Homework 1 Graduate

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Question 1)

For time series clustering, the positive correlation are what matters the most. This is because we want to cluster items that are correlated to each other the most. So any negative correlation is not taken into account.So for this situation it would be wise that clamp the values from 0 to 1 .As shown in equation 1.

$$transform = \begin{Bmatrix} corr & if & corr \geq 0 \\ 0 & if & corr < 0 \end{Bmatrix} \tag{1}$$

For predicting a behavior change between one time series for another, what we are after is just if there is a certain correlation;regardless if it is positive or negative. So for this transform, it would just be the absolute value of the correlation value, or as $transform = |corr|$.

Question 2)

It is well known that in nature that most things that grow are symetrical. So as a the width grows sow does the length of a petal. Since this is usually the case in nature, there should be a large correlation within that bucket. The reason that most points fall in the buckets is that it further cements that there is a correlation of petal width and petal length as a plant grows.