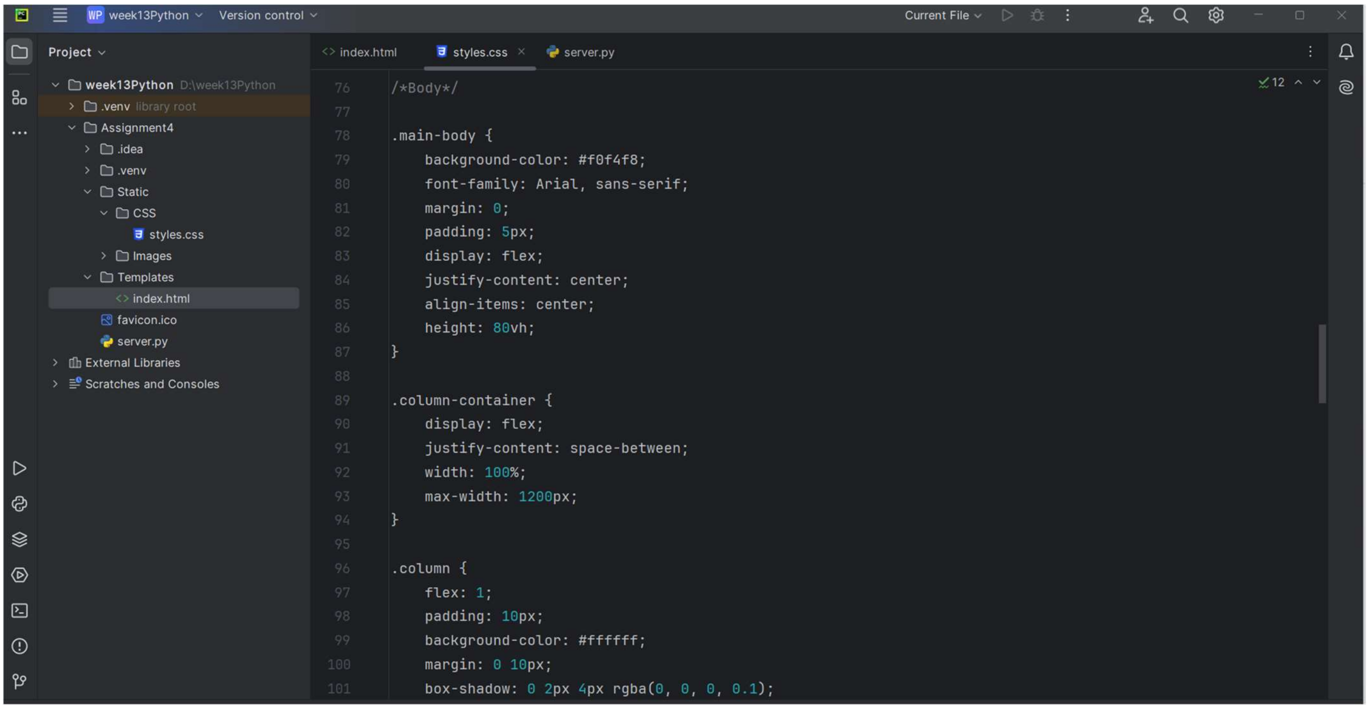
Georgian@Ilac - 200579843

Now let me go finally to the main page, the concept is the same, I have added 3 columns one picture, one with links and one with a brief description about me. Simple page just to show how it works.

