Source code :

# Import necessary libraries  
import pandas as pd  
import numpy as np  
from sklearn.model\_selection import train\_test\_split  
from sklearn.linear\_model import LinearRegression  # Example algorithm  
  
# Step 1: Data Collection  
# Load the dataset containing information about houses  
data = pd.read\_csv('house\_data.csv')  
  
# Step 2: Data Preprocessing  
# Handle missing values, duplicates, and encode categorical variables  
# Address outliers if necessary  
  
# Step 3: Feature Engineering  
# Create new features or transform existing ones  
  
# Step 4: Data Splitting  
# Split the data into training and testing sets  
X = data[['Location', 'SquareFootage', 'Bedrooms', 'Bathrooms', 'OtherFeatures']]  # Features  
y = data['Price']  # Target variable  
  
X\_train, X\_test, y\_train, y\_test = train\_test\_split(X, y, test\_size=0.2, random\_state=42)  
  
# Step 5: Model Selection  
# Choose a machine learning algorithm (e.g., Linear Regression)  
model = LinearRegression()  
  
# Step 6: Model Training  
model.fit(X\_train, y\_train)  
  
# Step 7: Model Evaluation  
# Evaluate the model's performance on the test data  
y\_pred = model.predict(X\_test)  
# Calculate metrics like MAE, MSE, RMSE, etc.  
  
# Step 8: Hyperparameter Tuning (if needed)  
# Fine-tune the model's hyperparameters using techniques like cross-validation  
  
# Step 9: Deployment (Optional)  
# Deploy the model for making real predictions in a production environment  
  
# Step 10: Monitoring and Maintenance (Continuous)  
# Continuously monitor the model's performance and retrain it with new data  
  
# Predicting house prices for new input data  
new\_data = pd.DataFrame({'Location': ['New\_Location'], 'SquareFootage': [2500], 'Bedrooms': [3], 'Bathrooms': [2], 'OtherFeatures': ['Some Features']})  
predicted\_price = model.predict(new\_data)  
  
print("Predicted House Price:", predicted\_pric