Eric Mpofu

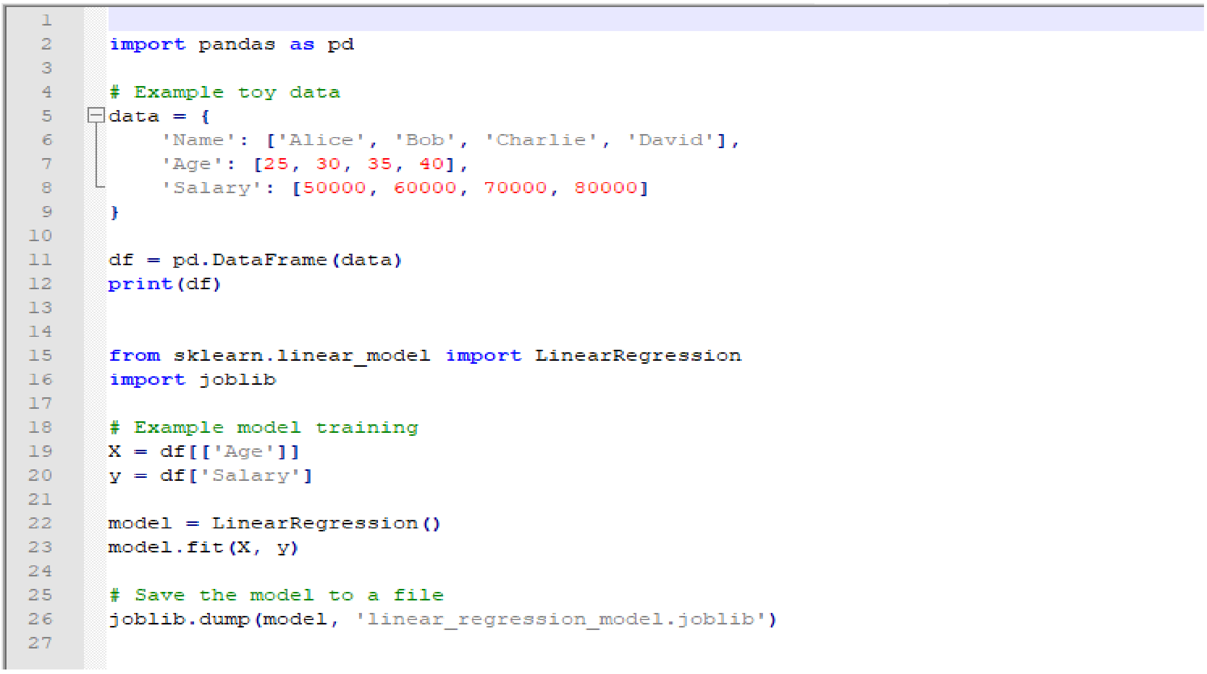
LISUM34

17/06/2024

Data Glacier

Step 1

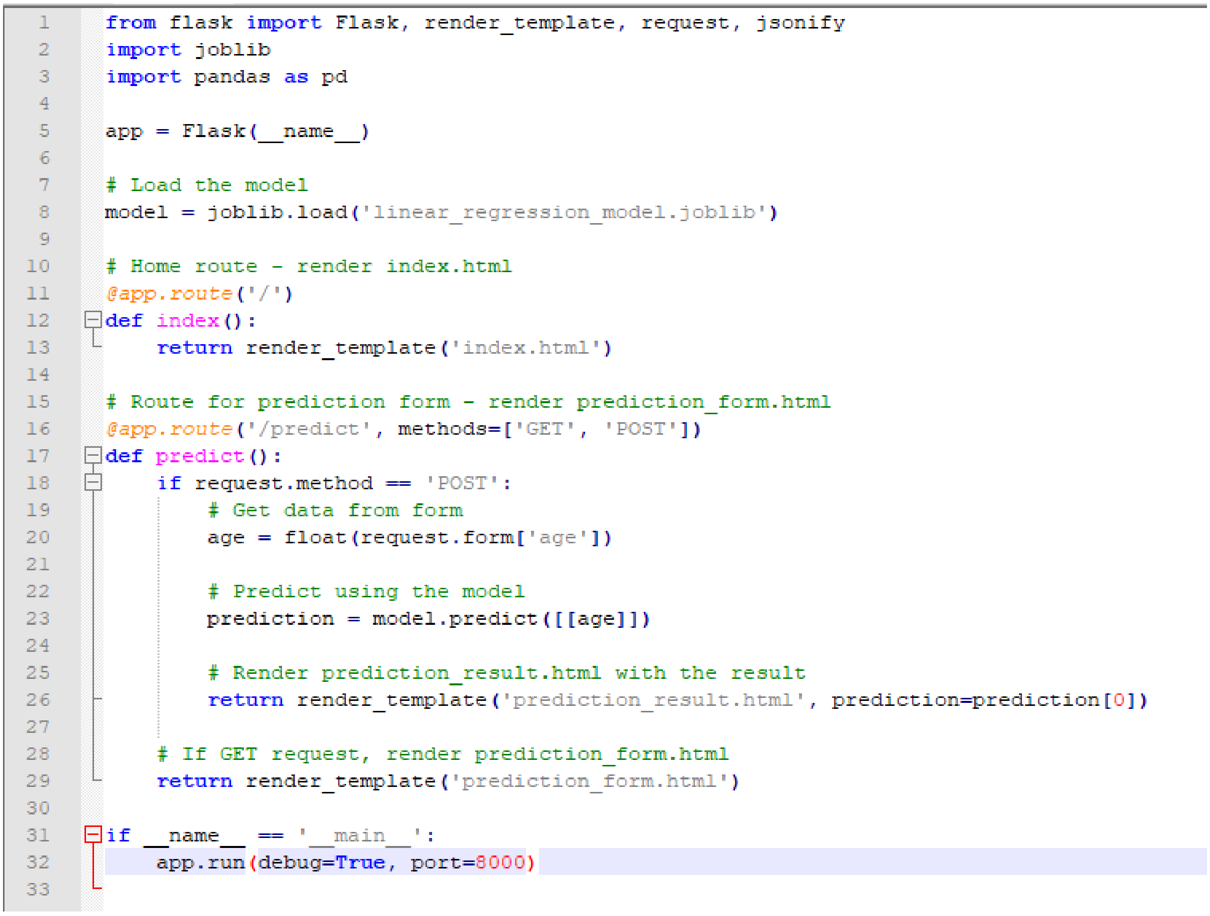
- Selecting Toy Data and saving the model



```python

import pandas as pd

# Example toy data
data = {
    'Name': ['Alice', 'Bob', 'Charlie', 'David'],
    'Age': [25, 30, 35, 40],
    'Salary': [50000, 60000, 70000, 80000]
}

df = pd.DataFrame(data)
print(df)


from sklearn.linear_model import LinearRegression
import joblib

# Example model training
X = df[['Age']]
y = df['Salary']

model = LinearRegression()
model.fit(X, y)

# Save the model to a file
joblib.dump(model, 'linear_regression_model.joblib')

