Simple Linear Regression to predict potato price

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#Important module and library  to run the program
import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
from sklearn.linear_model import LinearRegression


df = pd.read_csv("/content/Potato.csv") #df for dataframe,read the data from the
df


# For the data visualization
%matplotlib inline
plt.xlabel('Potato in kilogram(kg)')
plt.ylabel('price in Taka')
plt.scatter(df.potato_kg, df.price)


X = df[['potato_kg']] #since x have to be two dimentional or 2D array. So [[]]


y = df['price']


from sklearn.model_selection import train_test_split

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

#X_train, X_test, y_train, y_test = train_test_split(X,y,test_size=0.3,random_state=10)
#if you use "random_state=10" then the smaple will be same all the time


X_train


X_test


y_train


y_test
```

```
3    40
5    75
Name: price, dtype: int64
```

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# use the regression model for the dataset
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```
reg=LinearRegression() #create the object for the regression

reg.fit(X_train, y_train)

#pass the data through the model, reg.fit(1st argument, 2nd argument);
#1st argument have to be two dimentional or 2D array
#2nd argument have to be y axis or the output, since y=mx+c


reg.predict(X_test)


y_test


#We will find the accuracy of this model(our model was liner regression model) for our datas
reg.score(X_test, y_test)


# Give any unknown potato kilogram value,to know the price
#(N.B: the potato kilogram value have to be any value upto 1,for the decent prediction. Sinc
reg.predict([[1.1505659]])


#Simple user interface to run our model the model
x=input('To know the potato price,Enter the potato killogram upto 1 : ')
import numpy as np

array = np.array(x) #input converted into 1 dimentional array
fvalu = array.astype(np.float) # 1 dimentional array into 1 dimentional float array
fvalu_2D=([[fvalu]]) # 1 dimentional array to 2 dimentional array


#print(fvalu_2D)
my_prediction=reg.predict(fvalu_2D)


#print(my_prediction)
#price=np.asscalar(np.array(my_prediction)) #convert vector into scalar using this one line
#convert vector into scalar using below two lines

price=np.array(my_prediction)
price=price.item()
print('So',x,' killogram potato price is =',price ,' Taka')
```