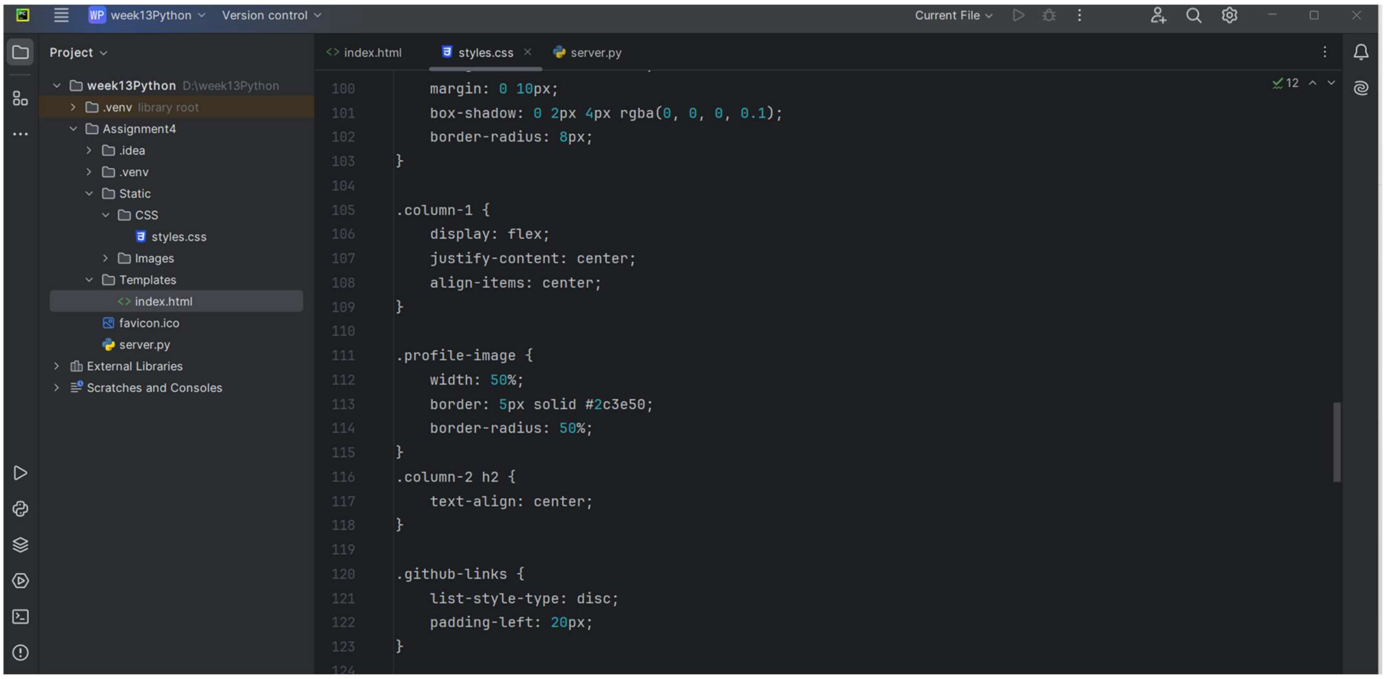


```
<html>
<body>
  <header>
  </header>
  <main class="main-body">
    <div class="column-container">
        <div class="column column-1">
            <img src="{{ url_for('static', filename='Images/image.jpg') }}" alt="Profile Image" class="profile
        </div>
        <div class="column column-2">
            <h2>Projects</h2>
            <ul class="github-links">
                <li><a href="https://github.com/sergiocutrim/week-7-complete" target="_blank">Week 7 Complete<
                <li><a href="https://github.com/sergiocutrim/Assignment4PROGRAMM" target="_blank">Assignment 4
                <li><a href="https://github.com/sergiocutrim/CSS_Assignment1" target="_blank">CSS Assignment 1
                <li><a href="https://github.com/sergiocutrim/Assignment4" target="_blank">Assignment 4</a></li
                <li><a href="https://github.com/sergiocutrim/Assignment4PHP" target="_blank">Assignment 4 PHP<
            </ul>
        </div>
        <div class="column column-3">
            <h2>About Me</h2>
            <p>I am an engineer graduated in Brazil with a master's degree in Smart Technologies. I am passion
        </div>
    </div>
</main>
```

