

## EXPERIMENT – 13

Implement House price Prediction using appropriate machine learning algorithm

### CODE :

```
# House Price Prediction using Linear Regression

import pandas as pd

from sklearn.model_selection import train_test_split

from sklearn.linear_model import LinearRegression

from sklearn.metrics import mean_absolute_error, mean_squared_error, r2_score


# Sample dataset

data = {

    "Area_sqft": [800, 1000, 1200, 1500, 1800, 2000, 2200, 2500],

    "Bedrooms": [1, 2, 2, 3, 3, 3, 4, 4],

    "Bathrooms": [1, 1, 2, 2, 3, 3, 3, 4],

    "Price": [3000000, 4000000, 5000000, 6500000, 8000000, 9000000, 10500000, 12000000]

}


df = pd.DataFrame(data)


# Features and target

X = df[["Area_sqft", "Bedrooms", "Bathrooms"]]

y = df["Price"]


# Train-test split

X_train, X_test, y_train, y_test = train_test_split(

    X, y, test_size=0.25, random_state=42

)


# Model
```

```

model = LinearRegression()

model.fit(X_train, y_train)

# Prediction

y_pred = model.predict(X_test)

# Output

print("MAE:", mean_absolute_error(y_test, y_pred))
print("MSE:", mean_squared_error(y_test, y_pred))
print("R2 Score:", r2_score(y_test, y_pred))

# Predict price of a new house

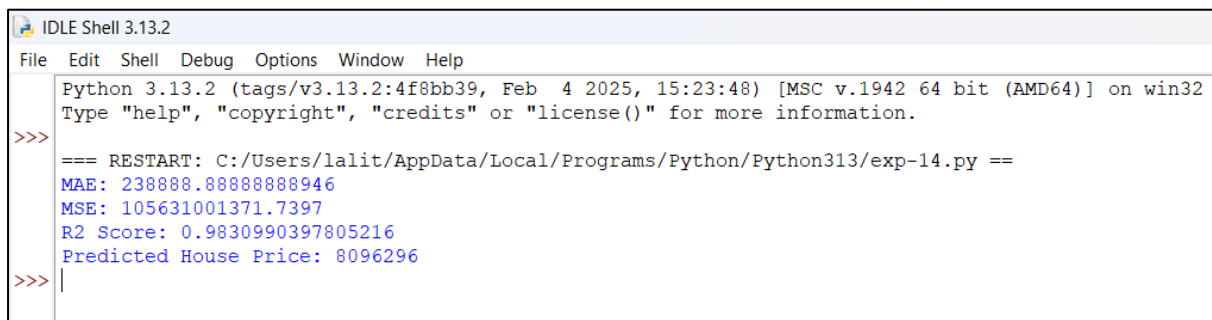
new_house = pd.DataFrame(
    [[1800, 3, 3]],
    columns=["Area_sqft", "Bedrooms", "Bathrooms"]
)

predicted_price = model.predict(new_house)

print("Predicted House Price:", int(predicted_price[0]))

```

## OUTPUT :



```

IDLE Shell 3.13.2
File Edit Shell Debug Options Window Help
Python 3.13.2 (tags/v3.13.2:4f8bb39, Feb  4 2025, 15:23:48) [MSC v.1942 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
=== RESTART: C:/Users/lalit/AppData/Local/Programs/Python/Python313/exp-14.py ==
MAE: 238888.88888888946
MSE: 105631001371.7397
R2 Score: 0.9830990397805216
Predicted House Price: 8096296
>>>

```