```
import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
from sklearn.datasets import fetch_california_housing
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
```

```
df=pd.read_csv('/content/Housing.csv')
df['Target'] = df['price']

df.head()
```

	price	area	bedrooms	bathrooms	stories	mainroad	guestroom	basement	hotwaterheating	airconditioning	pa
0	13300000	7420	4	2	3	yes	no	no	no	yes	
1	12250000	8960	4	4	4	yes	no	no	no	yes	
2	12250000	9960	3	2	2	yes	no	yes	no	no	
3	12215000	7500	4	2	2	yes	no	yes	no	yes	
4	11410000	7420	4	1	2	yes	yes	yes	no	yes	

Next steps: Generate code with df | View recommended plots | New interactive sheet

```
X = df[['price']]
y = df['Target']
```

```
X_train, X_test, y_train, y_test = train_test_split(X, y, test_size=0.2, random_state=42)
```

```
model = LinearRegression()
model.fit(X_train, y_train)
```

```
LinearRegression()
```

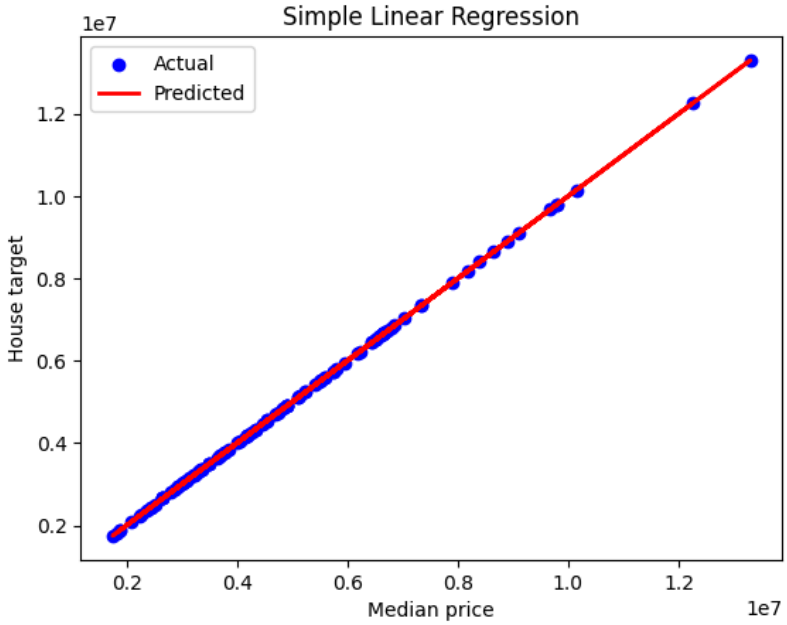
```
y_pred = model.predict(X_test)

mae = mean_absolute_error(y_test, y_pred)
mse = mean_squared_error(y_test, y_pred)
r2 = r2_score(y_test, y_pred)

print("MAE:", mae)
print("MSE:", mse)
print("R2 Score:", r2)
```

```
MAE: 3.075927769372223e-10
MSE: 3.3421277977534817e-19
R2 Score: 1.0
```

```
plt.scatter(X_test, y_test, color='blue', label='Actual')
plt.plot(X_test, y_pred, color='red', linewidth=2, label='Predicted')
plt.xlabel('Median price')
plt.ylabel('House target')
plt.title('Simple Linear Regression')
plt.legend()
plt.show()
```




```
print("Intercept:", model.intercept_)
print("Coefficient:", model.coef_)
```

```
Intercept: -9.313225746154785e-10
Coefficient: [1.]
```