**from** sklearn **import** datasets

**from** sklearn.linear\_model **import** LinearRegression

**from** time **import** time

start = time()

loaded\_data = datasets.load\_boston()

data\_X = loaded\_data.data

data\_y = loaded\_data.target

model = LinearRegression()

*#选择线性回归模型*

model.fit(data\_X,data\_y)

*#进行模型的训练*

print(model.predict(data\_X[:4,:]))*#预测值*

print(data\_y[:4])*#真实值*

stop = time()

print(**'程序的的运行时间：'**+str(stop-start)+**'秒'**)

import matplotlib.pyplot as plt

import pandas as pd

from sklearn.linear\_model import LinearRegression

# 从csv文件中读取数据，分别为：X列表和对应的Y列表

def get\_data(file\_name):

# 1. 用pandas读取csv

data = pd.read\_csv(file\_name)

print(data)

# 2. 构造X列表和Y列表

X\_parameter = []

Y\_parameter = []

for single\_square\_feet,single\_price\_value in zip(data['square\_feet'],data['price']):

X\_parameter.append([float(single\_square\_feet)])

Y\_parameter.append(float(single\_price\_value))

return X\_parameter,Y\_parameter

# 线性回归分析，其中predict\_square\_feet为要预测的平方英尺数，函数返回对应的房价

def linear\_model\_main(X\_parameter,Y\_parameter,predict\_square\_feet):

# 1. 构造回归对象

regr = LinearRegression()

regr.fit(X\_parameter,Y\_parameter)

# 2. 获取预测值

predict\_outcome = regr.predict(predict\_square\_feet)

# 3. 构造返回字典

predictions = {}

# 3.1 截距值

predictions['intercept'] = regr.intercept\_

# 3.2 回归系数（斜率值）

predictions['coefficient'] = regr.coef\_

# 3.3 预测值

predictions['predict\_value'] = predict\_outcome

return predictions

# 绘出图像

def show\_linear\_line(X\_parameter,Y\_parameter):

# 1. 构造回归对象

regr = LinearRegression()

regr.fit(X\_parameter,Y\_parameter)

# 2. 绘出已知数据散点图

plt.scatter(X\_parameter,Y\_parameter,color = 'blue')

# 3. 绘出预测直线

plt.plot(X\_parameter,regr.predict(X\_parameter),color = 'red',linewidth = 4)

plt.title('Predict the house price')

plt.xlabel('square feet')

plt.ylabel('price')

plt.show()

def main():

# 1. 读取数据

X,Y = get\_data('/Users/apple/Desktop/price\_info.csv')

# 2. 获取预测值，在这里我们预测700平方英尺大小的房子的房价

predict\_square\_feet = 700

result = linear\_model\_main(X,Y,predict\_square\_feet)

for key,value in result.items():

print(key,value)

# 3. 绘图

show\_linear\_line(X,Y)

if \_\_name\_\_ == '\_\_main\_\_':

main()