# **Tutorial 10**

# **The Travelling Salesman Problem**

This task requires you to solve the Travelling Salesman Problem for the dataset provided. The dataset is available in the Github link.

Source code: <https://github.com/zairulmazwan/Tutorial10_TSP_GeneticAlgorithm.git>

In this tutorial we are going to find the shortest distance in the dataset using **Genetic Algorithm** (GA). The optimum result produces by the algorithm will be compared with the minimum spanning tree cost (the baseline). The closer fitness value (of the solution), to the MST’s cost, the better solution is produced.

**Tasks:**

1. Study the following classes and methods in the source code,

* Individual Class
* Population Class
* setFitness
* copyGenes
* calFitness

1. Write the methods for crossover and mutate.
2. Write your GA experiment in the runGA method.
3. Compute your solution fitness, how close is it to the baseline.
4. Write your results to a csv file.