Linear regression

import matplotlib.pyplot as plt

import numpy as np

from sklearn import datasets,linear\_model

from sklearn.metrics import mean\_squared\_error,r2\_score

df=datasets.load\_diabetes()

df=['feature\_names']

diabetes\_x,diabetes\_y=datasets.load\_diabetes(return\_X\_y=True)

diabetes\_x.shape

diabetes\_y.shape

diabetes\_x=diabetes\_x[:,np.newaxis,2]

diabetes\_x.shape

diabetes\_x\_train=diabetes\_x[:-20]

diabetes\_x\_test=diabetes\_x[-20:]

diabetes\_y\_train=diabetes\_y[:-20]

diabetes\_y\_test=diabetes\_x[-20:]

regr=linear\_model.LinearRegression()

regr.fit(diabetes\_x\_train,diabetes\_y\_train)

diabetes\_y\_pred=regr.predict(diabetes\_x\_test)

print("coefficients:\n",regr.coef\_)

print("Mean squared error:%.2f"%mean\_squared\_error(diabetes\_y\_test,diabetes\_y\_pred))

print("coefficient ofc determination:%2f"%r2\_score(diabetes\_y\_test,diabetes\_y\_pred))

plt.scatter(diabetes\_x\_test,diabetes\_y\_test,color="black")

plt.plot(diabetes\_x\_test,diabetes\_y\_pred,color="blue",linewidth=3)

plt.xlabel("age")

plt.ylabel("diabetes progression")

plt.xticks(())

plt.yticks(())

plt.show()

output

