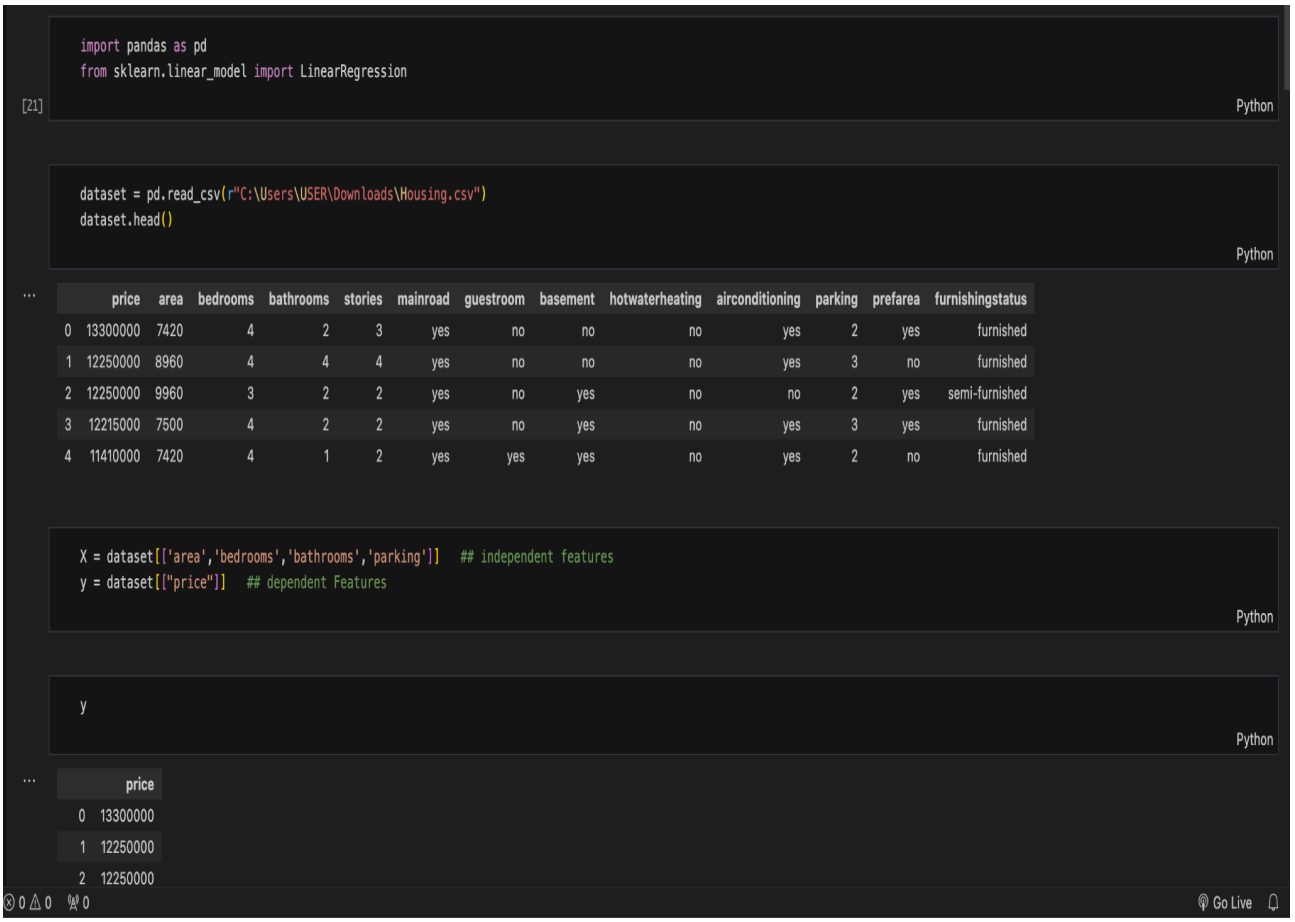
Name - Khushi Chhatwani
College Roll no.- CSC/21/55
University Roll no. - 21059570021

13.Based on multiple features/variables perform Linear Regression. For example, based on a number of additional features like number of bedrooms,servant room, number of balconies, number of houses of years a house has been built - predict the price of a house.



```
import pandas as pd
from sklearn.linear_model import LinearRegression
```

[21] Python

```
dataset = pd.read_csv(r"C:\Users\USER\Downloads\Housing.csv")
dataset.head()
```

Python

	price	area	bedrooms	bathrooms	stories	mainroad	guestroom	basement	hotwaterheating	airconditioning	parking	prefarea	furnishingstatus
0	13300000	7420	4	2	3	yes	no	no	no	yes	2	yes	furnished
1	12250000	8960	4	4	4	yes	no	no	no	yes	3	no	furnished
2	12250000	9960	3	2	2	yes	no	yes	no	no	2	yes	semi-furnished
3	12215000	7500	4	2	2	yes	no	yes	no	yes	3	yes	furnished
4	11410000	7420	4	1	2	yes	yes	yes	no	yes	2	no	furnished

```
X = dataset[['area','bedrooms','bathrooms','parking']]   ## independent features
y = dataset[["price"]]   ## dependent Features
```

Python

```
y
```

Python

	price
0	13300000
1	12250000
2	12250000

⊗ 0 ⚠ 0 0 Go Live

Name - Khushi Chhatwani
College Roll no.- CSC/21/55
University Roll no. - 21059570021

```
y
```

Python

	price
0	13300000
1	12250000
2	12250000
3	12215000
4	11410000
...	...
540	1820000
541	1767150
542	1750000
543	1750000
544	1750000

545 rows × 1 columns

```
from sklearn.model_selection import train_test_split
X_train,X_test,y_train,y_test = train_test_split(X,y,test_size=0.30,shuffle=True)
```

Python

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

Python

```
▾ LinearRegression
LinearRegression()
```

```
y_pred = Multiple_Linear_regression.predict(X_test)
```

Python

0 ⚠ 0 0

Go Live

Name - Khushi Chhatwani
College Roll no.- CSC/21/55
University Roll no. - 21059570021

```
y_pred
```

Python

```
array([[3588749.25205016],
       [3879882.99489601],
       [3842308.63805637],
       [3725823.87929479],
       [4166239.52634137],
       [5710051.90966943],
       [4113791.82891574],
       [6581492.10337579],
       [3514633.16579718],
       [6296986.19156343],
       [6190473.68948768],
       [5012191.3158743 ],
       [4220400.76142553],
       [3717737.79736279],
       [6234738.87454727],
       [3302731.22832407],
       [5489666.28015227],
       [3634468.79321457],
       [3295961.07393855],
       [6977525.13586659],
       [5156257.17572754],
       [2891109.73647811],
       [3778313.57484473],
       [5532452.78654572],
       [4261021.68773866],
...
       [6601643.13891185],
       [4773881.88150398],
       [4525078.70783611],
       [4834813.27097367],
       [4283359.30241719]])
```

Output is truncated. View as a scrollable element or open in a text editor. Adjust cell output settings...