Final Project - Fall 2022

This the first Question I of the final exam and has weight 20 pts.
Due to 10:00 AM, January 03^{th}, Tuesday, 2022

SOM for the Euclidean Travelling Salesman Problem (20 pts.)

Your task is to determine a solution for the Euclidean Traveling Salesman Problem data given in the *"IE440Final22ETSP.txt"* using Self-organizing map

- Experiment for $M = n$, $M = 2n$ and $M = 3n$, where M and n are respectively the number of neurons and cities.
- Use first the Gaussian Kernel and as the neighborhood function. Then, change the neighborhood function with the one defined on the elastic band. Do not use an explicit neighborhood.
- Plot the data and the final tours obtained with both neighborhood functions.

You can set parameter values freely. Especialy, you can keep increasing the number of neurons until the convergence occurs.

Include the screen shots of your outputs and your source codes in your reports. Submit the soft copy of your report and the **source code** in a single zip file which is named as **IE440FINAL22-SchoolID** to the assistant via email before 10:00 AM, January 03 th, 2022. The subject of the mail should be IE440FINAL22. This is an **individual** assignment. Usage of algorithm packages is forbidden (Algorithm implementations should be done by you).