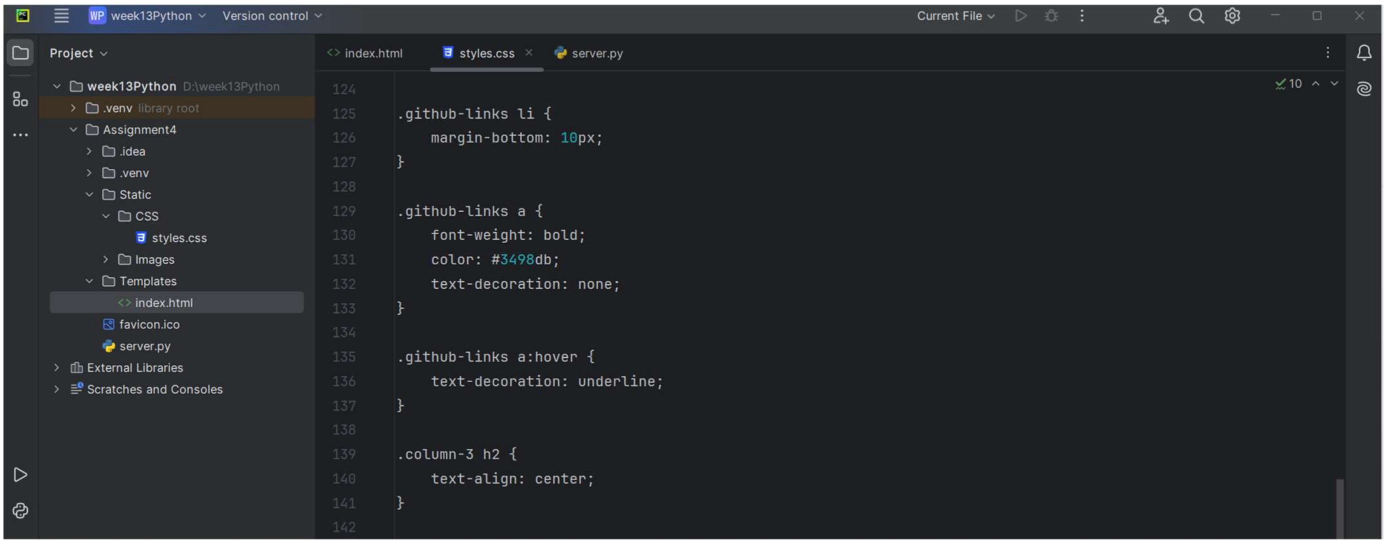
The CSS is below:



```
/*Body*/

.main-body {
    background-color: #f0f4f8;
    font-family: Arial, sans-serif;
    margin: 0;
    padding: 5px;
    display: flex;
    justify-content: center;
    align-items: center;
    height: 80vh;
}

.column-container {
    display: flex;
    justify-content: space-between;
    width: 100%;
    max-width: 1200px;
}

.column {
    flex: 1;
    padding: 10px;
    background-color: #ffffff;
    margin: 0 10px;
    box-shadow: 0 2px 4px rgba(0, 0, 0, 0.1);
```

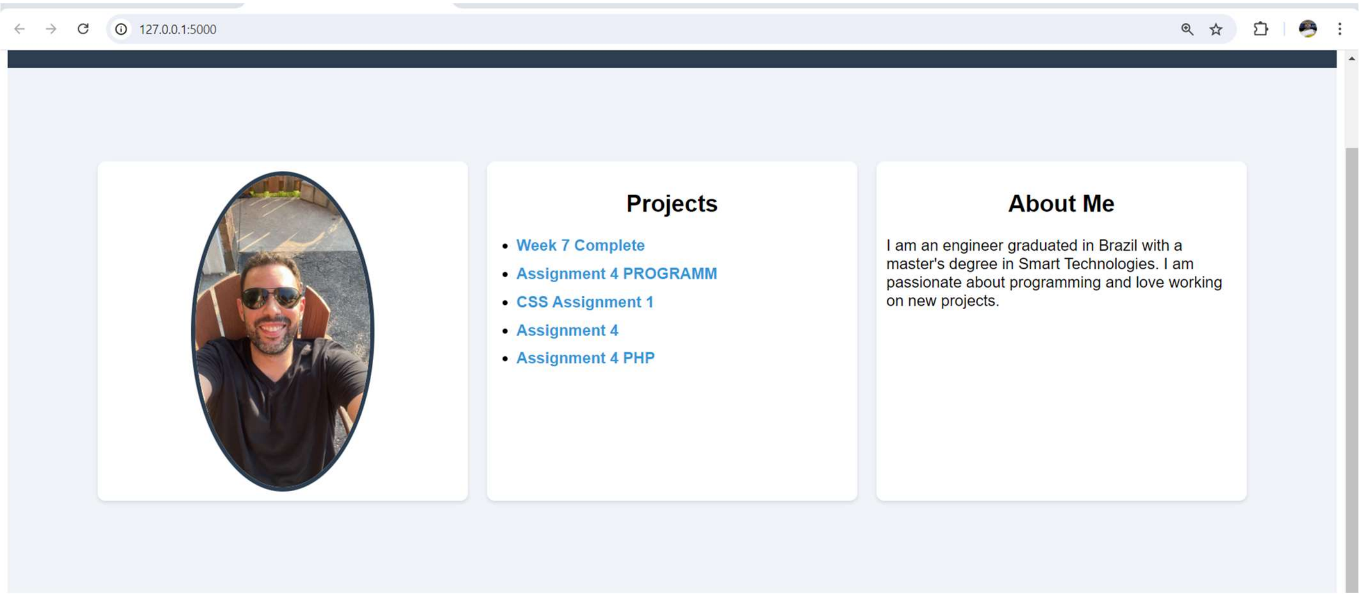


```css
    margin: 0 10px;
    box-shadow: 0 2px 4px rgba(0, 0, 0, 0.1);
    border-radius: 8px;
}

.column-1 {
    display: flex;
    justify-content: center;
    align-items: center;
}

.profile-image {
    width: 50%;
    border: 5px solid #2c3e50;
    border-radius: 50%;
}
.column-2 h2 {
    text-align: center;
}

.github-links {
    list-style-type: disc;
    padding-left: 20px;
}
```



```css

.github-links li {
    margin-bottom: 10px;
}

.github-links a {
    font-weight: bold;
    color: #3498db;
    text-decoration: none;
}

.github-links a:hover {
    text-decoration: underline;
}

.column-3 h2 {
    text-align: center;
}

