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Reading Summary

The paper described an application of a method called SOMA to solve the TSA problem, and use a new approach based on Evolutionary Algorithm(EA) to guarantee the feasibility of the solution.
It first briefly defines and explains the relatively new EA and principles of SOMA, in which can be classified into EA apart from the fact that SOMA has no new individuals, which is a constrained problem under this scenario.
SOMA works on a population of individuals which can be represented as a matrix showing candidate solution and its arguments. The population matrix is initially assigned with Specimen array which specify the type and borders using during migration loops. In the loop, the individual evaluated with the highest fitness will be chosen for the current migration group and guild other individuals to jump towards the Leader according to certain rule. When the new position defined by mass is reached, the individual returns to the fitness position.
For solving the TSP problem using SOMA, the penalty approach also works on infeasible domain, as a result, it introduces a new method which individuals are assigned with permutation vector of size d, and the procedure only preserves the feasible ones by specimen's border during the migration lop.