DEPLOYMENT ON FLASK

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Built a simple model on Real estate data to estimate the pricing of a housing unit.

```python
import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
import pickle
from sklearn.linear_model import LinearRegression

data = pd.read_csv(r"C:\Users\97466\Desktop\week 4\Real estate.csv")
df = pd.DataFrame(data)

X = df[["tran_date","house_age","distance_MRT","no_convenience_stores","latitude","longitude"]]
Y = df[["Target_price"]]

regressor = LinearRegression()
regressor.fit(X,Y)

pickle.dump(regressor, open('model.pkl','wb'))
```

This is the HTML file for the page development.

```html
<html >

<head>

  <meta charset="UTF-8">
  <title>Real Estate regression Model</title>

  <style>
    h1 {
      color: ■red;
      font-size: 50px;
      margin: 0px;
      background-color: □black;
      text-align: center;
    }
  </style>

</head>

<body>

 <div class="login">

  <h1>Here we shall estimate the price of a house based on different factors presented below Please enter your values

   <form action="{{ url_for('predict')}}"method="post">
    <br>
     <input type="text" name="tran_date" placeholder="transaction date" required="required" />
     <br>
```

```html
      <br>
      <br>
      <input type="text" name="house_age" placeholder="House age" required="required" />
      <br>
      <br>
     <input type="text" name="distance_MRT" placeholder="Distance to MRT" required="required" />
     <br>
     <br>
      <input type="text" name="no_convenience_stores" placeholder="Number of convenience stores" required="required"
      <br>
      <br>
      <input type="text" name="latitude" placeholder="latitude" required="required" />
      <br>
      <br>
      <input type="text" name="longitude" placeholder="longitude" required="required" />
 <br>
 <br>
      <button type="submit" class="btn btn-primary btn-block btn-large">ESTIMATE!</button>

   </form>
   <br>

  {{ prediction_text }}

 </div>
</body>
</html>
```

This is the app.py file where using flash we developed a working model which predicted the price of housing unit based on the different variables the user provided to it.

```python
app.py > ⊘ home
1    import numpy as np
2    from flask import Flask, request, jsonify, render_template
3    import pickle
4
5    app = Flask(__name__)
6    model = pickle.load(open('model.pkl', 'rb'))
7
8    @app.route('/')
9    def home():
10
11        return render_template('index.html')
12
13   @app.route('/predict',methods=['POST'])
14   def predict():
15
16        float_features = [float(x) for x in request.form.values()]
17        final_features = [np.array(float_features)]
18        prediction = model.predict(final_features)
19        output = prediction[0]
20        return render_template('index.html', prediction_text='ESTIMATED PRICE IS  {}'.format(output))
21
22   @app.route('/predict_api',methods=['POST'])
23   def predict_api():
24
25        data = request.get_json(force=True)
26        prediction = model.predict([np.array(list(data.values()))])
27        output = prediction[0]
28        return jsonify(output)
29
30   if __name__ == "__main__":
31       app.run(debug=True)
```

This is the final result website screenshot which shows the different variables which are used to estimate the value of housing unit.

Here we shall estimate the price of a house based on different factors presented below Please enter your values

transaction date

House age

Distance to MRT

Number of convenience sto

latitude

longitude

ESTIMATE!

THE WORKING FILES ARE PRESENT ON THE GITHUB LINK WITH ALL THE REQURED DOCUMENTS ALONG WITH THEM