```

Finally the main part of the page looks like this:



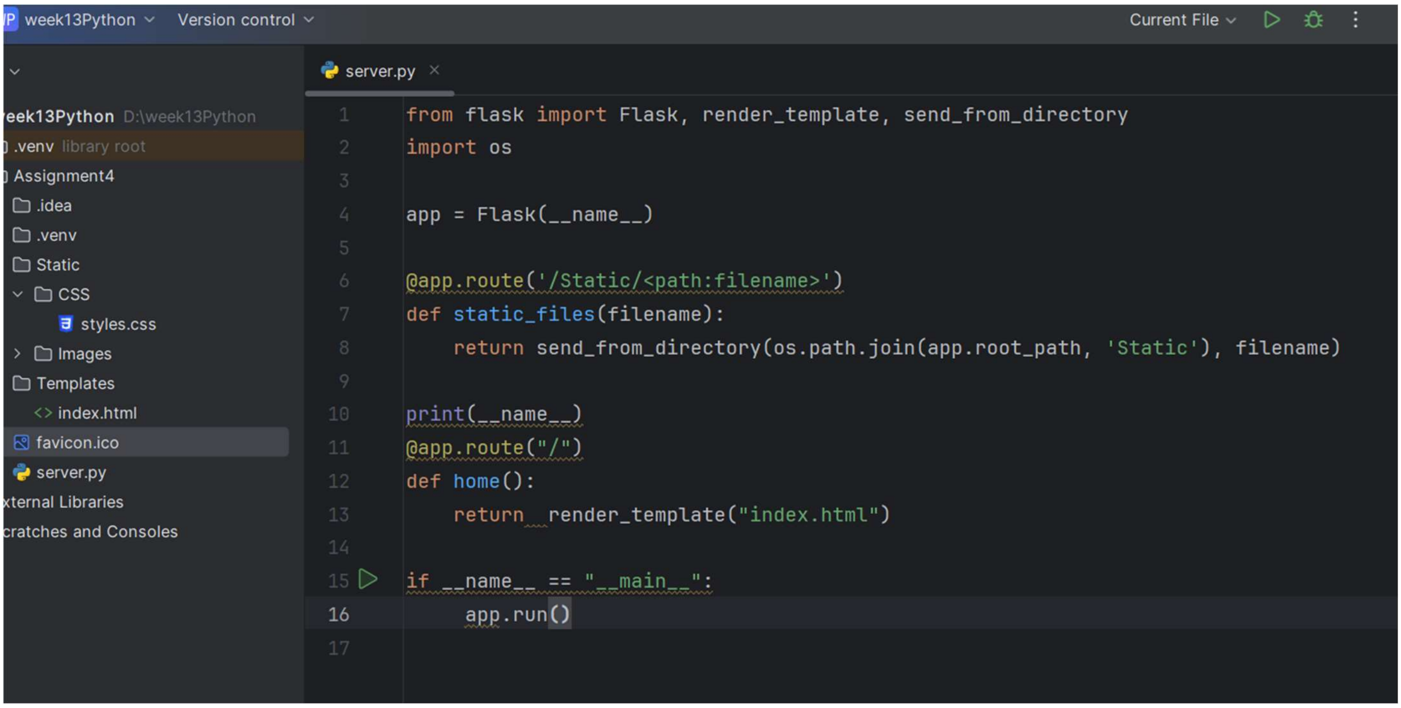
Projects

- Week 7 Complete
- Assignment 4 PROGRAMM
- CSS Assignment 1
- Assignment 4
- Assignment 4 PHP

About Me

I am an engineer graduated in Brazil with a master's degree in Smart Technologies. I am passionate about programming and love working on new projects.