```

Step 2

- Deploying the Model on Flask

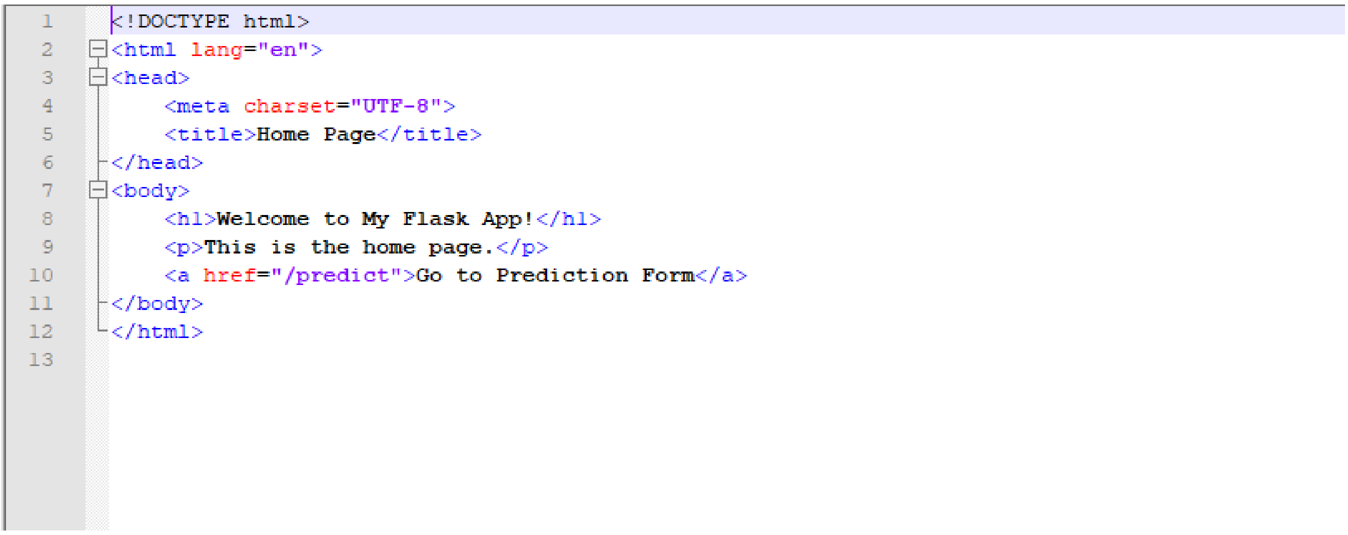


```python
from flask import Flask, render_template, request, jsonify
import joblib
import pandas as pd

app = Flask(__name__)

# Load the model
model = joblib.load('linear_regression_model.joblib')

# Home route - render index.html
@app.route('/')
def index():
    return render_template('index.html')

# Route for prediction form - render prediction_form.html
@app.route('/predict', methods=['GET', 'POST'])
def predict():
    if request.method == 'POST':
        # Get data from form
        age = float(request.form['age'])

        # Predict using the model
        prediction = model.predict([[age]])

        # Render prediction_result.html with the result
        return render_template('prediction_result.html', prediction=prediction[0])

    # If GET request, render prediction_form.html
    return render_template('prediction_form.html')

if __name__ == '__main__':
    app.run(debug=True, port=8000)
```

