

Data Glacier Internship Week 4

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LISUM 01

Creating the pickle file:

Predict the life expectancy using Linear Regression.

```
In [22]: import numpy as np
import pandas as pd
from flask import Flask, request, render_template, jsonify
import pickle
import json
from sklearn.model_selection import train_test_split
from sklearn.linear_model import LinearRegression
```

```
In [24]: data_set = pd.read_csv('data_set_uk.csv', sep = ',')
```

```
In [28]: x = data_set. iloc[:, :-1]. values
y = data_set. iloc[:, 1]. values
```

```
In [29]: X_train, X_test, Y_train, Y_test = train_test_split(x,y)
```

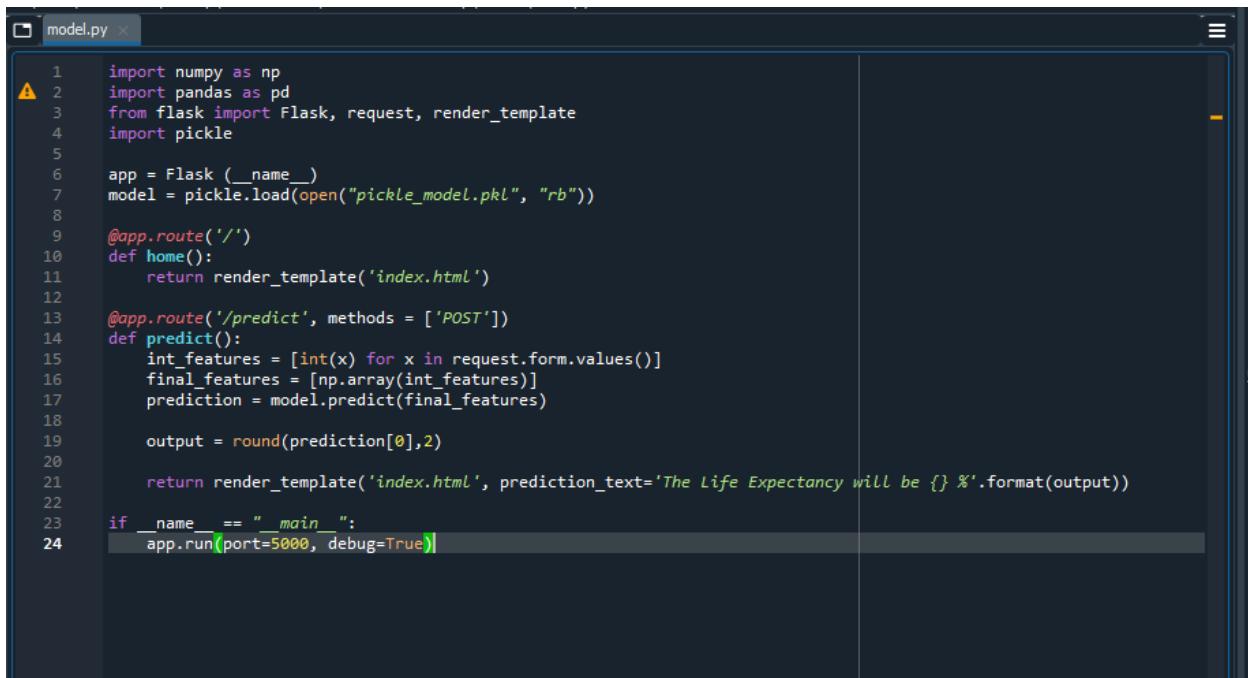
```
In [34]: regressor = LinearRegression()
regressor.fit(X_train, Y_train)
Y_pred = regressor.predict(X_test)
print(Y_pred)

[53.95660233 76.66131743 74.57619054 34.26373719 31.483568 37.97062946
36.58054486 55.34668693 76.1979559 42.37256482 48.16458317 66.46736372
31.02020647 53.72492157 34.72709873 40.98247942 51.87147544 64.38223682
52.7981985 34.95877949 59.28525996 39.59239482 63.22383299 41.44584095
33.80037566 58.12685613 30.32516417 74.112829 40.05575635 57.66349459
49.78634854 37.04390639 43.99432938 59.51694073 47.93290241 71.56434057
32.8736526 63.68719452 32.64197183 67.62576755 37.73894869 38.66567176
75.03955207 45.15273321 56.27341 78.9781251 45.61609475 66.23568295
38.20231022 30.55684493 33.10533336 75.96627514 62.06542915 77.5880405
69.01585215]
```

```
In [35]: pickle.dump(regressor, open('pickle_model.pkl', 'wb'))
```