Now let me show the Py file that connects all of this and brings the site to be online:

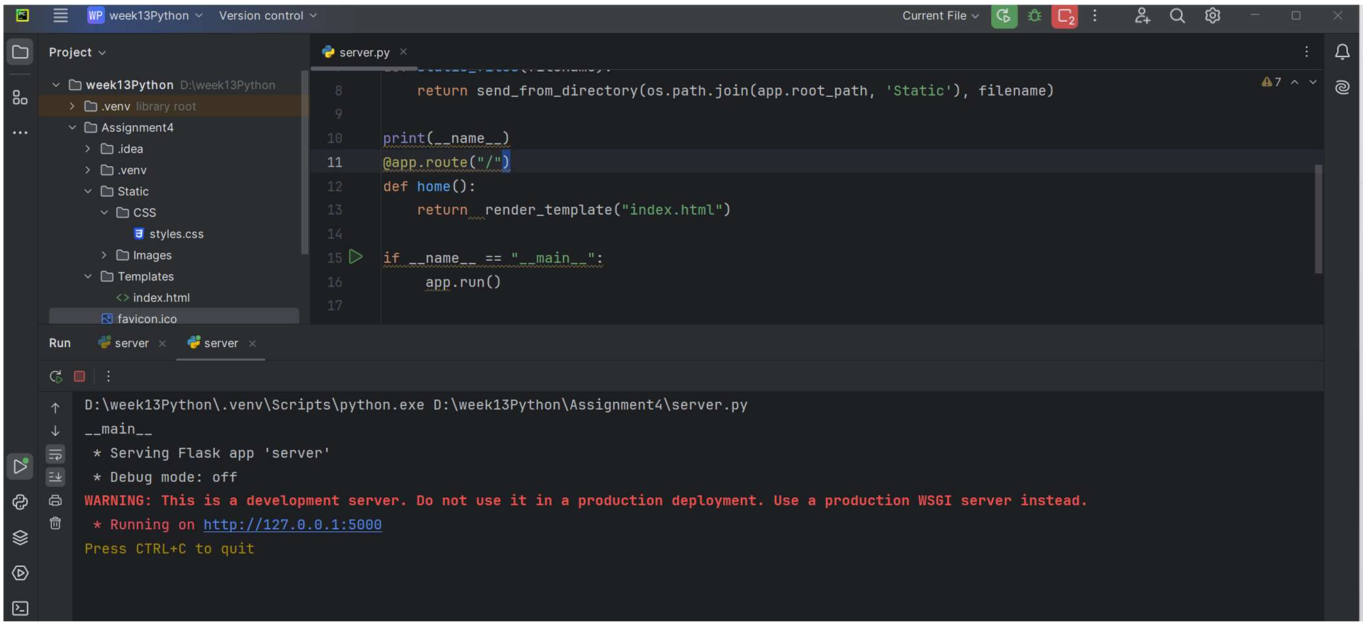


```python
from flask import Flask, render_template, send_from_directory
import os

app = Flask(__name__)

@app.route('/Static/<path:filename>')
def static_files(filename):
    return send_from_directory(os.path.join(app.root_path, 'Static'), filename)

print(__name__)
@app.route("/")
def home():
    return  render_template("index.html")

if __name__ == "__main__":
     app.run()
```

This code is basically the same one we have been using in class. First we import the flask, render and send from directory to bring the main function, the function that renders the html and the last one that serves files from the directory. After that we import os to handle paths.

We initialize the flask with the following part: app = Flask(__name__), then we define a route that handles the static files – DEF STATIC FILES.

