Motivation :

Some financial products might move together -> co-integration (explication etc)

Here we consider two assets with prices and and we want to see if there is a linear dependency:

i.e.

So we expect the value of the spread to be equal to on average to which the serie will mean-revert. Then we can define a strategy such that if the spread is below we are going buy it as we expect to come back to and inversely if the spread is above .

Or better: in order to actually tell when to enter or exit a position we can use Bollinger bands:

Given a period we compute the moving average over and define an upper and lower band where is a moving standard deviation. The choice of is entirely discretionary though we could optimize it (while being aware of not overfitting).