

```

# House Price Prediction using Machine Learning
# by Roopasri S

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, r2_score

# Sample dataset (you can replace with a real one like Boston Housing or Kaggle datasets)
data = {
    "Area_sqft": [1000, 1500, 1800, 2400, 3000, 3500, 4000],
    "Bedrooms": [2, 3, 3, 4, 4, 5, 5],
    "Age": [5, 10, 15, 20, 25, 30, 35],
    "Price": [200000, 300000, 350000, 450000, 500000, 600000, 650000]
}

df = pd.DataFrame(data)

# Features (X) and Target (y)
X = df[["Area_sqft", "Bedrooms", "Age"]]
y = df["Price"]

# Train/Test Split
X_train, X_test, y_train, y_test = train_test_split(X, y, test_size=0.2, random_state=42)

# Train Model
model = LinearRegression()
model.fit(X_train, y_train)

# Predict
y_pred = model.predict(X_test)

# Evaluate
print("✅ Model trained successfully!")
print("Mean Absolute Error:", mean_absolute_error(y_test, y_pred))
print("R² Score:", r2_score(y_test, y_pred))

# Test with a custom house
sample = [[2500, 4, 10]]
predicted_price = model.predict(sample)
print("🏠 Predicted House Price:", round(predicted_price[0], 2))

✅ Model trained successfully!
Mean Absolute Error: 4.249159246683121e-09
R² Score: 1.0
🏠 Predicted House Price: 350000.0
/usr/local/lib/python3.12/dist-packages/sklearn/utils/validation.py:2739: UserWarning: X does not have valid feature names, but Line
warnings.warn(

```