Practice No 2 part 1.

The exercise marquee with (*) are only for graduate students.

1. Training on Correlation Function Estimator in a simple case 2D.
    1. Download the files Data_1.txt and Data_2.txt to compute the correlation function using Davis-Peebles and Landy-Szalay estimators in a range of 200 using 1 as bin size. (Hint: Follow the naive approach of nested loops). You have to generate the random with same number of points than the data by yourself using mumpy.random.rand function. The data are in 2 dimensions and have values between 0 and 100 for both.
    2. What can you conclude about Data_1.txt and Data_2.txt?
    3. Estimate the time required to run this dumb code. Could you scale the time and give and idea of how much time would require to compute the correlation function of a survey like DESI with 18 millions objets and a random sample of 10 times bigger than the catalog.