

```
import pandas as pd
import numpy as np
from sklearn import linear_model
import matplotlib.pyplot as plt
from sklearn.metrics import mean_squared_error
```

```
df = pd.read_csv('/content/homeprices.csv')
df
```

```
%matplotlib inline
plt.xlabel('area')
plt.ylabel('price')
plt.scatter(df.area,df.price,color='red',marker='+')
```

```
new_df = df.drop('price',axis='columns')
new_df = new_df.drop('town',axis='columns')
new_df
```

```
price = df.drop('area',axis='columns')
price = price.drop('town',axis='columns')
price
```

```
# Create linear regression object
reg = linear_model.LinearRegression()
reg.fit(new_df,price)
```

```
#Predict price of a home with area = 3300 sqr ft
```

```
reg.predict([[3300]])
```

```
reg.coef_
```

```
reg.intercept_
```

```
plt.xlabel('area',fontsize=20)
```

```
plt.ylabel('price',fontsize=20)
```

```
plt.scatter(df.area,df.price,color='red',marker='+')
```

```
plt.plot(df.area,reg.predict(df[['area']]),color='blue')
```

```
mean_squared_error(df['price'],reg.predict(df[['area']]))
```

```
df.price
```

```
df1 = pd.read_csv('/content/canada_per_capita_income.csv')
```

```
df1
```

```
df1 = df1.rename({"per capita income (US$)": "capita"}, axis='columns')
```

```
year1 = df1.drop('capita',axis='columns')
```

```
year1
```

```
capita1 = df1.capita
```

capita1

Create linear regression object

```
reg1 = linear_model.LinearRegression()
```

```
reg1.fit(year1, capita1)
```

```
reg1.predict([[2020]])
```

%matplotlib inline

```
plt.xlabel('year', fontsize=20)
```

```
plt.ylabel('percapita', fontsize=20)
```

```
plt.scatter(df1.year, df1.capita, color='red', marker='+')
```

```
plt.plot(df1.year, reg1.predict(df1[['year']]), color='blue')
```