```
# IMPORTANT: RUN THIS CELL IN ORDER TO IMPORT YOUR KAGGLE DATA SOURCES,
# THEN FEEL FREE TO DELETE THIS CELL.
# NOTE: THIS NOTEBOOK ENVIRONMENT DIFFERS FROM KAGGLE'S PYTHON
# ENVIRONMENT SO THERE MAY BE MISSING LIBRARIES USED BY YOUR
# NOTEBOOK.
import kagglehub
arejet_simple_linear_regression_path = kagglehub.dataset_download('arejet/simple-linear-regression')

print('Data source import complete.')
```

```
# This Python 3 environment comes with many helpful analytics libraries installed
# It is defined by the kaggle/python Docker image: https://github.com/kaggle/docker-python
# For example, here's several helpful packages to load

import numpy as np # linear algebra
import pandas as pd # data processing, CSV file I/O (e.g. pd.read_csv)

# Input data files are available in the read-only "../input/" directory
# For example, running this (by clicking run or pressing Shift+Enter) will list all files under the input directory

import os
for dirname, _, filenames in os.walk('/kaggle/input'):
    for filename in filenames:
        print(os.path.join(dirname, filename))

# You can write up to 20GB to the current directory (/kaggle/working/) that gets preserved as output when you create a version using "Save & Run All"
# You can also write temporary files to /kaggle/temp/, but they won't be saved outside of the current session
```

```
/kaggle/input/simple-linear-regression/kc_house_data.csv
```

```
from sklearn.linear_model import LinearRegression
from sklearn.model_selection import train_test_split
from sklearn.metrics import mean_absolute_error, mean_squared_error , r2_score
```

```
df = pd.read_csv('/kaggle/input/simple-linear-regression/kc_house_data.csv')
```

```
df.head()
```

	id	date	price	bedrooms	bathrooms	sqft_living	sqft_lot	floors	waterfront	view	...	grade	sqft_above	sqft_basement	yr_built	yr_renova
0	7129300520	20141013T000000	221900.0	3	1.00	1180	5650	1.0	0	0	...	7	1180	0	1955	
1	6414100192	20141209T000000	538000.0	3	2.25	2570	7242	2.0	0	0	...	7	2170	400	1951	1
2	5631500400	20150225T000000	180000.0	2	1.00	770	10000	1.0	0	0	...	6	770	0	1933	
3	2487200875	20141209T000000	604000.0	4	3.00	1960	5000	1.0	0	0	...	7	1050	910	1965	
4	1954400510	20150218T000000	510000.0	3	2.00	1680	8080	1.0	0	0	...	8	1680	0	1987	

5 rows × 21 columns

```
x = df.iloc[:,5].values.reshape(-1,1)
y = df.iloc[:,2].values.reshape(-1,1)
```

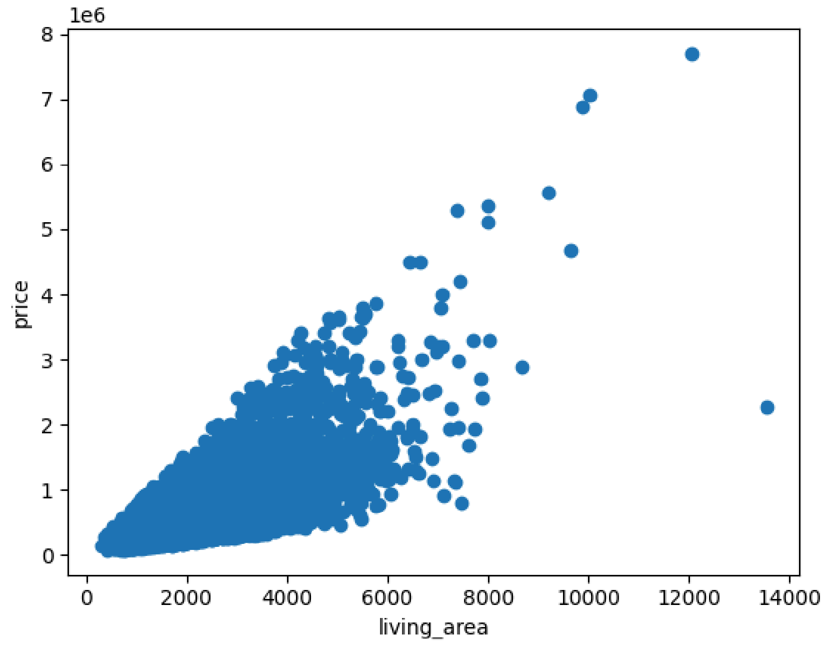
```
df['price'].isnull().sum()
```

```
np.int64(0)
```

```
df['sqft_living'].isnull().sum()
```

```
np.int64(0)
```

```
import matplotlib.pyplot as plt
plt.scatter(x,y)
plt.xlabel("living_area")
plt.ylabel("price")
plt.show()
```

