

## Comparison of Heuristic Methods for Solving Traveling Salesman Problem

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**Abstract :** Traveling Salesman Problem (TSP) is the most studied problem in combinatorial optimization. In simple language, TSP can be described as a problem of finding a minimum distance tour to a city, starting and ending in the same city, and exactly visiting another city. In product distribution, companies often get problems in determining the minimum distance that affects the time allocation. In this research, we aim to apply TSP heuristic methods to simulate nodes as city coordinates in product distribution. The heuristics used are sub tour reversal, nearest neighbor, farthest insertion, cheapest insertion, nearest insertion, and arbitrary insertion. We have done simulation nodes using Euclidean distances to compare the number of cities and processing time, thus we get optimum heuristic method. The results show that the optimum heuristic methods are farthest insertion and nearest insertion. These two methods can be recommended to solve product distribution problems in certain companies.

**Keywords :** Euclidean, heuristics, simulation, TSP

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