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Data Intake Report

Name: Deployment on Flask
Report date: July 28, 2022
Internship Batch: LISUM11:30
Version:<1.0>
Data intake by: Prince Kumar Lat
Data intake reviewer: N/A
Data storage location: https://github.com/princeklat03/Week5/tree/main

Tabular data details:

Total number of observations	8
Total number of files	2
Total number of features	4
Base format of the file	.csv
Size of the data	175 B

Note: Replicate same table with file name if you have more than one file.

Proposed Approach:

- First I used a small dataset (price.csv) to develop a Linear Regression model to predict the price of the houses (Flask_Housingprice.ipynb) and I dumped it using "pickle" (linearReg_model.pkl)
- Further, I used a pre-available index.html template and deployed the model using Flask (App.py.ipynb)

Here are the snapshots:

1.) **Price.csv (**Flask_Housingprice.ipynb, linearReg_model.pkl)

```
In [1]:
import numpy as np
import pandas as pd
import pickle

In [25]:
df = pd.read_csv('/Users/PKLAT/Desktop/Data Glacier/Week 5/price.csv')

In [29]:
df['bed_room'].fillna(0,inplace=True)

In [31]:
df['area'].fillna(df['area'].mean(),inplace=True)
```

```
In [34]: df
Out[34]:
```

	bed_room	area	house_age	price
0	0	2300.000000	9	50000
1	0	2152.000000	6	45000
2	5	8520.000000	7	60000
3	2	9025.000000	10	65000
4	7	9900.000000	6	70000
5	3	8045.000000	10	62000
6	10	9564.000000	7	72000
7	11	7072.285714	8	80000

```
In [44]:
from sklearn.linear_model import LinearRegression

In [45]:
ln = LinearRegression()

In [46]:
ln.fit(x,y)

Out[46]:
LinearRegression(copy_X=True, fit_intercept=True, n_jobs=None, normalize=False)
```

- Saving the model

```
In [48]:
pickle.dump(ln, open('linearReg_model.pkl', 'wb'))
```

- Loading the model to make prediction

```
In [49]:
model = pickle.load(open('linearReg_model.pkl','rb'))
print(model.predict([[2, 2200, 5]]))

[47236.36685239]
```

2.) App (App.py.ipynb

```
In [1]:
import numpy as np
from flask import Flask, request,render_template
import pickle

In [2]:
app = Flask(__name__)
model = pickle.load(open('linearReg_model.pkl', 'rb'))

In [*]:
@app.route('/')
def home():
    return render_template('index.html')


@app.route('/predict',methods=['POST'])
def predict():
    '''
    For rendering results on HTML GUI
    '''
    int_features = [int(x) for x in request.form.values()]
    final_features = [np.array(int_features)]
    prediction = model.predict(final_features)

    output = round(prediction[0], 2)

    return render_template('index.html', prediction_text='House price should be $ {}'.format(output))


if __name__ == "__main__":
    from waitress import serve
    serve(app, host="0.0.0.0", port=8080)


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

3.) Deployment