Week 4: Deployment on Flask

Here's a breakdown of what each part of the code does in your Flask web application:

1- Flask App Initialization:

```
app = Flask(__name__, static_url_path='/static')
```

Initializes a Flask application instance.

Sets the static file path to **/static**.

2- Prediction Function:

```
def Prediction_function(features):
    return sum(features)
```

Defines a function that takes a list of features (assumed to be [x, y, z]) and returns their sum.

3- Home Route:

```
@app.route('/')
def home():
    return render_template('index.html')
```

Defines the home route (/).

Renders index.html when the home route is accessed.

4- Predict Route:

```
@app.route('/predict', methods=['POST'])
def predict():
    # ... code to handle prediction ...
```

Sets up a route /predict that handles POST requests.

Extracts values from the form, performs prediction, and renders index.html with the results.

5- Main Block

```
if __name__ == '__main__':
    app.run(port=5000, debug=True)
```

Executes the app on port 5000 with debug mode enabled if the script is run directly.

6- HTML Template (index.html):

Includes Bootstrap CSS for styling.

Defines a form with inputs for x, y, and z.

The form action is set to the /predict route, and the method is POST.

The input values are retained after submission using Jinja2 templating.

Optionally displays the prediction result.

7- CSS Link in HTML Template:

```
<link rel="stylesheet" type="text/css" href="{{ url_for('static', filename='css/bootstrap.css') }}">
```

Links to a CSS file located in the static folder of the Flask application for additional styling.

Final web-app interface