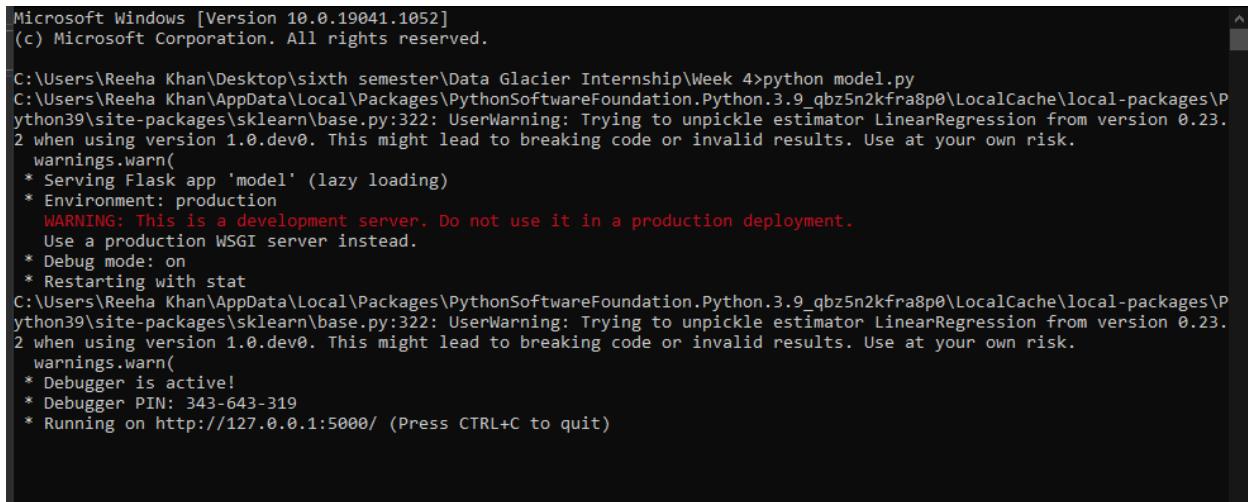
Model Deployment:

Loading the model and deploying the following code using Flask.



```
model.py
1 import numpy as np
2 import pandas as pd
3 from flask import Flask, request, render_template
4 import pickle
5
6 app = Flask(__name__)
7 model = pickle.load(open("pickle_model.pkl", "rb"))
8
9 @app.route('/')
10 def home():
11     return render_template('index.html')
12
13 @app.route('/predict', methods = ['POST'])
14 def predict():
15     int_features = [int(x) for x in request.form.values()]
16     final_features = [np.array(int_features)]
17     prediction = model.predict(final_features)
18
19     output = round(prediction[0],2)
20
21     return render_template('index.html', prediction_text='The Life Expectancy will be {} %'.format(output))
22
23 if __name__ == "__main__":
24     app.run(port=5000, debug=True)
```

Running the file on command prompt:



```
Microsoft Windows [Version 10.0.19041.1052]
(c) Microsoft Corporation. All rights reserved.

C:\Users\Reeha Khan\Desktop\sixth semester\Data Glacier Internship\Week 4>python model.py
C:\Users\Reeha Khan\AppData\Local\Packages\PythonSoftwareFoundation.Python.3.9_qbz5n2kfra8p0\LocalCache\local-packages\Python39\site-packages\sklearn\base.py:32: UserWarning: Trying to unpickle estimator LinearRegression from version 0.23.
2 when using version 1.0.dev0. This might lead to breaking code or invalid results. Use at your own risk.
    warnings.warn(
* Serving Flask app 'model' (lazy loading)
* Environment: production
  WARNING: This is a development server. Do not use it in a production deployment.
  Use a production WSGI server instead.
* Debug mode: on
* Restarting with stat
C:\Users\Reeha Khan\AppData\Local\Packages\PythonSoftwareFoundation.Python.3.9_qbz5n2kfra8p0\LocalCache\local-packages\Python39\site-packages\sklearn\base.py:32: UserWarning: Trying to unpickle estimator LinearRegression from version 0.23.
2 when using version 1.0.dev0. This might lead to breaking code or invalid results. Use at your own risk.
    warnings.warn(
* Debugger is active!
* Debugger PIN: 343-643-319
* Running on http://127.0.0.1:5000/ (Press CTRL+C to quit)
```

Checking the website:

