import numpy as np

import matplotlib.pyplot as plt

from scipy import optimize

import pylab

def func(x, a, b): # 需要拟合的函数

return a\*x+b

# 拟合点

plt.figure()

plt.rcParams['font.sans-serif'] = ['KaiTi'] # 指定字体 KaiTi（楷体）

plt.rcParams['axes.unicode\_minus'] = False

x = [i for i in range(25, 41, 1)]#售价

y = [8.00,7.78,7.61,7.42,7.20,6.98,6.76,6.55,6.39,6.01,5.95,5.75,5.54,5.36,5.28,4.79]#销量

a1, b1 = optimize.curve\_fit(func, x, y)[0]

x1 = np.arange(25, 41, 0.01)

y1 = a1\*x1+b1

print(x1.shape,y1.shape)

print(a1,b1)

z=func(35,a1,b1)

print(z)

plt.scatter(x[:], y[:], 25, "red")

plt.plot(x1, y1, "purple")

plt.xlabel('售价（元）')

plt.ylabel('销量（万件）')

plt.savefig('售价和销量的关系.png', dpi=1000)

plt.show()