CASE STUDY 025

[Python]

Influenza Spread Analysis

Here are some clues in case you are stuck with the case study:

1. Merge the dataset by the state abbreviations
2. To convert the temperatures, use the following formulas:

   To convert Celsius in Fahrenheit the formula is: T(°F) = T(°C) × 1.8 + 32

   To convert Fahrenheit in Celsius the formula is: T(°C) = (T(°F) - 32) / 1.8
3. To store your converted temperature, create a new column and then loop your data frame doing the conversions;
4. 4. Use the method numpy.corrcoef to calculate the correlation

   https://docs.scipy.org/doc/numpy/reference/generated/numpy.corrcoef.html
5. In statistics, the correlation coefficient measures the strength and direction of a linear relationship between two variables. The value is always between +1 and –1, and could be interpreted as:

-1	A perfect negative linear relationship
Between -1 and -0.7	A strong negative linear relationship
Between -0.7 and -0.5	A moderate negative relationship
Between -0.5 and -0.3	A weak negative linear relationship
Between -0.3 and 0.3	No linear relationship
Between 0.3 and 0.5	A weak positive linear relationship
Between 0.5 and 0.7	A moderate positive linear relationship
Between 0.7 and 1	A strong positive linear relationship
1	A perfect positive linear relationship

6. Use the method seaborn.regplot to plot a scatterplot with linear regression line.

   https://seaborn.pydata.org/tutorial/regression.html