ARTIFICIAL INTELLIGENCE PROGRAMMING ASSIGNMENT 01:

You are to create two separate programs:

* A\* searches
* Solve N-Queens using Genetic Algorithm

For the first problem, the input will be two lists: one list contains cities and its coordinate, second list contains which city pairs are connected and how far they actually are from each other; plus, query from which city to where. The output is the best path and its costs.

Example input:

A (0,0)  
B (5,0)  
C (2,2)  
D (3,4)  
E (5,5)

A-B 7  
B-C 5  
A-D 6  
C-E 5  
B-E 10  
D-E 4

Query: from A to E

Output: A-D-E, cost 10 //not sure this is the answer

For second problem: there will be no specified input other than the size (you may assume column-by column at random), but the output should be the arrangement such that no two queens may attack each other.

Input: 4 //indicate 4 queens in 4x4)

Output: [2, 4, 1, 3] //the order such that no two queens attack each other, these numbers indicate which row they are, and the array index indicate the column.

You are to do this in groups of 3-5 students per group. Groups may collaborate, with two conditions:

1. The programs must be yours
2. You must state with whom you collaborated and the source (if you get it somewhere else)

Deliverables: an executable file, the source code, and a report detailing how each block of code works and worklog detailing what you did, when you did it, and who was involved in it.

Due Date: April 2, 2021 at 00.00 (so you may want to send it on April 1 at night). Lateness is subject to some penalty, amount of penalty is subject to consideration.

Delivery: through mail to [andika.candra@president.ac.id](mailto:andika.candra@president.ac.id) (with subject “AI Programming Assignment 01 Class x” where x stands for which class you are). Also include the list of the members and their student ID in the main body.

Tips:

* Start after the midterm, you will need the midterm week to study and to train your speed
* Don’t procrastinate! Don’t put it off until D-2 or worse, D-1 (you’ll face mighty trouble with it)
* Make sure you understand what you are writing
* You may collaborate, but you may not copy-paste someone else’s code and submit it as yours. It is Plagiarism and may subject to hefty punishment!