

quiz 2 - answer

September 21, 2020

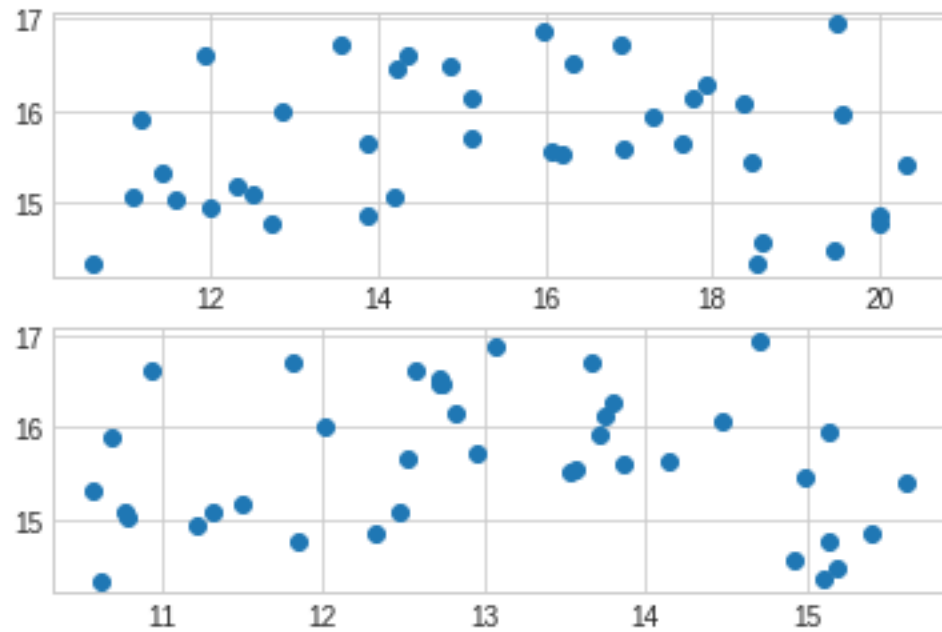
```
[1]: import numpy as np
import matplotlib.pyplot as plt
from sklearn.linear_model import LinearRegression

x_1 = np.array([10.5881308,11.15412398,11.40435124,11.58506825,11.06153061,11.
    ↪97380886
,11.91714248,12.31338274,12.70923352,12.50154253,12.83641897,13.53911875
,13.85992669,14.18366097,14.36498848,13.88281815,14.21925784,15.11025506
,14.85460283,15.12660089,15.98583066,16.33439441,16.2027125,16.07621642
,16.92409809,16.90263745,17.29791973,17.76257485,17.64052658,17.93383751
,18.37171881,18.59950386,18.47392344,18.52886313,19.48939386,19.45534311
,19.55997564,19.99782054,20.00721857,20.31051155])

x_2 = np.array([10.62685344,10.68565494,10.57498982,10.77945861,10.7707951,11.
    ↪22326676
,10.93085948,11.49556972,11.8514646,11.31023787,12.0163518,11.81889984
,12.31714944,12.47063723,12.58094324,12.51536394,12.71577125,12.82605447
,12.73332879,12.94946577,13.06536041,12.7293915,13.52862892,13.56914855
,13.85473161,13.66453767,13.71313889,13.75343067,14.14697245,13.80211232
,14.47743552,14.91892946,14.99380164,15.10935181,14.70372599,15.19028002
,15.14272222,15.4029067,15.14008551,15.60776708])

y = np.array([14.33646346,15.90546188,15.31319032,15.02493176,15.0780389,14.
    ↪95263883
,16.61095638,15.18326843,14.77435935,15.08367559,16.00498495,16.71513401
,14.86274418,15.07072602,16.60462278,15.65220259,16.46106227,16.15004132
,16.48763675,15.71501272,16.86643918,16.52231948,15.51944486,15.54959486
,15.59222223,16.71749221,15.93146953,16.13012735,15.63940283,16.26827791
,16.06653145,14.57155482,15.4482807,14.35145582,16.93799807,14.47931564
,15.96424926,14.85432209,14.76807329,15.41051123])

[2]: plt.style.use('seaborn-whitegrid')
fig, ax = plt.subplots(2)
ax[0].scatter(x_1,y)
ax[1].scatter(x_2,y)
plt.show()
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[3]: X = np.array([np.ones(x_1.shape),x_1,x_2]).T
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[4]: reg = LinearRegression().fit(X, y)
      reg.coef_
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[4]: array([ 0.          ,  0.64988865, -1.23764191])
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