Practical-5

AIM: Deployment of ML project using Flask.

Task 1: Install the required libraries

```
C:\Users\gchaw\OneDrive\Documents\sem7\ML_OPS\p4>pip install flask
Requirement already satisfied: flask in c:\users\gchaw\appdata\local\program
s\python\python311\lib\site-packages (2.3.3)Requirement already satisfied: W
erkzeug>=2.3.7 in c:\users\gchaw\appdata\local\programs\python\python311\lib
\site-packages (from flask) (2.3.7)
Requirement already satisfied: Jinja2>=3.1.2 in c:\users\gchaw\appdata\local
\programs\python\python311\lib\site-packages (from flask) (3.1.2)
Requirement already satisfied: itsdangerous>=2.1.2 in c:\users\gchaw\appdata
\local\programs\python\python311\lib\site-packages (from flask) (2.1.2)
Requirement already satisfied: click>=8.1.3 in c:\users\gchaw\appdata\local\
programs\python\python311\lib\site-packages (from flask) (8.1.6)
Requirement already satisfied: blinker>=1.6.2 in c:\users\gchaw\appdata\loca
l\programs\python\python311\lib\site-packages (from flask) (1.6.2)
Requirement already satisfied: colorama in c:\users\gchaw\appdata\local\prog
rams\python\python311\lib\site-packages (from click>=8.1.3->flask) (0.4.6)
Requirement already satisfied: MarkupSafe>=2.0 in c:\users\gchaw\appdata\loc
al\programs\python\python311\lib\site-packages (from Jinja2>=3.1.2->flask) (
2.1.3)
```

Task 2: Follow the steps described in theory material to deploy the model using Flask. Run the flask application to execute the deployed model.

Step :1 Create Template

Index.html

```
<html>

<body>
   <h3>House Rate Prediction Form</h3>
   <br>
   <div>
      <form action="/result" method="POST">
         <label for="area_feature">House Area [in sq. feet] : </label>
         <input type="text" id="area_feature" name="area_feature"> range:[1500-15000]
         <br>
         <br>
         <input type="submit" value="Submit">
      </form>
   </div>
</body>

</html>
```

Result.html

```html
<!doctype html>
<html>

<body>
   <h1> The predicted amount of house is {{ prediction }}</h1>
</body>

</html>
```

Step: 2 Import the Model, Dataset, and Scalar objects into the project folder.

📄 app	28-Nov-23 11:09 PM	PY File	1 KB
📄 model.	28-Nov-23 11:07 PM	Text Document	0 KB
📄 scaler.	28-Nov-23 11:07 PM	Text Document	0 KB
📄 script.py	28-Nov-23 11:09 PM	PY File	1 KB

Step: 3 Create the app.py file to serve the deployment

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

app = Flask(name)


def ValuePredictor(to_predict_list):
   X_test = np.array(to_predict_list).reshape(1, 1)
   # Load the instance of Standarscalar object scaler = pickle.load(open("scaler", "rb")) #Normalize
the data
   X_test_Normalized = scaler.transform(X_test)
   loaded_model = pickle.load(open("model", "rb"))
   result = loaded_model.predict(X_test_Normalized)
   return result[0]

@app.route('/result', methods=['POST'])
def result():
   if request.method == 'POST':
      to_predict_list = request.form.to_dict()
      to_predict_list = list(to_predict_list.values())
      to_predict_list = list(map(int, to_predict_list)) prediction = ValuePredictor(to_predict_list)

      return render_template("result.html", prediction=prediction)

@ app.route("/")
def hello_world():
   return render_template("index.html")
```

OUTPUT

```
C:\Users\gchaw\OneDrive\Documents\sem7\ML_OPS\p4>flask --app app.py run
```

House Rate Prediction Form

House Area [in sq. feet] : | 1600 | range:[1500-15000]

Submit

The predicted amount of house is 1872.8747612793236