

# House Rent

## Activity 1

MouneshGouda

Github:-<https://github.com/Mouneshgouda>

Linked in:-<https://www.linkedin.com/in/mounesh-gouda-858069246/>

## 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>

```

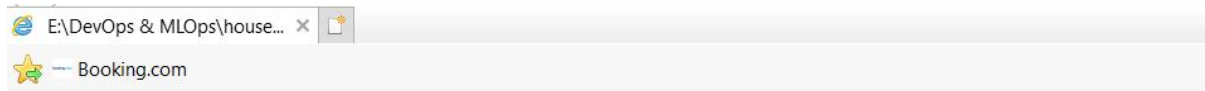
```

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

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

</html>

```



## Prediction of House Rent





{{ prediction\_text }}

### 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

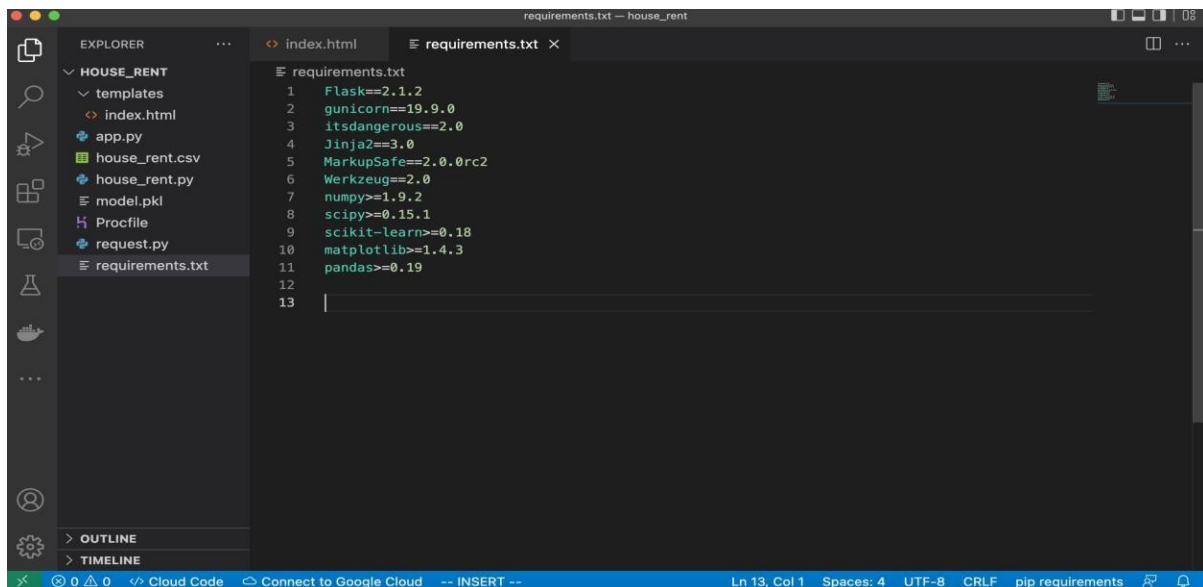
### Generate requirement file

#### 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 .

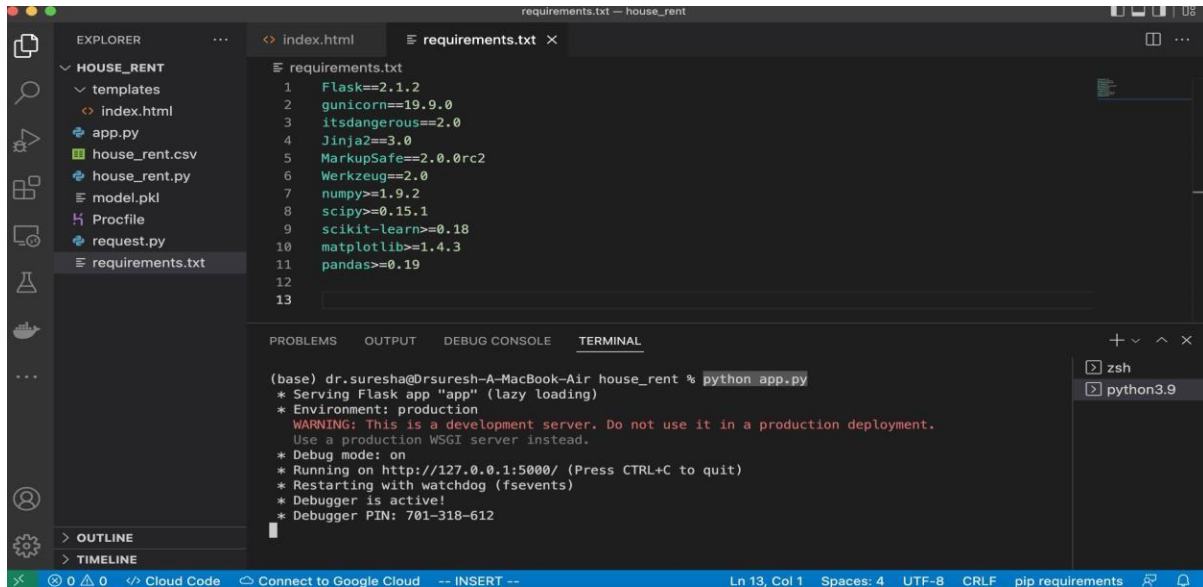


## Step 5

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



The screenshot shows the VS Code interface with the 'requirements.txt' file open in the editor. The file contains the following dependencies:

```
1 Flask==2.1.2
2 gunicorn==19.9.0
3 itsdangerous==2.0
4 Jinja2==3.0
5 MarkupSafe==2.0.0rc2
6 Werkzeug==2.0
7 numpy>=1.9.2
8 scipy>=0.15.1
9 scikit-learn>=0.18
10 matplotlib>=1.4.3
11 pandas>=0.19
12
13
```

The terminal output shows the command `python app.py` being executed, resulting in the following messages:

```
(base) dr.suresha@Drsuresh-A-MacBook-Air house_rent % python app.py
* Serving Flask app "app" (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
* Running on http://127.0.0.1:5000/ (Press CTRL+C to quit)
* Restarting with watchdog (fsevents)
* Debugger is active!
* Debugger PIN: 701-318-612
```



The screenshot shows a web browser at the address `127.0.0.1:5000/predict`. The page title is "Prediction of House Rent". It features three input fields for numerical values, with the first field containing "0", the second "1", and the third "4". Below these fields is a "Predict" button. The output of the prediction is displayed as "House rent approx Rs 67307.69".