Step 3

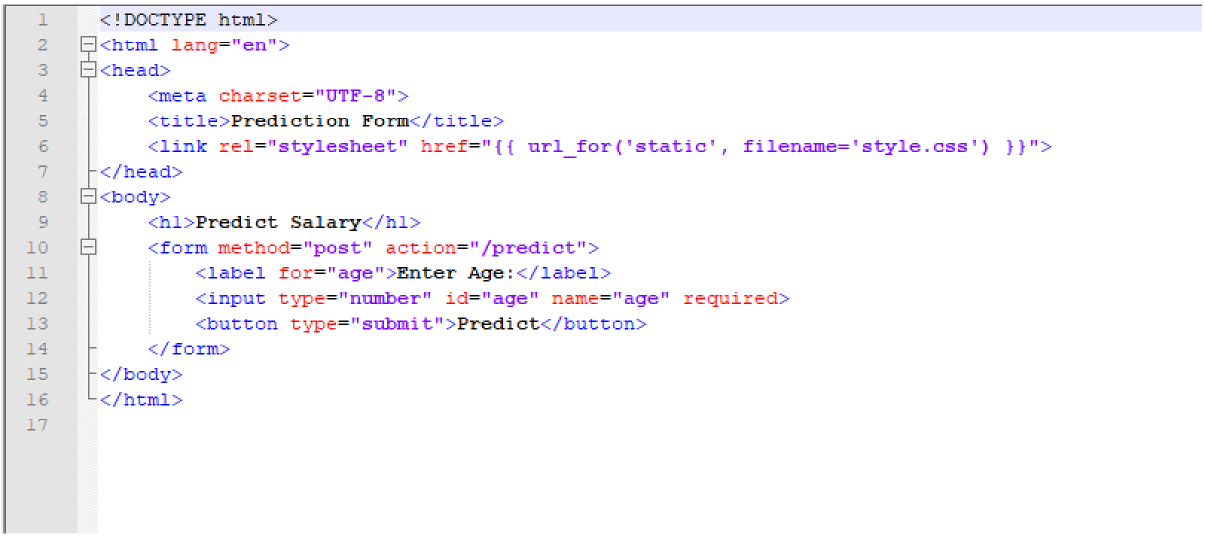
- Displaying the model

Index .html file



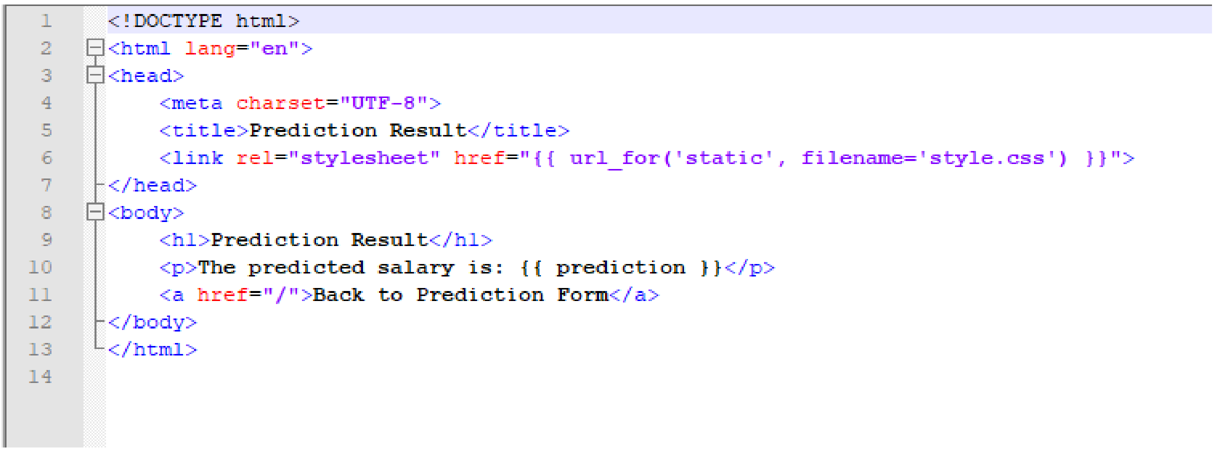
```html
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <title>Home Page</title>
</head>
<body>
    <h1>Welcome to My Flask App!</h1>
    <p>This is the home page.</p>
    <a href="/predict">Go to Prediction Form</a>
</body>
</html>
```

Prediction_form.html file



```html
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <title>Prediction Form</title>
    <link rel="stylesheet" href="{{ url_for('static', filename='style.css') }}">
</head>
<body>
    <h1>Predict Salary</h1>
    <form method="post" action="/predict">
        <label for="age">Enter Age:</label>
        <input type="number" id="age" name="age" required>
        <button type="submit">Predict</button>
    </form>
</body>
</html>
```

