

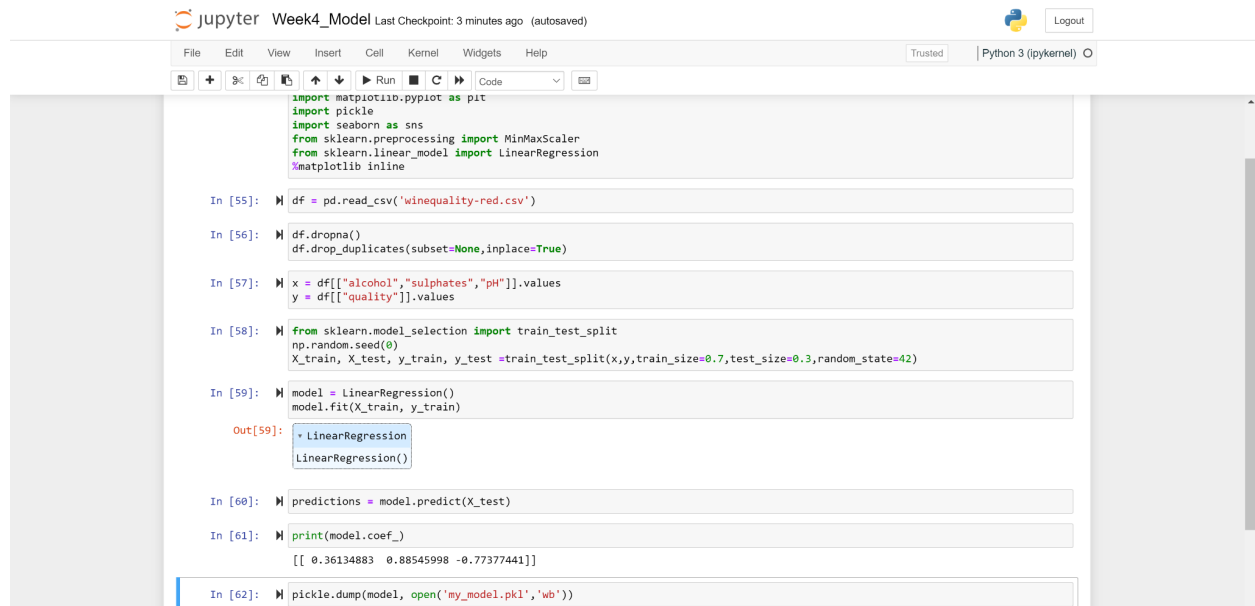
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LISUM11: 30

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<https://github.com/janecondon/Data-Glacier-Week-5.git>

