House Rent

Activity 1

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Connect GitHub with Heroku and generate a URL for the house rent prediction.

Prerequisites:
VS Code
VS Code Extension – Python
Git – Desktop
GitHub Account
Heroku Account

Step 1
Creation of ML Model and Pickle(.pkl) file

Note: After the successful completion, model.pkl will be generated.

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

dataset = pd.read_csv('house_rent.csv')

X = dataset.iloc[:, :3]
y = dataset.iloc[:, -1]

regressor = LinearRegression()

regressor.fit(X, y)

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

model = pickle.load(open('model.pkl','rb'))

print(model.predict([[1, 1, 2]]))
```

Step 2
Creation of UI using HTML

Note: index.html file should be inside the templates directory

```
<!DOCTYPE html>
<html>

<head>
   <style>
      body {
         margin: 0;
         padding: 0;
         font-family: 'Arial', sans-serif;
         background: url('your_background_image.jpg') center fixed;
```

```
            background-size: cover;
            height: 100vh;
            display: flex;
            align-items: center;
            justify-content: center;
        }

        .login {
            background-color: rgba(255, 255, 255, 0.8); /* Add a semi-transparent white background to the
form */
            padding: 20px;
            border-radius: 10px;
            box-shadow: 0 0 10px rgba(0, 0, 0, 0.2);
            text-align: center;
        }

        .login h1 {
            color: #333;
        }

        input {
            width: 100%;
            padding: 10px;
            margin: 5px 0;
            box-sizing: border-box;
            border: 1px solid #ccc;
            border-radius: 5px;
        }

        button {
            width: 100%;
            padding: 10px;
            background-color: #4CAF50;
            color: white;
            border: none;
            border-radius: 5px;
            cursor: pointer;
        }

        button:hover {
            background-color: #45a049;
        }
    </style>
</head>

<body>
    <div class="login">
        <h1>Prediction of House Rent</h1>
        <form action="{{ url_for('predict')}}" method="post">
            <input type="text" name="city" placeholder="Name of the City" required="required"
/><br><br>
            <input type="text" name="type" placeholder="Type of house" required="required" /><br><br>
            <input type="text" name="bhk" placeholder="No.of rooms" required="required" /><br><br>
```

```
        <button type="submit">Predict</button><br>
    </form>

    <br>
    <br>
    {{ prediction_text }}
  </div>
</body>

</html>
```

Step 3

Creation of Flask File

Note: Here the name of the flask file will be app.py

```
import numpy as np
from flask import Flask, request, jsonify, render_template
import pickle

app = Flask(__name__)
model = pickle.load(open('model.pkl', 'rb'))
```

```
@app.route('/')
def home():
    return render_template('index.html')

@app.route('/predict',methods=['POST'])
def predict():
    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 rent approx Rs
{}'.format(output))


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

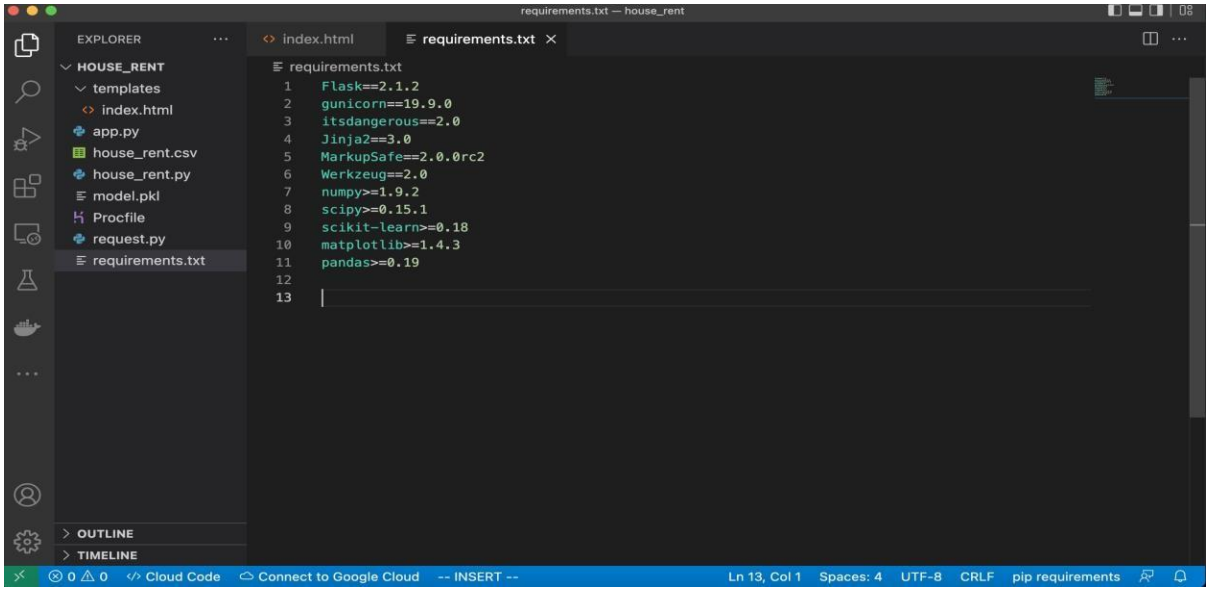
Step 4

Generate requirement file

Note
a. Run the below script in VS Code terminal window of your project directory.
b. After the successful completion, it generates a requirements.txt file.

i.pip install pipreqs

ii. pipreqs .



Step 5

Compile all the above files into a single directory and name it HOUSE_RENT

Step 6

Run the following script in VS Code terminal
python app.py