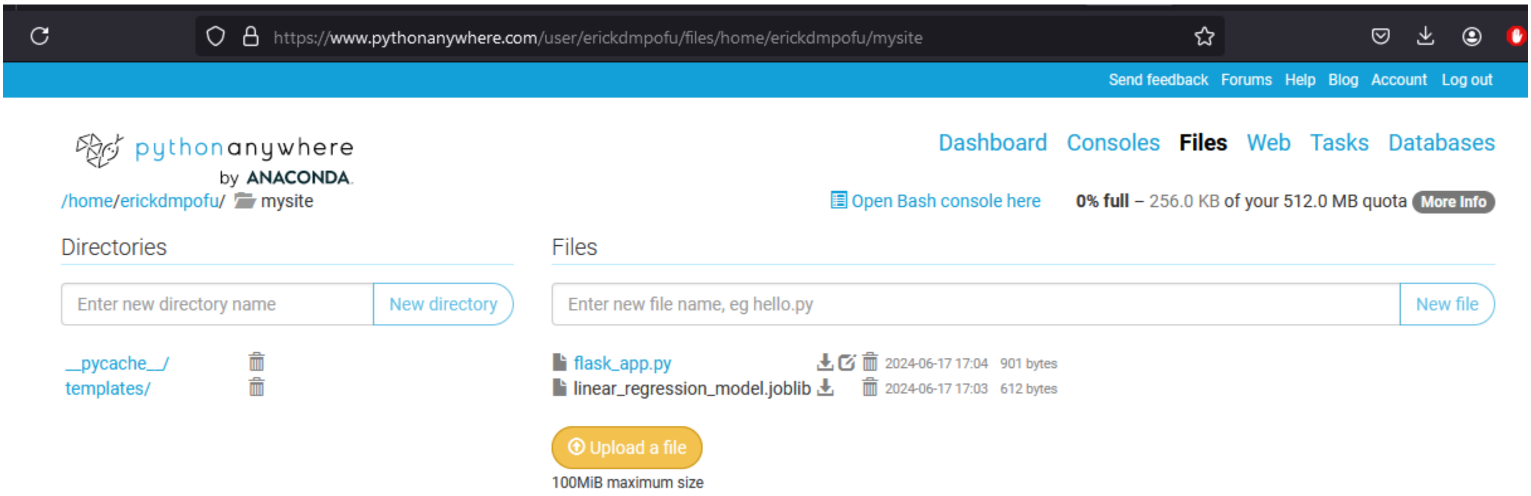
Prediction_result.html file



```html
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <title>Prediction Result</title>
    <link rel="stylesheet" href="{{ url_for('static', filename='style.css') }}">
</head>
<body>
    <h1>Prediction Result</h1>
    <p>The predicted salary is: {{ prediction }}</p>
    <a href="/">Back to Prediction Form</a>
</body>
</html>
```

Step 4

- Online deployment on pythonanywhere.com



https://www.pythonanywhere.com/user/erickdmpofu/files/home/erickdmpofu/mysite

Send feedback Forums Help Blog Account Log out
pythonanywhere by ANACONDA
Dashboard Consoles Files Web Tasks Databases
Open Bash console here
More Info
Directories
Enter new directory name
New directory
Files
Enter new file name, eg hello.py
New file
Upload a file

/home/erickdmpofu/ mysite

0% full – 256.0 KB of your 512.0 MB quota

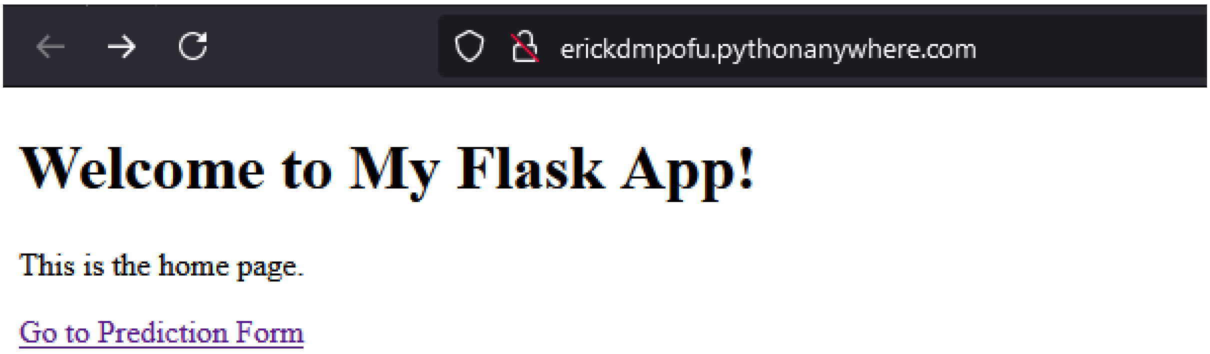
__pycache__/
templates/

flask_app.py 2024-06-17 17:04 901 bytes
linear_regression_model.joblib 2024-06-17 17:03 612 bytes

100MiB maximum size

Step 5

- Final application on erickdmpofu.pythonanywhere.com



Welcome to My Flask App!

This is the home page.

Go to Prediction Form