## Creating and Saving the Model



Jupyter Week4\_Model Last Checkpoint: 3 minutes ago (autosaved)

```
import matplotlib.pyplot as plt
import pickle
import seaborn as sns
from sklearn.preprocessing import MinMaxScaler
from sklearn.linear_model import LinearRegression
%matplotlib inline

In [55]: df = pd.read_csv('winequality-red.csv')

In [56]: df.dropna()
df.drop_duplicates(subset=None, inplace=True)

In [57]: x = df[['alcohol', 'sulphates', 'pH']].values
y = df[['quality']].values

In [58]: from sklearn.model_selection import train_test_split
np.random.seed(0)
X_train, X_test, y_train, y_test = train_test_split(x, y, train_size=0.7, test_size=0.3, random_state=42)

In [59]: model = LinearRegression()
model.fit(X_train, y_train)

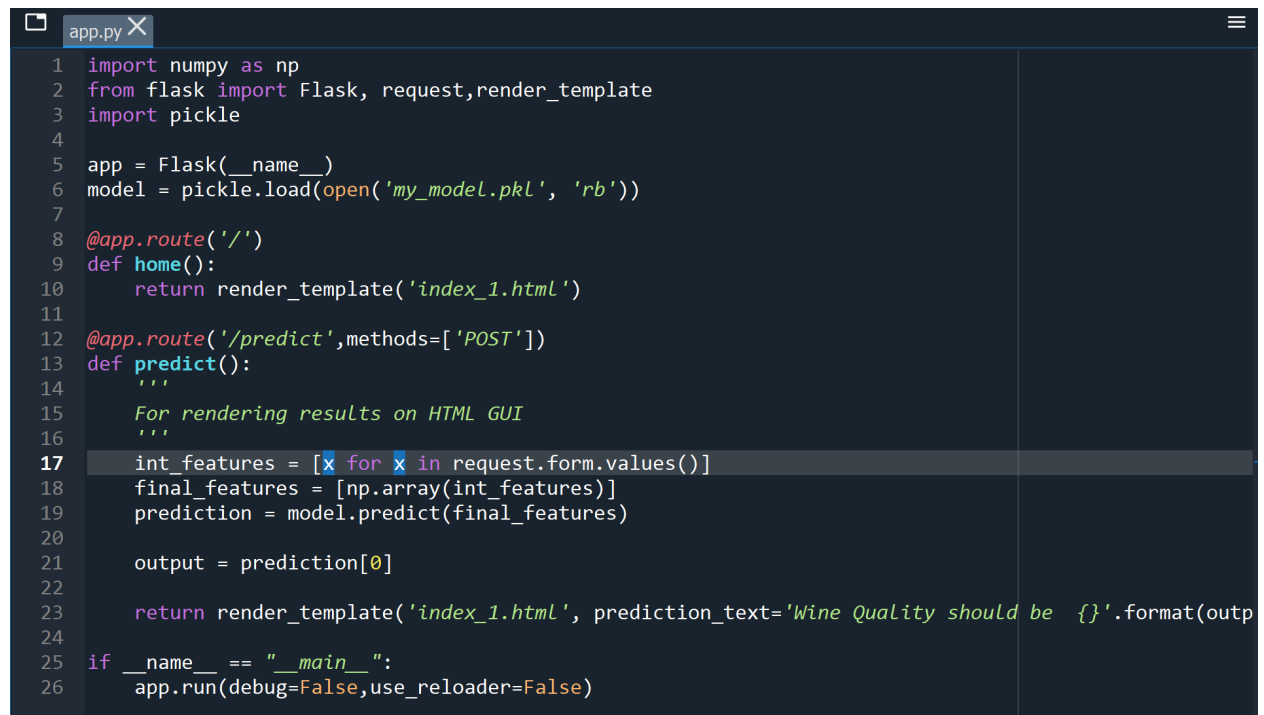
Out[59]: LinearRegression()

In [60]: predictions = model.predict(X_test)

In [61]: print(model.coef_)
[[ 0.36134883  0.88545998 -0.77377441]]


In [62]: pickle.dump(model, open('my_model.pkl', 'wb'))
```

## Creating the Flask Application



```
app.py
1 import numpy as np
2 from flask import Flask, request, render_template
3 import pickle
4
5 app = Flask(__name__)
6 model = pickle.load(open('my_model.pkl', 'rb'))
7
8 @app.route('/')
9 def home():
10     return render_template('index_1.html')
11
12 @app.route('/predict', methods=['POST'])
13 def predict():
14     '''
15     For rendering results on HTML GUI
16     '''
17     int_features = [x for x in request.form.values()]
18     final_features = [np.array(int_features)]
19     prediction = model.predict(final_features)
20
21     output = prediction[0]
22
23     return render_template('index_1.html', prediction_text='Wine Quality should be {}'.format(output))
24
25 if __name__ == "__main__":
26     app.run(debug=False, use_reloader=False)
```

## Deploying on Heroku

 HEROKU

Jump to Favorites, Apps, Pipelines, Spaces...

☐ Wait for CI to pass before deploy  
Only enable this option if you have a Continuous Integration service configured on your repo.

Enable Automatic Deploys

### Manual deploy

Deploy the current state of a branch to this app.

### Deploy a GitHub branch

This will deploy the current state of the branch you specify below. [Learn more](#)

Choose a branch to deploy

Receive code from GitHub

Build main 54f77bc2

Release phase

Deploy to Heroku

✓

✓

✓

✓


Your app was successfully deployed.

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## Testing the Model

### Predict Wine Quality

 **Data Glacier**  
Your Deep Learning Partner

### Predict Wine Quality

Wine Quality should be [3.93553612]

 **Data Glacier**  
Your Deep Learning Partner