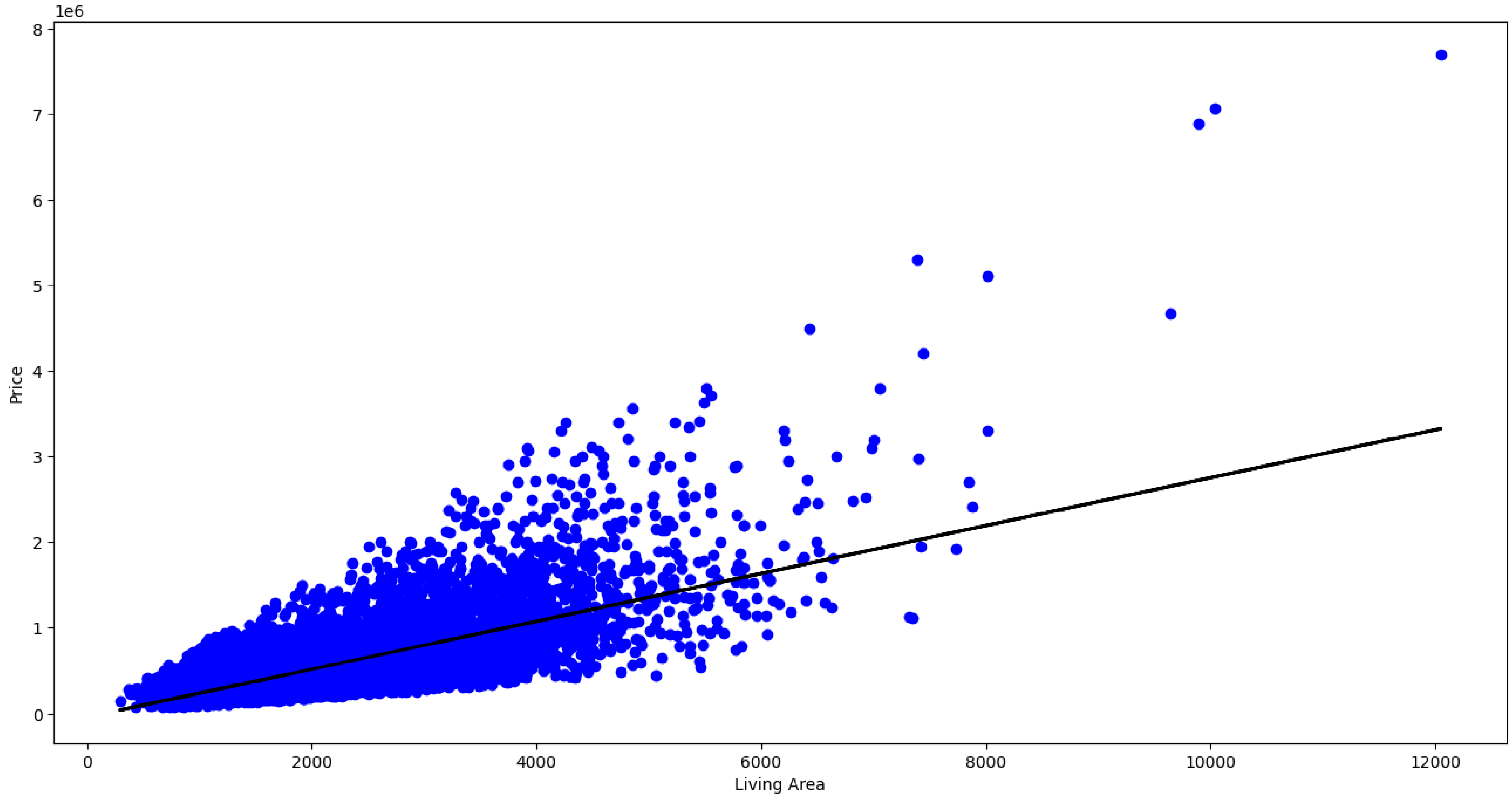


```
model = LinearRegression()
```

```
# split
x_train, x_test, y_train, y_test = train_test_split(
    x, y, test_size=0.2, random_state=42
)

# train
model.fit(x_train, y_train)

# predict
y_pred = model.predict(x_test)

# evaluate
print("MAE:" , mean_absolute_error(y_test, y_pred))
print("MSE:" , mean_squared_error(y_test, y_pred))
print("RMSE:" ,np.sqrt(mean_absolute_error(y_test, y_pred)))
print("R2_score:" ,r2_score(y_test,y_pred))
```

```
MAE: 177867.54034434858
MSE: 76484977061.77612
RMSE: 421.74345323235144
R2_score: 0.49406905389089006
```

```
y_pred = model.predict(x_train)
plt.figure(figsize=(16, 8))
plt.scatter(
     x_train,
     y_train,
     c='blue'
)
plt.plot(
    x_train,
    y_pred,
    c='black',
    linewidth=2
)
plt.xlabel("Living Area")
plt.ylabel("Price")
plt.show()
```



Double-click (or enter) to edit

```
model.coef_
```

```
array([[279.55477932]])
```

```
model.intercept_
```

```
array([-41999.18603994])
```