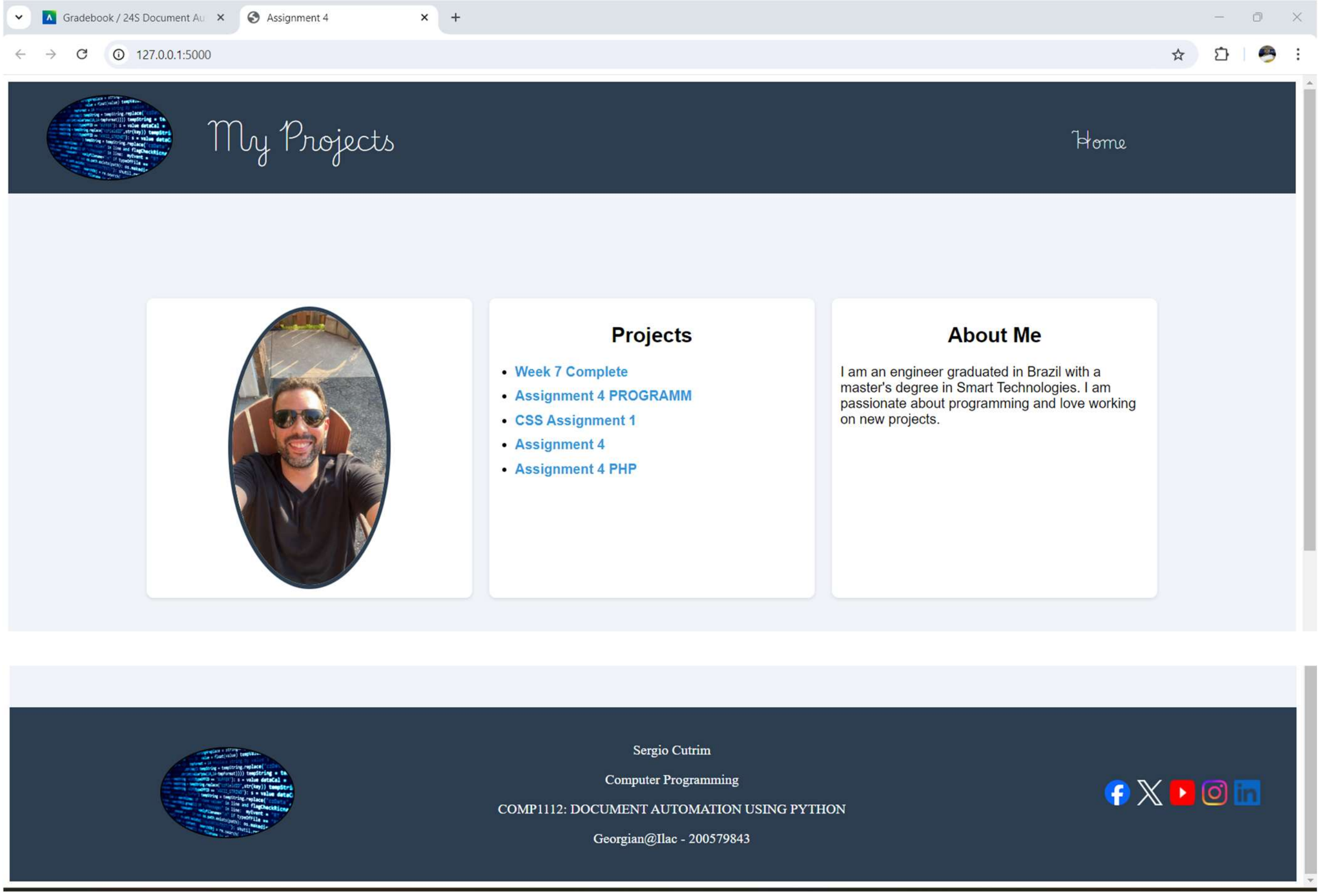
Finally we print the name (__name__) and run the app. Once we hit play in this py file the terminal will open up and send us a message with the link and all you have to do is to click there to open the webpage:



```python
    return send_from_directory(os.path.join(app.root_path, 'Static'), filename)

print(__name__)
@app.route("/")
def home():
    return render_template("index.html")

if __name__ == "__main__":
     app.run()
```

```
D:\week13Python\.venv\Scripts\python.exe D:\week13Python\Assignment4\server.py
__main__
 * Serving Flask app 'server'
 * Debug mode: off
WARNING: This is a development server. Do not use it in a production deployment. Use a production WSGI server instead.
 * Running on http://127.0.0.1:5000
Press CTRL+C to quit
```

By clicking in the link it opens this:



Projects

- Week 7 Complete
- Assignment 4 PROGRAMM
- CSS Assignment 1
- Assignment 4
- Assignment 4 PHP

About Me

I am an engineer graduated in Brazil with a master's degree in Smart Technologies. I am passionate about programming and love working on new projects.

Sergio Cutrim

Computer Programming

COMP1112: DOCUMENT AUTOMATION USING PYTHON

Georgian@Ilac - 200579843