

git_hub_regression_example

March 28, 2021

```
[1]: import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
from sklearn.linear_model import LinearRegression
import seaborn as sns
print("Ready")
#importing necessary libraries
#printing to check for errors
```

Ready

```
[2]: House_Sales=pd.read_csv(r'C:*****\Documents\Python_work\house_sales_project.
→csv')

House_Sales.head()
print("Ready")

#import data and give it a handle
#inspect imported data
#print to check for errors
```

Ready

```
[3]: Adprice = House_Sales.AdjSalePrice
SqFt = House_Sales.SqFtLot
SqFtLiv = House_Sales.SqFtTotLiving
BathR = House_Sales.Bathrooms
Bedr = House_Sales.Bedrooms
BLD_Grad = House_Sales.BldgGrade
YrB = House_Sales.YrBuilt
YrReno = House_Sales.YrRenovated
TnOise = House_Sales.TrafficNoise
LvAl = House_Sales.LandVal
ImpVal = House_Sales.ImpsVal
Zip = House_Sales.ZipCode

#establishing handles for features
```

```
[4]: x = np.array([SqFtLiv]).reshape(-1,1)
      y = np.array([Adprice]).reshape(-1,1)

      model = LinearRegression().fit(x,y)
      r_sq = model.score(x,y)

      #shapping arrays to prep for regression and r^2
```

```
[5]: print('coefficient of determination:', r_sq)

      #r_sq suggests 50% of Adprice can be explained by SqFtLiv
```

coefficient of determination: 0.4832798342743741

```
[6]: xNew = [[2500]]
      yNew = model.predict(xNew)
      monetary_value = float(yNew)
      currency = "${:,.2f}".format(monetary_value)
      print(currency)
      #Shows predicted price based on liveable sqft estimation above
```

\$688,326.79

```
[7]: sns.regplot(SqFtLiv, Adprice, data=House_Sales)
```

```
[7]: <matplotlib.axes._subplots.AxesSubplot at 0x213d16e1b88>
```



